

**THE REPUBLIC OF BURUNDI
MINISTRY OF AGRICULTURE AND LIVESTOCK**

**THE PROJECT FOR COMMUNITY DEVELOPMENT
FOR IMPROVEMENT OF LIVELIHOOD
IN THE CONFLICT-AFFECTED AREAS IN GITEGA PROVINCE
IN THE REPUBLIC OF BURUNDI**

**FINAL REPORT
MAIN REPORT**

MARCH 2014

**JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)**

**NTC INTERNATIONAL CO., LTD.
KENSETSU GIJUTSU CENTER, LTD.**

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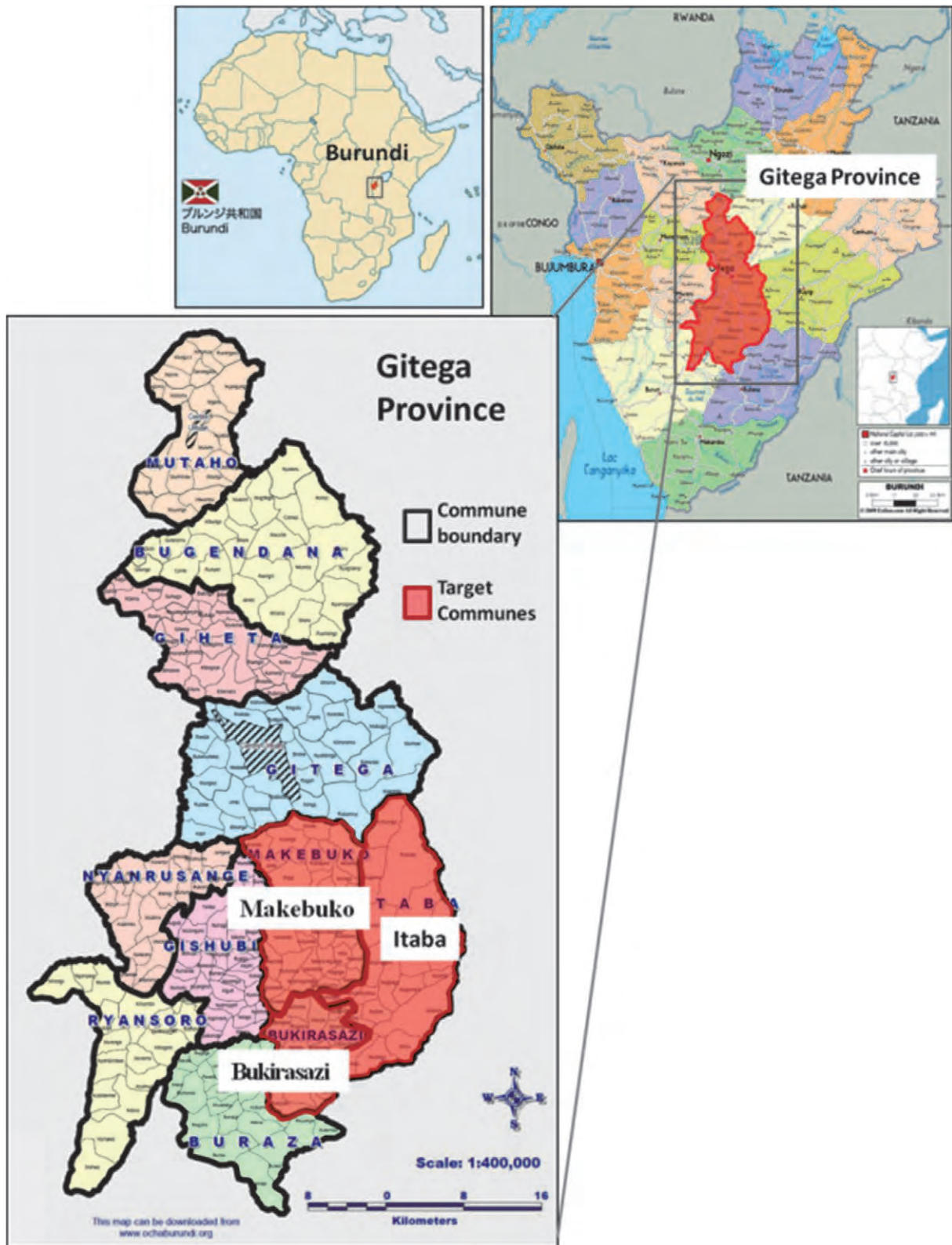
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**FINAL REPORT
LIST OF VOLUMES**

VOLUME-I MAIN REPORT

VOLUME-II ANNEXES



Location Map

Photographs

(General Photo)



Technical Working Group (TWG)



Joint Coordinating Committee (JCC)



Workshop of explanation for Marsh development



Monitoring marsh development committee established in the Project with Counterparts



Explanation of crop calendar to the association of marsh development with Counterparts



Visiting Batwa people participating in Handcraft PP with a Commune Administrator

(Pilot Project: Marsh Agricultural Type)

PP1 Marsh Development



Transplanting by trial farmers and colline instructors



Rice field monitored by Project team



Formulation of water users association



Soil survey

(Pilot Project: Colline Agricultural Type)

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Nursery in association field

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PP 4 Selected Seed Solidarity Chains



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Planted Banana in association field

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(Pilot Project: Non- Agricultural Type)

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Banana wine



Donut making



Milling machine operation

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Pottery making activity by Batwa people
considered as minority group



Ceramic making activity



Carpentry activity

(Training in Japan)



Visiting farm stand authorized by Minakami Town



Site visit to vegetable farmer in Kanratomioka

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Training in Kenya



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Training for government staff



Training for operation and maintenance of
irrigation facility at Makebuko

(Construction Component)



Multipurpose shed of PP1



Office building for association of PP5, PP6, PP7
and PP8



Storage for selected seed solidarity chain of PP4



Cowshed of PP5



Constructed bridge of PP7



Constructed culvert of PP7



Tile making building of PP8



Building for carpentry works of PP8

(Urgent Pilot Project: Marsh Development)

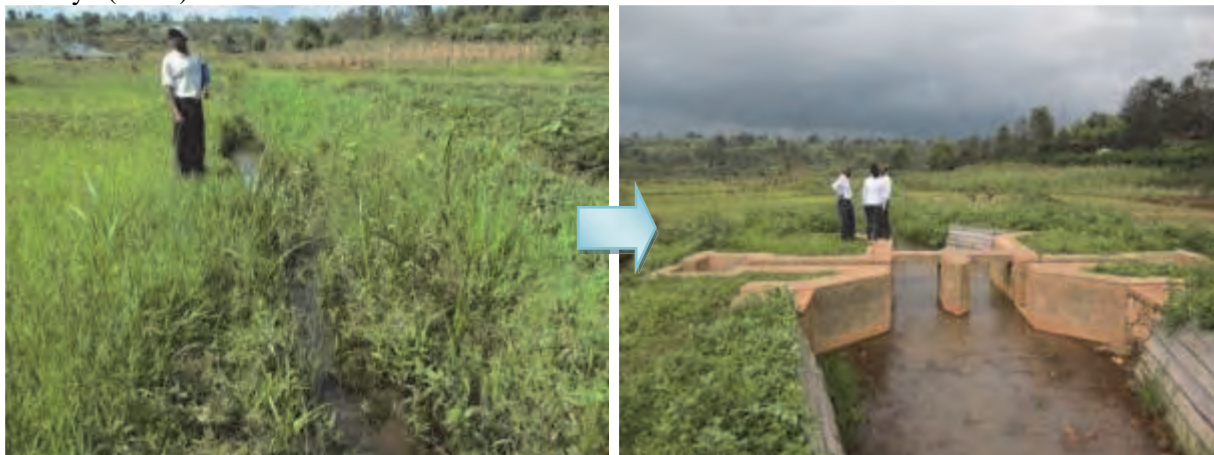
Nyamuswaga (Lot 1)



Before construction

Completion of the irrigation facility constructed in Phase 1

Kibuye (Lot 2)



Before construction

Completion of the irrigation facility constructed in Phase 1

Rurembera (Lot 3)



Before construction

Completion of the irrigation facility constructed in Phase 1

(Urgent Pilot Project: Road Rehabilitation)



Construction works with grader and roller



Local villagers are employed as labor force



(Before) the road rehabilitation



(After) the road rehabilitation

(Launching ceremony)



Launching ceremony for road rehabilitation with Burundian traditional dance

(Handover ceremony)



Handover ceremony

(Formation of Maintenance Committee for Road)



Workshop for maintenance training with a
Commune Administrator



Practical workshop for maintenance training

(Other Photos)



Batwa people making pots with their traditional
method



Batwa people selling pots at market



Children at the project site



IDP camp in Makebuko

Executive Summary

1. Outline of the Project

1.1 Background

Since independence in 1962, the repeated conflicts in Burundi brought about a large number of refugees and internally displaced persons (IDPs). However, under the leadership of President Nkurunziza, final agreement on a cease-fire was struck in September 2006 and the peace process has been promoted steadily. The Government of Japan (GOJ) also, after resumption of the bilateral cooperation in 2006, has implemented cooperation projects in the capital, Bujumbura. In addition, due to the stabilization of the security situation, the GOJ has come up with a policy to provide assistance and support also in rural areas for the consolidation of peace.

Gitega Province (700,000 population) was selected as the first site for cooperation in rural areas. It has the second largest city in Burundi, Gitega, and an international route to neighboring Rwanda, and locates at a geographically important point between Bujumbura and the 3rd largest city of Ngozi. The province was strongly affected by conflicts and is the largest in the country as far as the number of outflow IDP is concerned.

There is a development plan of each commune called PCDC (Plan communal de developpement comunautaire, Communal Plan for Community Development). But PCDC is not formulated based on feasibility but on people's needs. Also projects listed in PCDC are not implemented properly due to lack of budget and inadequate capacity of government officers. Therefore manuals and systems to facilitate implementation of PCDC are really required.

Considering the above situation, the Government of Burundi (GOB) has requested a cooperation to facilitate implementation of PCDC in Gitega Province to the GOJ. Based on this request, JICA conducted a detailed planning survey. As a result, the GOB and JICA signed the Record of Discussion (R/D) which speculates implementation of "The Project for Community Development for Improvement of Livelihood in the Conflict-Affected Areas in Gitega Province" (hereinafter, "the Project"), major contents of the Project and the project period (24 months starting from March 2012).

1.2 Objectives

- (a) An Action Plan to facilitate implementation of PCDC, a Manual used by MINAGRIE and commune officials will be verified by the implementation of pilot projects. Action Plan, Manual and recommendation for PCDC will be strengthened by those lessons learned from the implementation of the pilot projects.
- (b) Capacity of MINAGRIE staffs and commune officials is strengthened and a medium term capacity development program will be formulated to strengthen implementation system of PCDC.

1.3 Project Area

The Project targets Makebuko, Itaba and Bukirasazi commune in the southern part of Gitega Province, where the large number of IDPs lives in and the provincial government strongly requests to support. They are strongly affected by conflicts and marks high levels of poverty. On the other hand, Buraza commune, the southern end of the province, will be supported through rehabilitation of the Provincial Road 212 as an urgent pilot project, since its poor condition has been the bottleneck for development in the commune.

1.4 Methodology of the Project

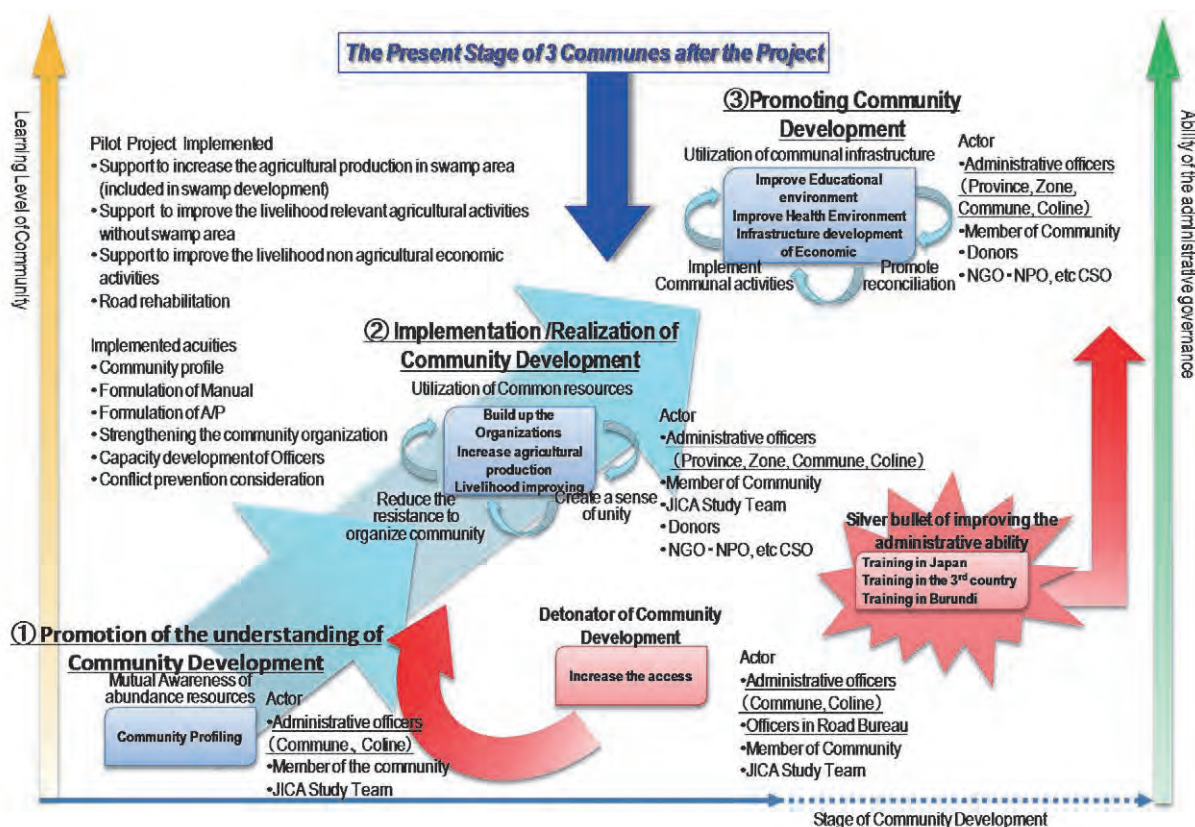


Figure 1.1 Image of Development Stages

The Project is being implemented in order to support the process of recovery in the medium and long term strategy to develop communities of three targeted communes weakened by protracted conflicts, in such a way that the communities can live in peace and solidarity of community. On the other hand, the Project will also improve the capacity of government officials and strengthening of governance to ensure the consistent recovery of the communities. The figure above indicates those concepts and the arrow from the left below to upper right indicates stages of community development. The Project practices up to the second stage of "Implementation/ Realization of Community Development" and supports the sustainable process by Burundian side thereafter.

Specifically, potential resources of communities are identified and compiled through colline profiling as the first step. Hence, implementation of pilot projects like organization strengthening and livelihood improvement will trigger sustainable community development and that brings solidarity and eases a sense of resistance to group formation. On the other hand, unlike other 3 communes, Buraza commune is left from development due to the very poor access, so it is supported through the road rehabilitation, although it is excluded from community development activities.

However, since the period of project is 2 years, the objective of this project is focused to develop an Action Plan and a Manual to facilitate implementation of agricultural projects in PCDC, which is a valid tool to revitalize communities. Key issues in this regard are explained further as below.

(1) Importance of facilitation of PCDC

PCDC is a guiding plan of development projects/activities for communes for 5 years, drawn up in 2008 with a focus on bottom up approach and with the support of GIZ (Gesellschaft für Internationale Zusammenarbeit, German International Cooperation), which requires to be renewed in 2012. Governments of communes and provinces regard PCDC as the basis for regional development, and donors are also required to accord it while providing aid/ assistance. However, PCDC does not have

adequate budgetary support and technical reviews in various sectors, and further, there is no order of priority in choosing the developing projects/activities. It is similar to just a wish list. On the top of that, there is shortage of capacity of administrative officers for implementing development projects. That is why the aims of the Project are to develop an Action Plan and a Manual so as to contribute for accelerating the implementation of PCDC, which help Burundian administrative to implement development project on their own.

(2) Elaboration of the Action Plan and the Manual

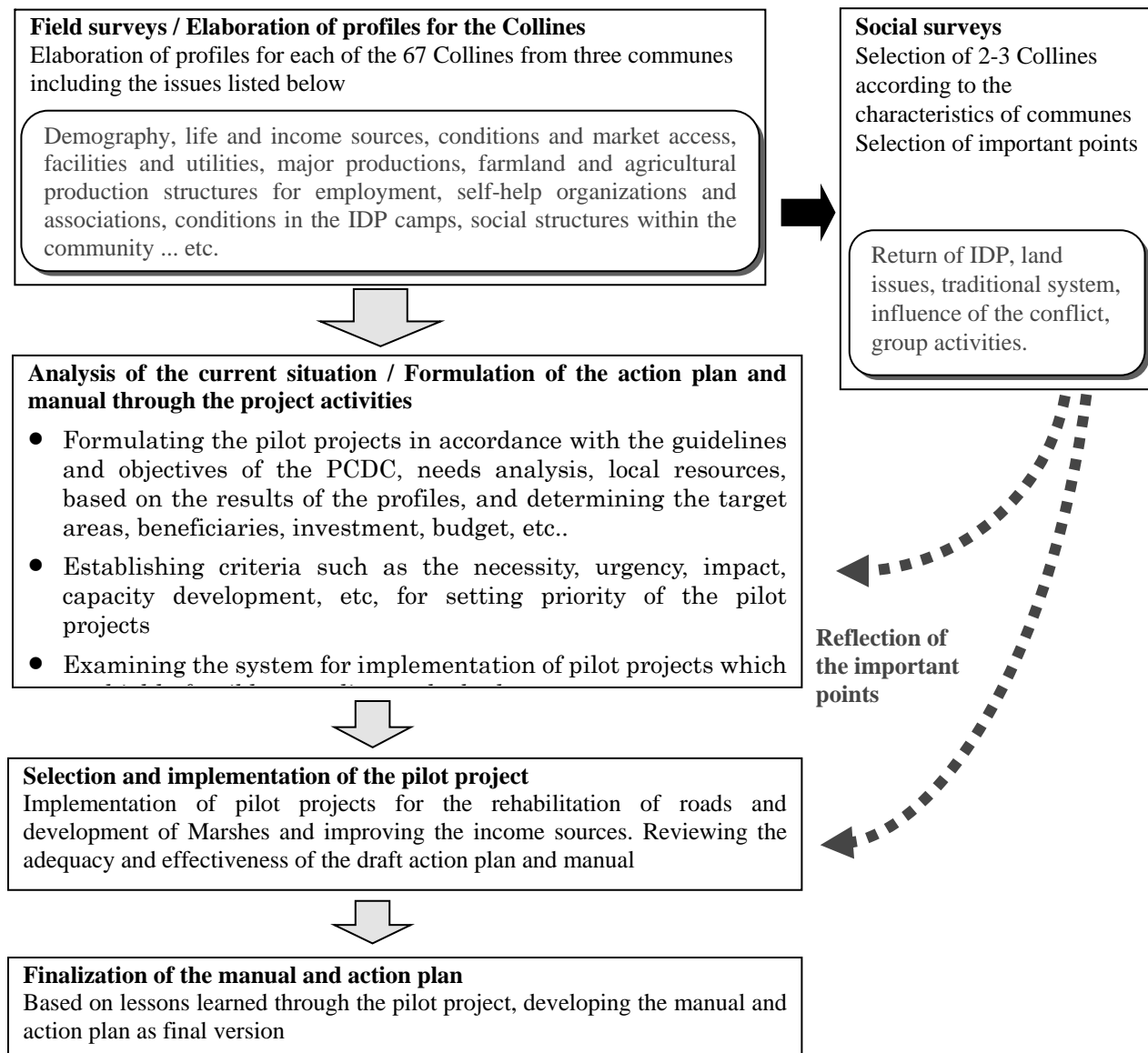


Figure 1.2 Flowchart of PCDC Promotion

1.5 Procedure and Schedule of the Project

The project started March 2012 and will end March 2014, so the period is 2 years. The flowchart of the Project is shown below. The overall activities are categorized in 3 layers. The 1st layer is for the Action Plan and Manual for promotion of PCDC including implementation of pilot projects. The 2nd layer shows the activities for the urgent pilot projects which bring about quick impact to the target areas. The 3rd layer shows the activities for capacity development of officers and community leaders. The 4th layer is for project management and reports to be made.

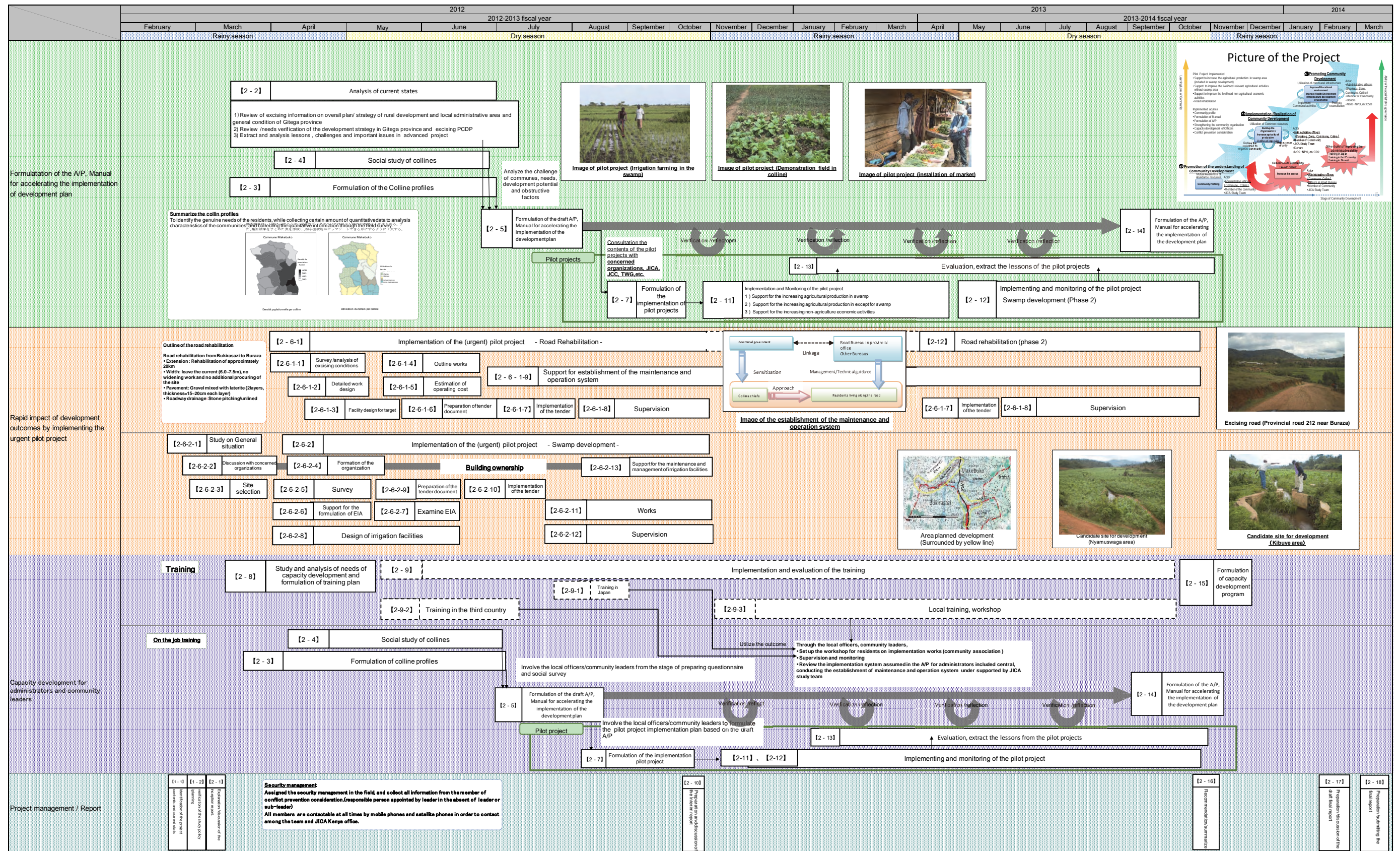


Figure 1.3 Flowchart of the Project

1.6 Structure of Project Implementation

1.6.1 Structure of Project Implementation

The figure below shows the structure of project implementation. The main activities for community development and livelihood improvement are implemented by MINAGRIE, local governments (Gitega Province and 3 communes) and JICA Project Team. The rehabilitation of the Provincial Road 212 is implemented by JICA Project Team in cooperation with the Office of Roads of the Ministry of Transport, Public Works and Equipment (Le ministère des Transports, des Travaux Publics et de l'Équipement, MTTPE) and Bukirasazi and Buraza Commune. JICA Burundi Field Office supervises all the activities of the Project.

The red dotted line shows members of the Joint Coordination Committee (JCC) that is the highest decision making body in the central level, deciding the directions or important issues of the Project. The blue dotted line shows members of the Technical Working Group (TWG) which handles technical issues in the level of the field.

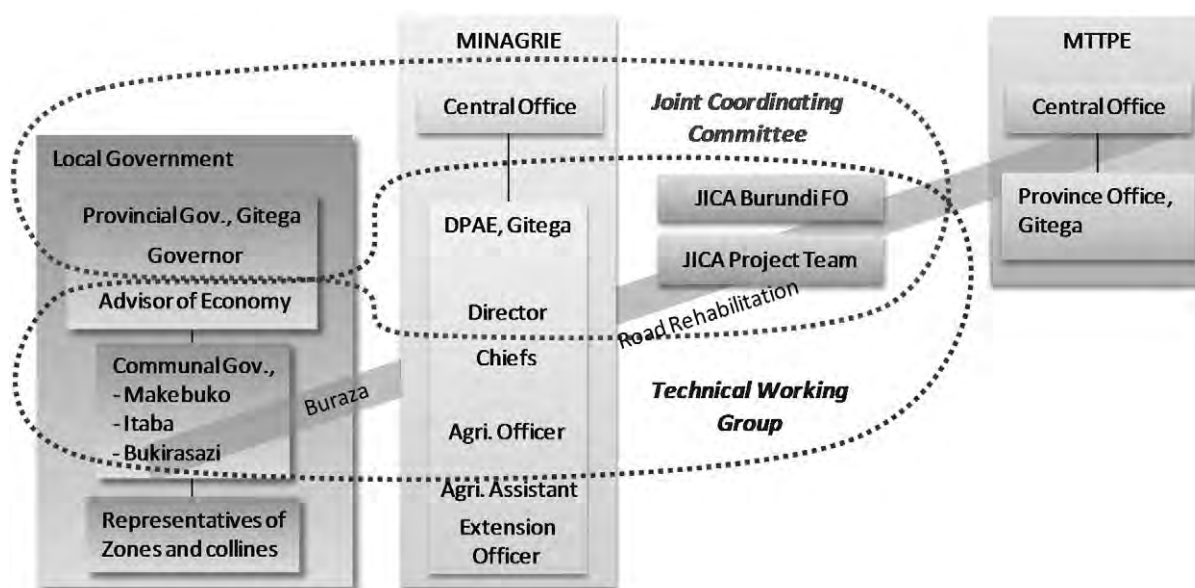


Figure 1.4 Structure of Project Implementation

1.7 Structure of Final Report

This Final Report consists of 9 chapters and the outline of the Project is explained in Chapter 1. The present conditions are analyzed in Chapter 2 to 4 in terms of administration levels (country, province, communes, collines) and PCDC. Based on the results of analysis, the Action Plan of Chapter 5 (including pilot projects) is finalized. Chapter 6 analyzes institutional capacity in promoting PCDC and describes the results of trainings in order to develop capacity development program. Chapter 7 attempts to verify the Draft Action Plan formulated by the Project through evaluation of pilot projects. Chapter 8 reports the progress and the impacts of urgent projects, i.e. marsh development and rehabilitation of provincial road. Chapter 9 summarizes the highlights and lessons learned from implementation of this Project.

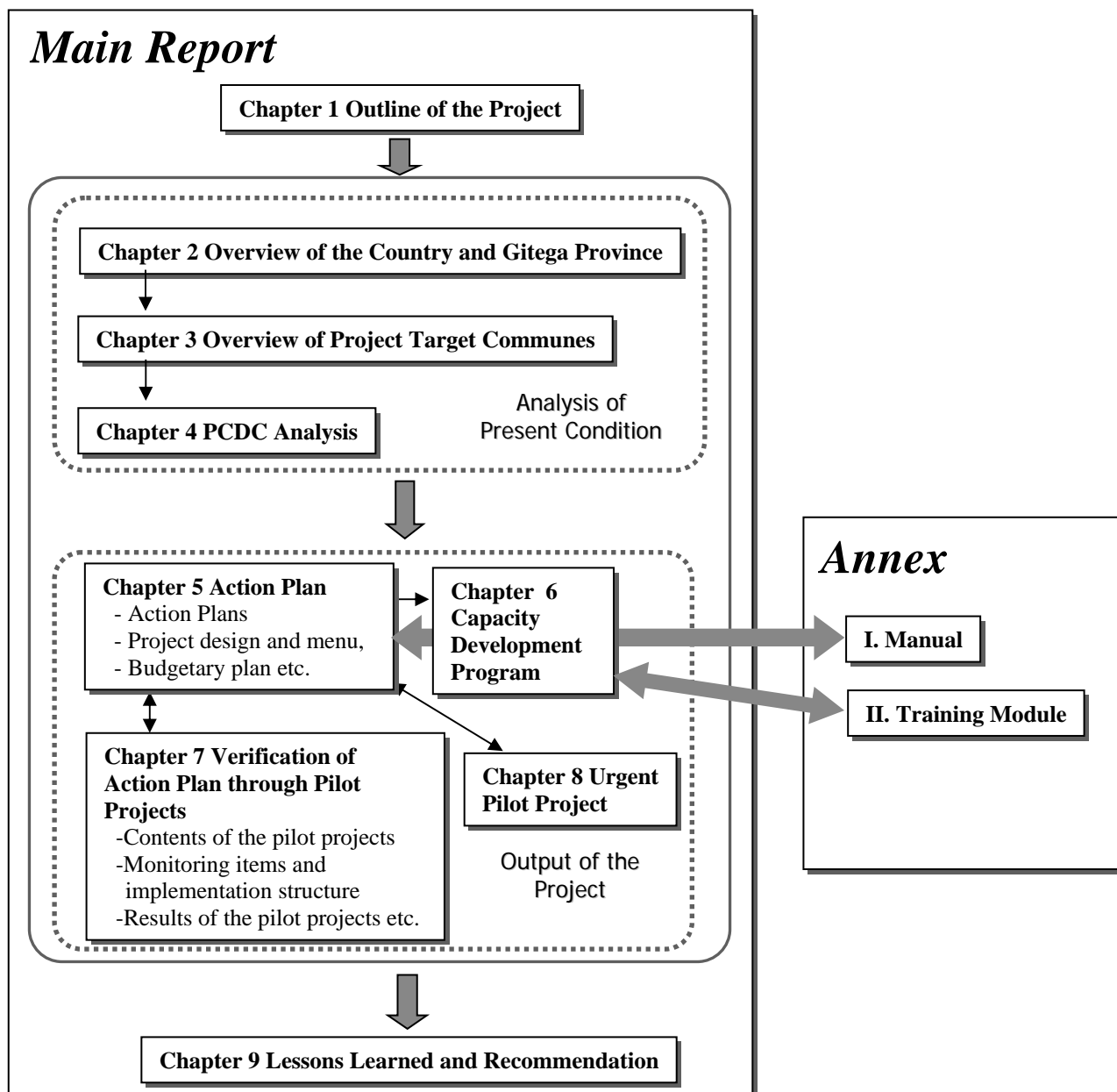


Figure 1.5 Structure of Final Report

2. Overview of the Country and Gitega Province

2.1 Country Overview

2.1.1 Country Overview and Socio-Economic Condition

Burundi is an inland state located in the northeast of Lake Tanganyika which falls on the center of the African continent, surrounded by the country of Rwanda, the Democratic Republic of Congo and the United Republic of Tanzania. Total area is about 27,800 km² and total population of the country is 8.6 million according to the United Nations Statistics in 2011. The average population growth rate from 2000 to 2005 is 3.03% yearly which is 14th rank in the world. The population density reaches 308.1 people/km² (the average in Sub-Saharan Africa: 21.9 people/km²). Although it is under the tropical climate, the average temperature is relatively as cool as 18 degrees the whole country is a plateau more than 800m above sea level. The rainy season is between October and April and it gives enough

precipitation about 900- 1600mm. The ethnic composition is 85% of Hutu, 14% of Tutsi, and 1% of Batwa, which is Pygmy tribe. The official languages are French and Kirundi and religions are divided into 65% of Catholic, 10% of Protestant, and the 23% traditional religion.

The main industry is agriculture and it accounts for approximately 35% of GDP, 90% of the working population, 60% of export earnings. In addition, in recent years, the second and tertiary industries have developed and the former accounts 20% of GDP and the latter, 45%.

The average real economic growth rate in year 2006-2009 reached 4%, enough to see the steady development. Burundi's economy had declined from 1987 to 2005 during the turmoil stemmed from the conflict, until the sign of peace was foreseen in 2005. GNI per capita remained at US \$ 270 in 2012, which is one of the lowest in the world. Thus, the reduction of poverty in Burundi has become an urgent issue.

Burundi consists of 17 provinces, beneath them, 117 communes, 400-500 zone, and 2,638 collines as local administration. Moreover, as a subdivision of collines, there are sub-collines separated by small collines and waterways as the geographical boundary.

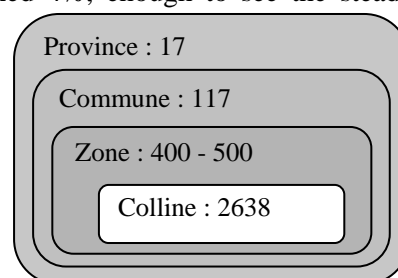


Figure 2.1 Administrative Layers of Burundi

2.1.2 Political Situation

After the independence in 1962 from Belgium which was the country's former colonial power, Hutu and Tutsi clashed since the early 1970s, and it turned out to be a civil war. Due to the impact of the conflict, more than 500,000 people were killed, and more than 280,000 of IDPs were generated. Also, more than 800,000 people became refugees to neighboring countries such as Tanzania. However, the peace process started in 2000 and the final ceasefire agreement was made in September 2006 between the government under President Nkurunziza and the FNL (Forces nationales de liberation, National Liberation Forces). Burundi is in the process of disarmament, demobilization and reintegration of FNL members. After reelection of Nkurunziza as President in 2010, it is expected to accelerate the recovery process by making an effort for the prevention to relapse of conflict, such as installing the ethnic power sharing system. Until September 2011, 489,770 Burundian refugees from the United Republic of Tanzania, 14,643 Burundian refugees from the Democratic Republic of Congo, as well as 9, 753 Burundian refugees from other countries have repatriated to Burundi followed from the Arusha agreement, and over 162,300 refugees were naturalized in the United Republic of Tanzania. On the top of that, 38,211 Burundian refugees out of 46,890 including people under refugee-like situation and asylum-seekers in the United Republic of Tanzania currently most likely repatriate due to the closure of one of the refugee camps called Mtabia refugee camp in the United Republic of Tanzania. However, there are some 78,900 Internally Displaced Persons (IDPs) in need of durable solutions, and they will be target of the action plan toward durable solution that will be established by Burundian Government in 2012 with help of UNHCR.

2.1.3 Government System

It is a fact that the centralized system remains in Burundi, although the policy document of three-year action plan of decentralization for long-term and short-term as well as the national policy of decentralization from 2009 to 2020 came into effect and the actions related to decentralization started. However, in terms of the governance, cooperation between ministries and decentralization including allocation of budget are in need of efforts to be promoted.

(1) Central Government

In Burundi, the Ministry Communal Development and the Ministry of the Interior take responsible for community development, and MINAGRIE is the executing body for the field of agricultural

production and rural development. Here, the figure below shows the organization chart of MINAGRIE, the implementing agency of the Project, and MTTPE as related organization.

(2) Local Government

The government of Burundi is promoting decentralization of the service provision to the local government. The following shows the overview of the local administrative structure.

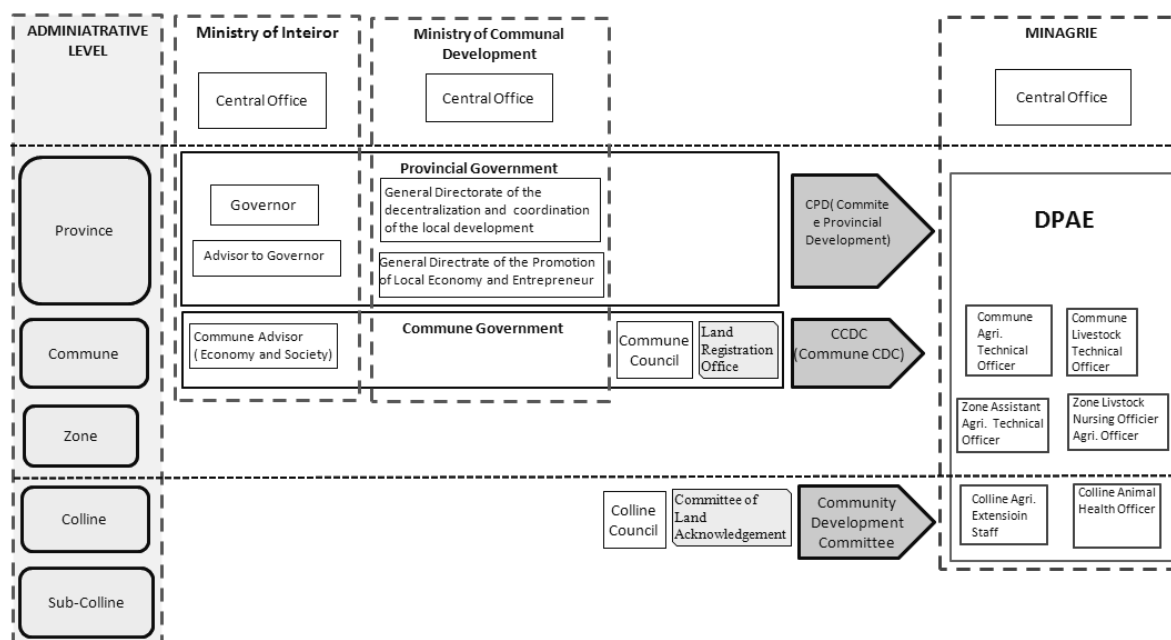


Figure 2.2 Local Administrative System

(3) DPAE

DPAE is the executive body to implement agricultural projects in the level of province. In 2011, restructure of MINAGRIE started, and the Department of Rural Engineering in the Ministry of Environment has been transferred to MINAGRIE as well as adding the Department of Farmers' Organization Support to the General Directorate of Agricultural Development and Extension.

2.1.4 National Development Plans and Donors' Activities

Table 2.1 National Development Plans

Development plan		Summary
National Development Plans	Poverty Reduction Strategy Paper (PRSP)	<ul style="list-style-type: none"> ◇ Strengthening the Rule of Law, consolidating good governance, and promoting gender equality (rehabilitating the justice system, promoting human rights, strengthening security, reintegration of victims of the conflict into the economic and social fabric, strengthening the democratic process, improving civil service performance, accelerating the decentralization process, consolidating public finances) ◇ Transforming Burundi's economy to generate sustainable, job-creating growth (Increasing productivity in sectors with growth potential, diversification of export crops and development of profitable segments, developing agricultural production through professionalizing producers, strengthening the institutional framework, promoting burundi's cultural heritage and tourism potential, promoting the private sector and creating jobs, improving access to better quality economic infrastructures(energy, transportation, ICT), developing means of transportation for integrating rural areas, and promoting regional integration, for

Development plan		Summary
		<p>sustaining economic growth, promoting information and communications technologies, promoting regional integration and cooperation with countries of the region and belongs to several regional and subregional organizations)</p> <ul style="list-style-type: none"> ◇ Improving access and quality in basic social services and strengthening the social safety net (Increasing the capacity and quality of the education system, improving higher education and scientific research, controlling population growth, intensifying efforts against HIV/AIDS and major pandemics, promoting access to drinking water, strengthening the social safety net) ◇ Promoting development through sustainable environmental and space management
	Burundi Vision 2025	<ul style="list-style-type: none"> ◇ Reforming national unity, restoration of national security ◇ Regulation of population growth, the establishment of food security ◇ Problem-solving unemployment, an increase in household income ◇ Diversification and economic development with a healthy and competitive, promotion ◇ Infrastructure development that contributes to higher productivity ◇ Educational improvement and increase in the rate of literacy
Others	National Agricultural Strategy (SAN) (2008-2015)	<ul style="list-style-type: none"> ◇ Under the slogan "the development of agriculture to create the future of Burundi", the diversification of production and the improvement of agricultural productivity in the national agricultural strategies for propelling the preservation of the environment and natural resources and diversification of farm receipts policies and countermeasures for consideration.
	National Policy of Decentralization of Burundi (2009)	<ul style="list-style-type: none"> ◇ Formulated to realize decentralization with 5 strategic axes; 1. Strengthening the legal framework, 2. Strengthening the institutional framework, 3. Strengthening the capacity of stakeholders, 4. Promotion of local economic development, poverty reduction and the provision of services, 5. Fiscal and financial decentralization. ◇ 2nd 3 Years Action Plan (2012-14) is carried out, but more than 90 % of needed amount has no financial resources
	Transportation Post and Telecommunications Sector Policy Document	<ul style="list-style-type: none"> ◇ Overall goal "to ensure the movement of people has set, to ensure public transportation for people to move within the country" as the target.

Several donors have been working in Burundi. As one of the major donors, World Bank has been carried out the financial support, investment projects, research, and technical assistance, on the basis of the Country Assistance Strategy. They have plans to support for encouraging economic growth, governance, and interdisciplinary projects by a loan of about US\$ 300 million in the 4 years from 2008 to 2012.

Also, Burundi has been a target of UN Peace Building Fund (PBF) in June 23, 2006. The assistance was decided in 2007 for US\$ 35 million to implement the project in the sector of governance, strengthening rule of law and security sector, human rights and the land ownership issue.

Major donors of community development in agricultural sector are World Bank, IFAD, FAO, EU, GIZ, and Belgian Development Agency (CTB). Currently, 31 projects and programs have been implemented by MINAGRIE.

Especially, EU has been working in Burundi including Gitega province, the target province of the project through assistance concentrated on three fields: rural rehabilitation and development, health and general budget support.

Also, CTB, Belgian Development Agency, has been under partnership with Burundi since 1962 of its independence. CTB's assistance concentrates on three priority sectors; health care, education, agriculture. CTB provides assistance entire Burundi including Gitega province.

2.2 Overview of Gitega Province

2.2.1 General Condition of Gitega Province

Gitega province, the target site of the Project, has 1,979 km² of total area, 731,370 of population, and 370 people/ km² of population density. Elevation is 1,600-2,000m with the average annual temperature of about 20 degrees Celsius, and the average annual precipitation is about 1,200 mm, enough to keep its province relatively humid and warm throughout the year. Seasons are divided into 3 parts, big rainy season from January to April, dry season from May to October, and small rainy season from November to December.

Gitega province consists of 11 communes. A commune consists of 2-4 zones, and a zone consists of 10-20 of collines as shown in the table below. Populations are 30,000 to more than 100,000 in communes, 20,000 to 40,000 in zones and 3,000 to 4,000 in collines.

Gitega province has the city of Gitega, the nation's second largest city after the capital Bujumbura, and it locates at the center of the country, so it is a strategic point as national roads concentrated in a radial pattern.

2.2.2 Impact of the Conflict and Current Status

According to the investigation report for IDPs in Burundi done by Office for the Coordination of Humanitarian Affairs (OCHA) of UN, 17,000 IDPs live in Gitega province which is about 15% out of 116,000 IDPs (see the left table below). Gitega province is one of the provinces heavily affected by conflicts, and the poverty rate is the second highest in the country¹

Although the largest recipient commune of IDP is Mutaho in the north, Itaba (2nd), Buraza (3rd), Makebuko (4th) and Bukirasazi (6th) in the south follow (see the right table above). Therefore Gitega provincial government has urged strongly to receive the assistance at Itaba, Makebuko, Bukirasazi, located in the south where the issues of large population of IDPs and high degree of poverty exist. To respond to the request, Itaba, Makebuko, Bukirasazi have been selected for the Project area. As for Buraza, although there is the greater significance of the assistance, Buraza is set to the target of urgent pilot project for road rehabilitation due to the devastating road conditions, from the fact that very few assistance from other donors have achieved.

2.2.3 Agriculture

Agricultural sector in Burundi constitutes approximately 35% of GDP, over 60% of income of foreign currency and 90 % of labor population. 90% of the entire population live in the rural area, and engaged in production of potatoes and beans, as well as raising cash crops of coffee and sugar for acquiring cash and raising cattle. According to the statistics of FAO, approximately 77% (21,500 km²) of the total area of Burundi (27,800 km²) is utilized for the agricultural production including pasture land.

Although Burundi has high potential for the agricultural production, it is unstable due to effects of the civil war, bad weather, soil erosions, deterioration of soil caused by the shortage of fertilizer, and it has been leading 75% of population under chronic scarcity of food. According to the statistics of FAO, food import accounts for 12.5% of total import.

In Gitega province whose altitude is between 1,500-2,000m, over 90% people there also earn living out of agriculture and there is 9,271ha of cultivative wetland along the rivers. Farmers can cultivate in rainfed for 6 months in the small rainy season from September to December (season A) and the big rainy season from January to April (season B) which enable this region to receive 1,200-1,500mm per year of rainfall. They cultivate peas, haricot, potatoes in dual cropping and maize, cassavas, bananas in single cropping. Grains such as millet and sorghum, or banana as the staple food in colline, and

¹ 89.7%, 1998 Priority Survey, ISTEUBU, PRSP (2006) also draws this value.

potatoes and legumes are grown by traditional farming methods in both collines and wetlands. Because wetlands can be cultivated 1-3 times, depending on rainfall and flooding situation in particular, potato production is thriving in Gitega province. Although cropping throughout a year is possible in the marsh area, small scale intensive cultivation is practiced for potatoes, maize, and vegetables due to the limitation of areas which amount for some hundreds to less than 2 thousands m² per farmer. The main cash crops in Gitega are coffee, banana, and peanuts, as well as rice produced in some marshes. Modern agricultural techniques are adopted by some farmers through agricultural extension workers, such as appropriate interval planting, mulching, application of chemical fertilizers and pesticide mainly for beans, potatoes, maize, and rice.

2.2.4 Development Plan of Gitega Province

(1) Strategy of Provincial Economic Development and Job Creation (SDECE)

The Strategy of Provincial Economic Development and Job Creation (Stratégie Provinciale de Développement économique et de Création d'emploi; SDECE), was developed in accordance with the national policy and strategy i.e. PRSP and SAN.

For the development of the key sectors of the provincial economy the directions have been issued. The directions have been classified into four broad categories of the sectors- a) Agriculture sector, b) Livestock sector, c) Industry and food processing sector, and d) Service and tourism sector. Furthermore, for development of each categorized sector, various themes are classified which are given as follows.

(2) Provincial Plan for Agricultural Investment (PPIA)

The Provincial Plan for Agricultural Investment (Plans Provinciaux d'Investissement Agricole, PPIA) is the provincial version of PNIA. The draft was formulated in December 2012 through series of workshops with all stakeholders, financially and technically supported by PAIOSA (project carried out by CTB). The document consists of 8 chapters, starting from the introduction followed by analysis of Gitega Province and its agriculture. It also contains the financial plan, its economic analysis and risk analysis for sustainability. Programs and sub-programs are the same as PNIA but the target values are corresponding to the situation of the province.

The financial plan for needs is quite incomplete, as there are lots of blanks seen in the following table. According to the chief of planning, monitoring and evaluation division of DPAE who is in charge of financial planning of PPIA, DPAE requested to submit budget plans to various stakeholders but there were no replies, so financial planning of PPIA both for needs and resources is put on the shelf so far. Also in Chapter 7 Risk Analysis and Sustainability, of the document, financial availability is listed as one of the risks for sustainability, noted on the top for all the sub-programs. That is, PPIA does not have substantial finance background and has to depend on donor funds mostly.

2.2.5 Activities of Development Partners

Major activities of the development partners in Gitega Province in agriculture, community development and capacity building are as listed as below.

Table 2.2 Projects by Donors

Project	Age -ncy	Period/ Area in Gitega	Summary
Support Program for Reinsertion and Reconstruction for Conflict Affected People (APRS)	GIZ	2004~2010/ Overall Gitega	<ul style="list-style-type: none"> ◇ Multi-sector assistance project started in 2004, the main counterpart; the Ministry of National Solidarity, Human Rights. ◇ 2004-2007 (APRS1): basic social infrastructure, community development plan created (PCDC), vocational training, business promotion, social harmony ◇ 2008-2010 (APRS2): strengthen the capacity of technicians in accordance with the

Project	Age -ncy	Period/ Area in Gitega	Summary
			practice of the PCDC, good governance, regional economic development (agriculture, non-agricultural sector) to assist residents.
Support Program for Decentralization and Poverty Alleviation (ADLP)	GIZ	2011~2014/ Overall Gitega	✧ Project is the same as of APRS but with the change of name. The main objective was to strengthen the capacity of staff and promote the decentralization in the Ministry of Planning and Community Development Department of the Interior. In addition to the capacity building of local self-government, the provision for assistance concerning the added value of agricultural products and market will continue.
Agricultural Intensification and Value-enhancing Support Project (PAIVA-B)	IFAD FAO EU	2011~2017/ Bugendana and Mutaho Commune	✧ Project that aims to improve the profitability and sustainability of agricultural production organizations. ✧ Activity consists of the three components; a) Protection and enhancement of agricultural production b) Capacity building and creation of leader producers c) Coordination with the national program and support
Livestock Sector Rehabilitation Support Project (PARSE)	IFAD	2011~2014/ Bugendana, Mutaho, Makebuko, Bukirasazi	✧ Distribution and donation of a new livestock. Dissemination about the modern livestock technology ✧ Activity of the project consists of the following four components., a) Rebuilding ability to produce livestock and diversify livestock production b) Accessible animal health services and protection from the risk of disease c) Strengthening regional organizations and small dairy farmers in sustainable training support d) Project coordination
Evaluation for Promotion of Integrated Marsh Support to Food Security (VIMASA)	EU/ CISV(Italian NGO)	2009~2013/ Makebuko, Itaba Commune	✧ Irrigated rice farming and terrace building in marshy and wet valleys, ✧ Strengthening of organizational structures and 'maîtrise d'ouvrage' (ownership of the construction process), ✧ Access to production means (certified seeds, fertilizer), ✧ Integrated approach of the agricultural chain and water management, ✧ Poverty alleviation through improved food security,
Institutional and Operational Support Programme for the Agricultural Sector (PAIOSA)	CTB	2011~2017/ Gitega city only	✧ Strengthening the functions of MINAGRIE ; programming, coordination, monitoring and evaluation (central and provincial) ✧ Implementation of public structures and coordination control of the seed sector and support to private seed sector ✧ Support research and redeployment of regional office of ISABU ✧ Infrastructure: rehabilitation of 3,000 ha irrigated perimeters and 700 ha of marsh ✧ Non-financial support to the private sector for development of value chains ✧ Strengthening organization and techniques of producers
Support for Vocational and Technical Training (AFPT)	CTB	2012~2017 Part of Gitega	✧ Focusing on institutional governance (management and maintenance), but also the sub-sector of the education and technical and vocational training at the national level (school board management, staffing etc). ✧ Improving the management and quality of education. ✧ Supporting the creation of partnerships and collaborative arrangements with the corporate society and craftsmen.

3. Overview of Project Target Communes

3.1 Colline Profiling

3.1.1 Purpose, Method and Implementation of the Survey

The main objective of the present project: Pilot projects selected from PCDC according to priority and urgency are implemented and an Action Plan to facilitate implementation of PCDC, a Manual to be used by MINAGRIE and commune officials and recommendations for PCDC are elaborated based on the lessons learned from implementation of pilot projects. Hence, the development of manual, action plan and recommendation for improvement of PCDC is possible only if the baseline information of the target area is in hand. Colline profiling is an attempt to prepare and establish baseline information on the existing condition of the target area (specifically to make better understanding of the local resources) so that ministerial / local officials can design feasible and strategic community development

plan. The target areas for the preparation of the colline profile were the collines of the commune Makebuko, Itaba and Bukirasazi.

3.1.2 Zone and Colline

Table 3.1 Zones and Collines of Each Commune

Commune	Zones	Collines
Makebuko	Makebuko	Bugumbasha, Gasasa, Kagege, Makebuko, Mwaro-Ngundu, Mwaro-Mavuvu, Ntita, Rwanda, Rwesero.
	Maramvya	Buga, Janja, Karoba, Kiyange, Murago, Musave, Muyange, Rusagara, Rwezamenyo, Simba
	Murenda	Butobwe, Gasagara, Gasenyi, Kinyonza, Muhororo, Murenda, Mwanzari, Mwumba, Nyamagandika,
Itaba	Buhevyi	Kagoma, Kanyonga, Rukobe I, Rukobe II
	Gihamagara	Buhinda, Gihamagara, Kibogoye, Kirambi, Kugitega, Mugomera, Ruhanza
	Itaba	Buhanga, Butare, Gisikara, Itaba, Kanyinya, Karemba, Macu, Mutanga, Nkima
Bukirasazi	Bukirasazi	Bukirasazi, Migano, Shaya, Gasongati, Ruhinda, Ruvumu, Tema, Kibuye, Rwinyana, Buhanda, Mpingwe, Rugoma
	Kangozi	Bunyuka, Kibere, Nyamisure, Nyambuye, Rugabano, Rukoki

Source: Communal Administration

3.1.3 Inhibitory Factors and Development Challenges of the Agricultural Sector

In all three communes i.e. Bukirasazi, Itaba and Makebuko, the diagnostics of the agriculture sectors results following key challenges;

- ✧ The use of rudimentary tillage tools such as machetes, spades, etc are practiced for farming purpose.
- ✧ A family labor force dominated by females
- ✧ Degraded soils due to land overexploitation and the sloping topography that causes erosion;
- ✧ A poor agricultural production due to the lack or insufficiency of farm inputs;
- ✧ An agricultural supervision with poor performance due to the fact that some supervisors do not have transportation means;
- ✧ The disorderly exploitation and the lack of maintenance of hydraulic engineering structures limiting the productivity of soil;
- ✧ Climate conditions which are difficult to master or control.
- ✧ The size of land under cultivation is decreasing continually because of population growth.
- ✧ Taking into account the aspect of less fertile soil the need for fertilizer for the commune is great.
- ✧ Selected seeds are not available and people have to use the traditional way to keep apart seeds for the next season or buy them at local market
- ✧ The population faces shortage of organic manure because of dramatic decreasing of livestock.

3.2 Summary of Colline Profiling

As a result of colline profiling of three target communes of the Project, characteristic of each commune are summarized as shown in the table below;

Table 3.2 Summary of Colline Profiling by Commune

Item	Makebukoko	Itaba	Bukirasazi
Population	Population density is 428/km ² , people living in IDP camp occupy 3.6% (2623) of all.	Population density is relatively low (315/km ²) due to hilly land. People living in IDP camp occupy 4.1% (2821) of all.	Population density is relatively high (503/km ²), People living in IDP camp occupy 7.3% (3213)
Livelihood and Living condition	Houses with straw roof occupy 6.5% (950) of all houses and houses with metal sheet occupy 15.5% (2252), it means housing condition is in middle level among three communes.	Houses with straw roof occupy 17.2% (2716) of all houses and houses with metal sheet occupy 10.9% (1720), it means housing condition is relatively bad.	Houses with straw roof occupy 4.2% (361) of all houses and houses with metal sheet occupy 29.2% (2390), it means housing condition is relatively good.
Infrastructure	Access to infrastructure relatively good, less than 45 minutes in average to go to school, health center and market from the center of the colline.	Not a few collines are hilly, and access to infrastructure is comparatively bad. There is a big market (Gihamagara market)	Access to infrastructure relatively good, less than 30 minutes in average to go to school, health center and market from the center of the colline.
Agriculture	Cassava, banana and maize are major crops. Also, sweet potato and beans are major crops, and sweet potato is processed into beignet.	Cassava, banana and maize are three major crops, and cassava and maize are processed into flour and banana is processed into banana wine.	Production and productivity is biggest among three communes. Cassava, banana and maize are three major crops, and cassava and maize are processed into flour and banana is processed into banana wine. Also, fruit production is relatively big.
Association	Number of Association is 148, and cooperative is 13. More than 90% of associations' activities are agriculture, pastoral and agro-pastoral.	Number of Association is 87, cooperative is 4. 65% of associations' activities are agriculture, pastoral and agro-pastoral. Credit activities occupy with 20% of associations' activities.	Number of Association is 98, cooperative is 5. 65% of associations' activities are agriculture, pastoral and agro-pastoral. Credit activities occupy with 25% of associations' activities.
Dispute	Number of land cases in 2011 was 424 and 80% of them was resolved.	Number of land cases in 2011 was 315 and 74% of them was resolved.	Number of land cases in 2011 was 166 and 35% of them was resolved.
Social Problems in Conflict Affected Commune	There are significant number of social vulnerable people, most of them are IDPs (26.2%), widows (26.6%) and orphans (24.2%). There is one IDP camp, Mwaro-Ngundu IDP camp, in the commune and people living there hope building peace villages accompanying necessary infrastructures and live together with people living in colline.	There are significant number of IDPs in the commune which occupied 25.5% of social vulnerable people. There are three IDP camps in the commune, 13.1% of IDPs live in Gisikara IDP camp, 21.3% live in Buhoro IDP camp and 61.0% live in Gihamagara camp. Main hindering factor of returning to original community for people living in camp is security problem, and they hope strengthening security system.	There are significant number of IDPs in the commune which occupied 48.2% of social vulnerable people. There are two IDP camps in the commune, 68.9% of IDPs live in Bukirasazi IDP camp, 8.9% live in Kibuye IDP camp. People living in IDP camp hope association activities promoting cooperation among people living in IDP camp and people living in colline.

Also, situation of people in need of special attention was clarified as follows;

Table 3.3 Summary of People in Need of Special Attention

Community Members Who Need Special Attention	Situation	Difficulty they face	Support from outside	Participation in Association	Means of Living	Land Holding
Ex-Combatant	Some success in integration and the others are living in IDP Camp	Food Security	Social rehabilitation kit	Yes	Agriculture, Non-agricultural industry	Most of them sold out their land at the time of leaving for war
Ex-Child Soldier	Good relationship with people	Food Security	Land / Cattle	Yes	Agriculture, Non-agricultural industry	It depends on each person

Widow	They have no means to send their children to the school	Food security, lack of clothes	No support	Yes	Agriculture	Very small or having difficulty to possess land
Orphan	They cannot go to school and do not have money for stationary.	Food security, lack of clothes, no money for medical supports	There are some Associations supporting them	—	—	Some' lands are taken by their relatives
Persons living with disabilities (PWD)	They cannot go to school and able to work, therefore, they are so poor.	Food Security, no money for medical support	There are some Associations supporting them	Yes	Some cannot move and work	Depends on kind of disabilities
Batwa	They are poor living on self-sufficient agriculture and pottery	Food Security, they don' t know how to cultivate	There are some Associations supporting them	No, they don't have any association	Pottery, Agriculture	Very small land
HIV/AIDS	They do not have travel fee to go and take ARVs	Lack of agricultural input, Food Security	There are some Associations supporting them	Yes	Agriculture, Non-agricultural industry	Same land holdings as other people
IDP	It is too far to go to their original colline to cultivate	Some difficulties in crop cultivation in original colline	There are some Associations supporting them	Yes	Agriculture, Non-agricultural industry	They have land in their original colline, sometime take long time to go there

4. PCDC Analysis

4.1 Context of PCDC Development

The Government of Burundi has adopted a communal law No 01/016 20 April 2005 which regards communes as decentralized entities with a legal recognition and an organizational and financial autonomy. Within this framework, local communities guided by locally elected officials must promote the development of their commune based on a document called “Communal Plan for Community Development” (Plan communal de développement communautaire, hereafter PCDC). PCDC is developed in a participatory and inclusive way in accordance with the orientations of a Practical National Guide of Communal Planning of the Ministry of Planning for Development and National Reconstruction, adopted in 2008 as a 5-year development plan. The aim is therefore to equip communes with an adapted and adequate working tool which integrates the aspirations, assets, potentialities and the main prioritized actions to carry out for the development of communes. As the term of PCDC 1st was over in 2012, the draft of PCDC 2nd was developed in August 2013.

4.2 Outline of the Practical National Guide of Communal Planning

Although one of the main tasks assigned to local officials in the framework of decentralization is to promote development in their community, it lacks an adequate and suitable tool for this mission. As planning methods differ depending on development actors, it is essential to harmonize concepts, procedures, principles, methods and tools for communal development planning. Therefore, the national guide for commune planning was prepared to meet the need of government and its development partners to improve and rationalize the national planning system designed for beneficiaries for a participatory and sustainable development.

4.3 Obstacles for Promoting PCDC Projects

(1) Description of Desirable Future Direction of Community Development

PCDC was elaborated based on the needs of population in commune. Also, vision of PCDC was set through bottom up approach. However, it is necessary for commune administration to give an overall picture and direction of community development through setting clear vision considering the

characteristics of community. MINAGRIE/DPAE having staffs from provincial level to the extent of colline level, thus, can support commune administration to take characteristics of community into account for setting a vision based on the diagnostic.

(2) No Financial Resources

The decentralization process did not start when PCDC was formulated in 2008, so no budget from the central government was allocated and a commune administration did not have any sources of revenue for implementation of PCDC. That is, PCDC does not have effective financial resources in principle.

(3) Insufficient Coordination between Commune Administration and DPAE

Some agricultural activities described in PCDC were in lack of coordination between the policy / activities decided in DPAE structure and activities stipulated in PCDC. For example, it is not clear that correspondence of strategic channel in “Increase Agricultural Production” in PCDC to strategic axis of SAN (Strategie Agricole Nationale) and to program / sub-program in PNIA (Plan National D’investissement Agricole), which made it difficult for both commune side and DPAE side to grasp all agricultural activities conducted in commune.

(4) Unclear Implementation Structure and Unclear Procedure of Projects

Each activity described in PCDC didn’t mention the process of activity, role of each actor and implementation structure. This made it difficult for DPAE and communes to follow necessary procedures to start the activities.

(5) Insufficient Consideration about Feasibility of Implementation of Projects

There are many activities described in PCDC and they have room for improvement of design, since some projects were beyond budget allocation and capacity of local officers due to insufficient consideration of feasibility of implementation.

(6) Conducting Monitoring and Evaluation Based on the Amount of Input, Not on Outcome

Activities stipulated in PCDC are evaluated by input, but not by outcome. In such cases, stakeholders sometimes misunderstood the progress of the activities due to the discrepancy between the planned and actual input. For example, we cannot declare that distribution of planned amount of seeds surely bring promising dissemination of selected seeds to farmers.

4.4 PCDC in Target Communes

In the 2nd generation of PCDC in 3 targeted communes, achievement of PCDC 1st was evaluated as the table below. Figures in it seem fair in consideration of the characteristic of PCDC without financial background but these achievements are actual annual input against planned annual input designated by PAI, thus they are not the rate against the initial plan of PCDC.

Table 4.1 Evaluation of PCDC 1st

Makebuko		Itaba		Bukirasazi	
Strategic Axis	Achieve-ment(%)	Strategic Axis	Achieve-ment(%)	Strategic Axis	Achieve-ment(%)
Overall	67	Overall	Below 50	Overall	70
Education	108	Education	22	Agriculture	55
Agriculture	77	Water/Sani.	50	Water/Sani.	71
Water/Sani.	51	Agriculture	47	Education	49
Governance	59	Non-agri, Infrastructure	25	Non-agri, Infrastructure	88
Non-agri, Infrastructure	41	Governance	45	Governance	85

The objectives in the axis of agriculture are tabulated as below. In Itaba, some objectives of PCDC 1st are summarized in “Restoration of soil fertility” and “Production increase of agriculture”, while some of Bukirasazi are subdivided.

Table 4.2 Objectives in Strategic Axis of Agriculture

Commune	Axis	Objectives
Makebuko	Axis 1. Improvement of agricultural productivity	Obj.1: Restoration of soil fertility Obj.2: Capacity building of producers Obj.3: Agricultural intensification Obj.4: Restocking livestock Obj.5: Promotion of beekeeping Obj.6: Processing of agricultural products Obj.7: Increase of coffee production Obj.8: Increase and protection of arable land
Itaba	Axis 2. Durable market promotion of agriculture and livestock and environment protection	Obj. 1: Restoration of soil fertility Obj.2: Production increase of agriculture Obj.3: Production increase of livestock
Bukirasazi	Axis 1. Promotion of agriculture and livestock	Obj.1: Restoration of soil fertility Obj.2: Production increase of agriculture Obj.3: Marsh management Obj.4: Improvement of vegetable and fruit production Obj.5: Production increase of livestock Obj.6: Aquaculture development Obj.7: Apiculture development Obj.8: Environnemental protection

On the other hand, project costs in agriculture sector are summarized in Table 4.6. The table shows; 1. Planned cost of PCDC 1st, 2. Estimated cost of PCDC 1st from actually inputted quantity, 3. Rate of 2. to 1., and 4. Planned cost of PCDC 2nd. Figures in Makebuko and Itaba are similar namely, 1. = about 3.5 million USD, 2. = 0.8 to 0.9 million USD, 3. = 22 to 24%, 4.= about 6 million USD. Bukirasazi scores high rate of achievement due to small budget of the initial plan and ambitious amount of over 10 million USD in PCDC 2nd.

Table 4.7 and Figure 4.1 show planned cost sharing rate among population, commune and partners (donors). It is clear that shares of population increase and shares of partners decrease in PCDC 2nd, as they were substituted especially in Makebuko and Bukirasazi.

Table 4.3 PCDC Project Cost in Agriculture

1USD = 1,530.72BIF

Item	Makebuko		Itaba		Bukirasazi	
	Million BIF	'000 USD	Million BIF	'000 USD	Million BIF	'000 USD
1. PCDC1 Plan	5,271	3,443	5,863	3,830	2,432	1,589
2. PCDC1 Input	1,154	754	1,387	906	1,253	819
3. 2./1.		22%		24%		52%
4. PCDC2 Plan	10,086	6,589	9,016	5,890	15,799	10,321

Table 4.4 Sharing Rate of Project Cost in Agriculture

Item	Makebuko		Itaba		Bukirasazi	
	PCDC1	PCDC2	PCDC1	PCDC2	PCDC1	PCDC2
Population	16%	62%	8%	31%	13%	67%
Commune	4%	13%	0%	7%	4%	11%
Partner	79%	25%	92%	62%	83%	22%

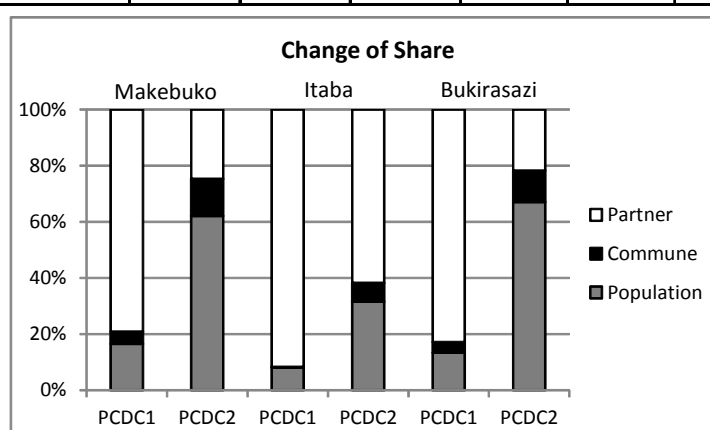


Figure 4.1 Sharing Rate of Project Cost in Agriculture

4.5 Financial Resources of PCDC

PCDC is planned based on not the budget but the needs of people and PCDC is a sort of projects menu to show people's demands to interveners and for them to select among those. Therefore, basically each project of PCDC does not have corresponding financial resources, and in fact a commune government, the primary implementer of PCDC, has quite limited budget so far. However, there are possible financial resources, such as FONIC, line ministries and donors.

Table 4.5 Financial Sources of PCDC and Their Situation

Source	Situation
FONIC	Although allocation from FONIC is quite small against demands at present and the revenue share plan of MDC seems difficult to realize in the near future, there is a possibility for amount increase. GIZ has sent an advisor to FONIC and allocated 1 million Euro for a technical cooperation project for FONIC. An audit for FONIC will be conducted in September 2014 and KfW (Kreditanstalt für Wiederaufbau, German Development Bank) will provide loans if the audit proves that FONIC has enough capacity to handle larger amount.
Line Ministries	Various ministries are implementing projects by their own budget and management. In case of MINAGRIE, financial planning of PPIA is not progressing at provincial level but cost estimate for available resources at national level is made in PNIA. Although the use of budget is decided by the ministry at the central level, inputs are provided to communes for agriculture and rural development. Therefore, aligning input provision of DPAAE with PCDC is very important. Close coordination between DPAAE and commune administrations for annual budget making is expected.
Donors	Since donors have their own theory and target, it is difficult for commune administration to designate sectors and areas, and manage donor projects. However, all stakeholders these days recognize that PCDC is the sole plan to follow or refer for community development and appropriate selection can be done through dialogue between donors and administrations.

5. Action Plan for Promoting PCDC

While each commune's Action Plan for promoting PCDC is explained in this chapter, the procedure to formulate them should be reaffirmed beforehand. The Draft Action Plan was formulated based on the



Figure 5.1 Flow up to Finalization of Action Plan and Manual

results of surveys (colline profiling survey, social survey and agricultural survey), and then, analysis of challenges and review of countermeasures for promoting PCDC were carried out to make project designs. Pilot projects were planned and implemented based on those studies and the lessons from pilot projects were reflected to the Draft Action Plan and Draft Manual to finalize them. The flow of finalizing the Action plan and Manual is shown in the figure. The table of contents of Action Plan formulated after these processes is shown below. Refer to the main report for actual Action Plans of 3 communes. The Manual for promoting PCDC is filed in Annex.

1. Introduction
2. Features of _____ Commune
 - 2.1 General Features of Governorate
 - 2.2 Natural Conditions
 - 2.3 Socio-Economic Condition
 - 2.4 Environmental and Social Consideration
 - 2.4.1 Environmental Consideration
 - 2.4.2 Social Consideration
 - (1) Progress of Reconciliation
 - (2) Consideration for People in Need of Special Attention
 - (3) Land Dispute
 - 2.4.3 Agricultural Condition
 - (1) Land Use
 - (2) Crop Production (including cropping pattern and crop calendar)
 - (3) Livestock
 - (4) Marsh Development
 - (5) Forestry
 - (6) Association
 - (7) Agri-business/ Private Sector
 - (8) Agricultural Infrastructure, Commercialization
3. Challenges for Promoting PCDC Projects in Agricultural Sector
 - 3.1 Challenges from Environmental and Social Consideration
 - 3.1.1 Challenges from Environmental and Social Consideration
 - 3.1.2 Challenges from Social Consideration
 - 3.2 Challenges in Agricultural Sector
 - (1) Environmental Protection
 - (2) Marsh Development
 - (3) Soil Fertility
 - (4) Multiplication of Selected Seed
 - (5) Livestock Promotion
 - (6) Post-harvest, Processing
 - (7) Development of Industries and Agribusiness
4. Analysis of PCDC
 - 4.1 Objective and Vision of PCDC
 - 4.2 Achievement State of PCDC Projects
5. Analysis of PPIA
 - 5.1 Objective and Vision of PPIA
 - 5.2 Achievement State of PPIA Projects
6. Countermeasure for Promoting PCDC Projects in Agriculture and Livestock and Livelihood Improvement Sector
 - 6.1 Focusing on Main Livelihood and Targeting of Areas
 - 6.2 Consideration for People in Need of Special Attention
7. PCDC Projects in Agricultural and Livestock and Livelihood Improvement Sector
 - 7.1 Project Design
 - 7.2 Project Menu
8. Implementation Structures of Action Plan for Promoting PCDC Projects in Agriculture and Livestock and Livelihood Improvement Sector
9. Project Sheet

6. Capacity Development Program

6.1 Directions

Capacity building of government officials and also local people are quite important for sustainable development, because development projects should be carried out by Burundian people basically, although most of development projects are funded, planned and implemented by donors at present. But currently there is not enough opportunity to train officials in communes, zones and collines. At the same time, establishment of implementation structure of training is essential for implementation of the sustainable capacity development for them. Therefore, the Project formulated the capacity development program. The Project adopted the cascading training method for local officials by using MINAGRIE staff at each level to conduct further trainings. Additionally, final target of this method is association. Feasibility of a proposed implementation structure after the Project was also verified during implementation of trainings.

While various trainings for capacity development were carried out within the Project, the Project Team evaluated various aspects of the trainings. They are relevance, effectiveness, efficiency, impact and sustainability of trainings and appropriate timing of implementation in order to maximize them. Based on the evaluation, necessary training was included in the program. Moreover, the repetition of some of trainings may not be possible after the project i.e. training in Japan and in third countries, so they were not included in the program.

The modules of training in Burundi were summarized for users in each level. The training materials included in the program should be kept at the General Directorate of Mobilization for Agricultural Development and Extension (Direction Générale de la Mobilisation pour l'Auto-Development et la Vulgarisation Agricoles, hereinafter called "DGMAVA") which is the responsible directorate body for training. They will be utilized by officials at each level for further trainings.

6.2 Capacity of Relevant Organization for Implementation of PCDC

6.2.1 Functions of Relevant Organizations for PCDC

Official regulation describes the functions of MINAGRIE and DPAE concerned with PCDC as below.

"Decret No 100/300 du 25 Novembre 2011 portant Organisation du Ministère de l'Agriculture et de l'Élevage" states regular works and roles of each department in MINAGRIE and DPAE. However, there is no specification about the detailed works and roles of the agricultural officials in each administrative level under the province, although it states that DPAE should support PCDC in the sector of agriculture and livestock. The main roles of officials in MINAGRIE are planning, coordination and supervision of agricultural projects, and the main roles of officials of DPAE are execution and technical supervision of projects.

Especially for training, DGMAVA is the responsible directorate and the General Directorate of Agriculture (Direction Générale de l'Agriculture, hereinafter called "DGA") and General Directorate of Livestock (Direction Générale de l'Élevage, hereinafter called "DGE") support and cooperate with DGMAVA if necessary. However, it does not mention the details of training programs.

There is no official regulation for PCDC concerned with actors under MI and MDR. However, a commune government is responsible for activities such as planning, coordination, supervision on management and technique, and execution of various projects under PCDC, including all agricultural projects within the commune.

6.2.2 Present Situations and Issues on Capacity Development

In MINAGRIE, DGMAVA is the main directorate responsible for the training in agricultural sector.

According to the interview to DGMAVA, there is no annual training program in mid and long term, but ad hoc training courses are conducted when budget is secured. These training courses are conducted mostly when donors include training in their project and they conduct it based on their target themes. When MINAGRIE has budget, it conducts training according to the main target crops such as a rice, banana, cassava, maize, palm oil and potato.

Lack of enough capacity of administrative actors to implement PCDC is one of the big challenges to secure sustainability but MINAGRIE and local administrations, the implementing agency of PCDC, does not have an appropriate system to train staff.

6.3 Necessary Capacity Development for Promotion of Implementation

6.3.1 Necessary Techniques and Knowledge for Officials

Although smooth implementation of PCDC by officials is expected, necessary techniques and knowledge listed below are not enough and they have difficulties to carry out PCDC according to the survey on officials.

Table 6.1 Necessary Techniques and Knowledge

Level	Actor	Organization	Necessary Techniques and Knowledge
Center	Staff in MINAGRIE	MINAGRIE	<ul style="list-style-type: none"> ▪ Method of preparation of development plan in agricultural sector
	Province		
Province	Staff in DPAE	MINAGRIE	<ul style="list-style-type: none"> ▪ Collecting and analyzing of community needs ▪ Method of preparation of development plan in agricultural sector ▪ Method of monitoring
	Economic advisor	MOI	-
Commune	Technical advisor	MOI	<ul style="list-style-type: none"> ▪ Collecting and analyzing of community needs ▪ Method of preparation of development plan ▪ Method of monitoring ▪ New techniques
	Agronomist	MINAGRIE	<ul style="list-style-type: none"> ▪ New techniques in wetland ▪ New techniques for conservation of seed and production ▪ Food processing
	Veterinary	ditto	<ul style="list-style-type: none"> ▪ Animal health
Zone	Assistant of agronomist	MINAGRIE	Same as Agronomist of commune
	Assistant of veterinary	ditto	Same as Veterinary of commune
Colline	Agricultural monitor	MINAGRIE	Same as Agronomist of commune
	Community Animal Health Agent (ACSA)	ditto	Same as Veterinary of commune

* Hatching indicates the staff of MINAGRIE

Source: Made by the team

Necessary techniques and knowledge are different among relevant actors in each level, especially between central and local level, so various trainings for capacity development should be carried out.

However, for establishment of sustainable implementation structure of training, the Project Team adopted cascade training instead of implementation of single training. Then, the Project verifies effect of each training and bringing up system for trainers through implementation of cascade training. In addition, the Project confirms whether cascade training contribute to the promotion of implementation of PCDC in the field by government officials.

6.3.2 Methodology of Capacity Development in the Project

Capacity development for planning and coordination of projects was carried out through the On-the Job-Training (hereinafter called “OJT”), and training in Japan and 3rd countries, Sierra Leone. Participants learnt methodologies and outputs on planning and coordination of projects through formulation of the Action Plan and Manual in the Project with OJT, an example of community development project in Sierra Leone, review of the Draft Action Plan and the Manual and various practices of rural development in Japan. The trainees of these trainings were trainers for training in Burundi. Capacity development for execution and technical supervision of projects was carried out through the OJT and training in Burundi. Participants learnt methodologies on execution and technical supervision of projects through training in Burundi and actual implementation of the pilot project. Capacity development for monitoring and evaluation of PCDC was strongly needed. The capacity development of actors in all levels was conducted through the monitoring and evaluation of the pilot projects. The relationships with capacity development activities and project outputs are shown in the figure below.

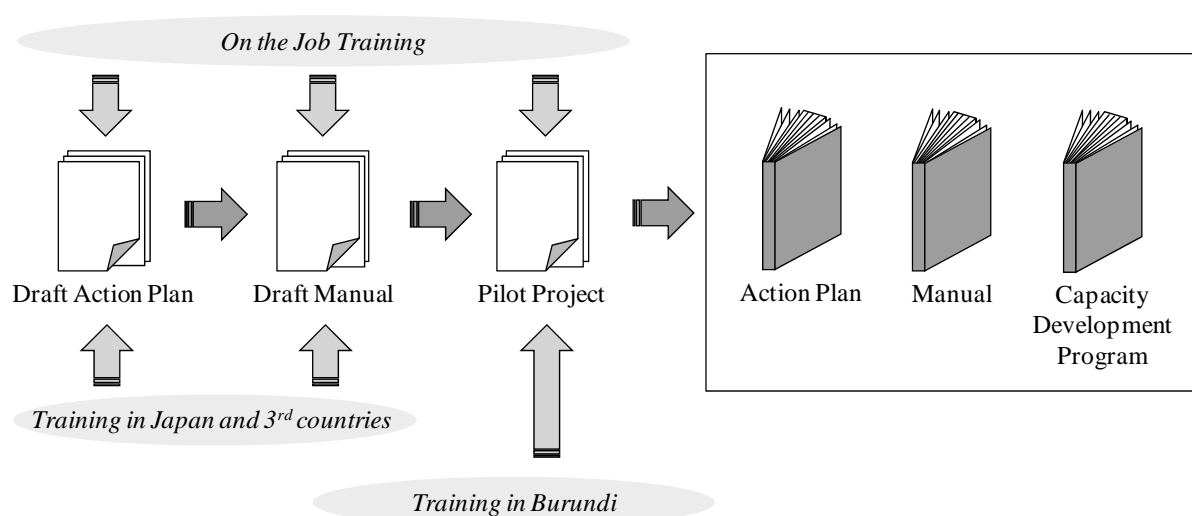


Figure 6.1 Relationship Between Capacity Development Activities and Project Components

6.3.3 Concept of Cascade Training

Capacity development of officials and local people are quite important for sustainable development, because development projects should be basically carried out by Burundian people basically, while most of the development projects are funded, planned and implemented by donors at present, therefore, capacity building is one of the important pillars of the Project. Cascade training consisting of 3 steps was carried out in Burundi for promotion of implementation of PCDC.

In the first step, the trainings targeted DPAE staff, engineers in MINAGRIE, agronomists and veterinaries from communes and were conducted by external trainers for various fields according to activities of the pilot projects. In the second step, the trainings targeted chiefs and agricultural assistants from zone level, chiefs, CDC members, agriculture monitors, and ACSA from colline level, and were conducted by the trainees of the first training. In the third step, capacity building of associations was conducted through the implementation of the pilot projects in cooperation with second step's trainees.

Governmental Organization

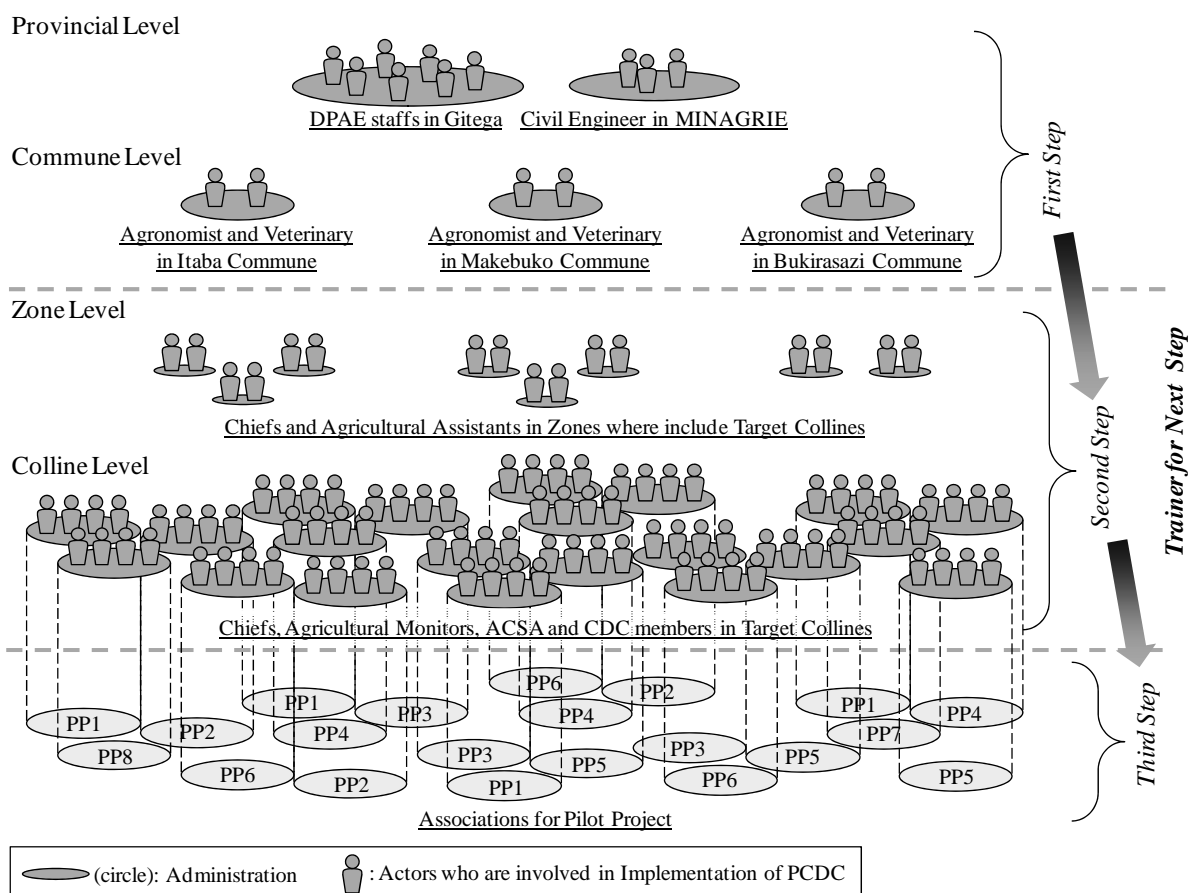


Figure 6.2 Concept on Cascade Training

6.4 Conducted Capacity Development in the Project

6.4.1 Training to Counterparts

Table 6.2 Conducted Training

Type of Training	Contents
On-the Job-Training	The objective of this training was to improve the capacity of individual counterpart for planning, coordination, supervision and execution of the project through implementation of pilot projects and formulation of the Action Plan and Manual with the Project Team. The duration was the same as the Project period.
Training in Japan	10 counterparts participated in 17 days training in Japan to study agricultural policy and cooperative activities for community development. They formulated the Training Action Plan (TAP) to support local associations and to promote PCDC in Burundi
Training in Sierra Leone	9 counterparts participated in 9 days training in Sierra Leone to study roles of stakeholders in community development. They held a workshop to explain what they learned through the training.

6.4.2 Training in Burundi for Promotion of Implementation of PCDC in the Field

The objective of the training was to improve officials as resource persons for the promotion of implementation of the pilot projects in the field through the cascade training in 3 steps. The first step training was conducted to MINAGRIE and DPAE personnel by experienced trainers. The second step training was conducted to local officials by the trainees of the first step training. The third step training was conducted to targeted association members by contractors with support from trainees of the second step training. Contents of series of training in the third step are tabulated below. At the end of

all training, training materials were finalized and they are attached in Annex.

Table 6.3 Contents of Conducted Sub-Training in Pilot Projects

PP	Title of Training	Sub-Training
PP1 Marsh Development	No.1	Creation, Management, Accounting and Annual Plan of an Association
	No.2	Constitution and Management of Cooperatives
	No.3	Organization, Management and Maintenance of Irrigation Facilities
		Watershed protection
No.4	Cropping Techniques of Rice and Vegetables	
	Utilization of huller machine	
PP2 Environmental Protection	No.1	Creation, Management, Accounting and Annual Plan of an Association
	No.5	Environmental Protection
PP3 Soil Fertility Improvement	No.1	Creation, Management, Accounting and Annual Plan of an Association
	No.6	Soil Fertility Improvement
		Compost making
PP4 Selected Seed Solidarity Chain	No.1	Creation, Management, Accounting and Annual Plan of an Association
	No.7	Multiplication of Selected Seed
Demonstration of sowing		
Seed selection by categories		
PP5 Livestock Promotion	No.1	Creation, Management, Accounting and Annual Plan of an Association
	No.8	Livestock Promotion
PP6 Agricultural Products Processing Promotion	No.1	Creation, Management, Accounting and Annual Plan of an Association
	No.9	Food Processing
		Food processing for potato donut
		Utilization of milling machine and its maintenance
PP7 Marketing Promotion	No.1	Creation, Management, Accounting and Annual Plan of an Association
	No.9	Food processing for banana wine
PP8 Handicraft Industry Promotion	No.1	Creation, Management, Accounting and Annual Plan of an Association
	No.10	Handy Craft Promotion
		Utilization of carpentry machines and its maintenance
		Utilization of tool for improved tile and its maintenance
		Utilization of machine for brick making and its maintenance
Utilization of tools for ceramic making and its maintenance		

6.5 Results of Trainings

Table 6.4 Results of Cascade Training

Step	Result
First	All trainees answered positively for the training courses in questionnaire, even if they already had experience to participate in some training courses outside of the Project. However, they suggested organizing exchange visits and getting more knowledge for these programs. The Project adopted to conduct exchange visit, and they planned contents and coordinated to choose suitable site for the exchange visit by themselves as part of training on planning and coordination of capacity development.
Second	Most trainees gave positive answers for the training courses in questionnaire. However many trainees suggested adding practical training to improve the programs in general even they realized their improvement for all fields through the training courses. Since trainers made Kirundi module, they could learn also.
Third	All interviewees answered positively for the training in questionnaire and realized to be improved for their capacity through the training, even if they already had experience to activities concerned with the pilot project. Most interviewees mentioned that the training period should be long to facilitate better understanding and the exchange visit should be organized to understand practically. Due to shortage of the training period, some interviewees for all training gave negative answer.

6.6 Training Program to Promote PCDC

In order to promote PCDC, it is essential to develop capacity for relevant actors of PCDC and establish system for capacity development. However, it is not clearly mentioned its methodology to develop the actors in present PCDC. As conducted capacity development in the Project was evaluated and necessity of some training was confirmed through the cascade training, it is effective to conduct such training for the capacity development and establish the system to implement. Therefore, the training program to promote PCDC was formulated. Refer to the main text for details.

7. Pilot Project for Validation of Draft Action Plan

7.1 Contents

The Project Team selected pilot projects from the proposed projects in the Draft Action Plan. The Draft Action Plan was formulated on the basis of the hypothesis that people's main livelihood can be classified into three (3) types; 1) Marsh Agriculture Type, 2) Colline Agriculture Type and 3) Off-farm Type. Thus, we set projects menu corresponding to above three types.

The pilot project menu titled "Marsh Development" from projects described in the Draft Action Plan is chosen for Marsh Agriculture Type. Further, "Environment Protection", "Soil Fertility Improvement", "Selected Seed Solidarity Chain" and "Livestock Promotion" were chosen as pilot project menu for Colline Agriculture Type. "Agricultural Products Processing Promotion", "Marketing Promotion" and "Handicraft Industry Promotion" were set as pilot project menu for Off-farm Type, because people who don't possess farmland or have less land also can gain benefit from these projects.

Apart from the categorization based on livelihood, there is another classification from the view point of social consideration. As the Project aims reconciliation and reconstruction of community in the medium term, not only the aspect of livelihood improvement but also the aspect of social consideration to vulnerable people like widows, orphans, ex-combatants and so on, should be included in the criteria for selection of target associations. But circumstances are different according to a pilot project. In case of marsh development, the target must include all beneficiaries who cultivate in the

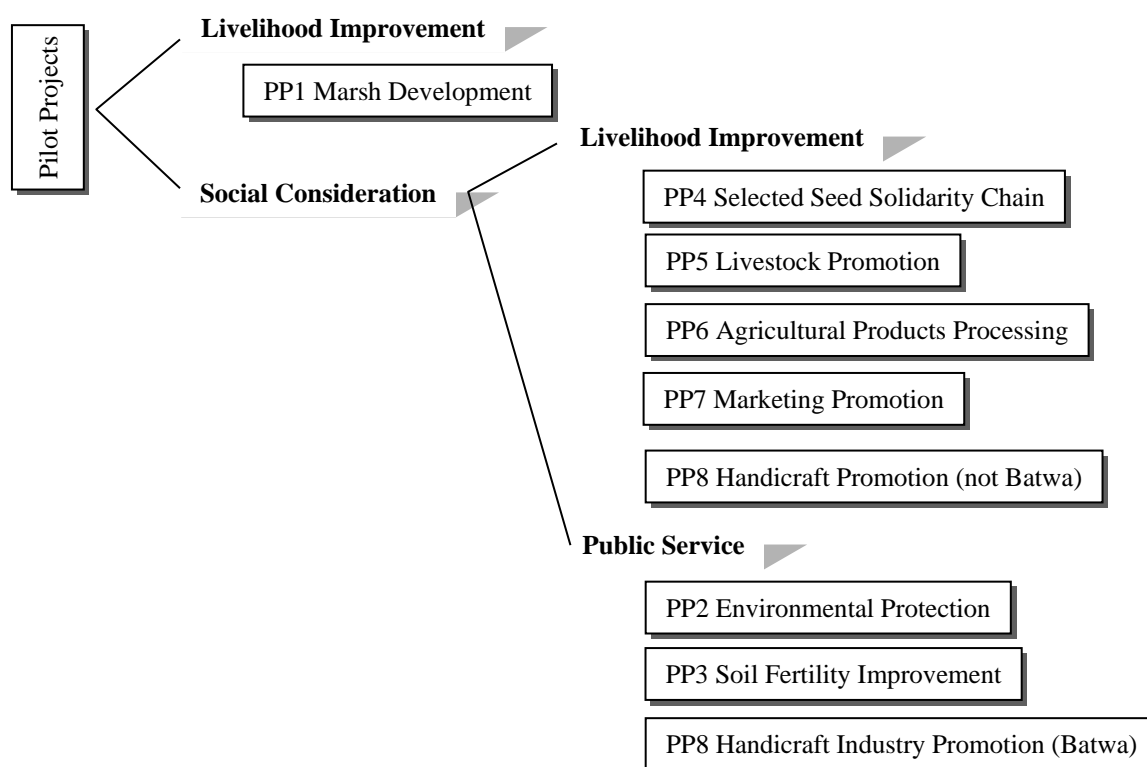


Figure 7.1 Classification of Pilot Projects from Social Consideration

marsh for livelihood improvement. In Colline Agriculture Type and Off-farm Type, associations supporting and/ or including vulnerable people were selected, while there are livelihood improvement activities and more public activities. The figure below shows classification of pilot projects from the view point of social consideration.

Capacity development for local officers was carried out in stepwise trainings called "cascade training". Firstly, DPAAE staff was trained in various fields by external trainers, and then, local staffs (zone and colline agricultural officers, colline chiefs, CDC members) were trained by DPAAE staffs who were

trainees of the initial training. Capacity development for association members was implemented through each pilot project. Based on the above, contents of pilot projects are tabulated as below.

Table 7.1 Contents of Pilot Projects

Equivalent in PNIA Program	Equivalent in PNIA Sub-Program	Type	Project Menu in Draft Action Plan	Title of Pilot Project
Program 1	SP 2	Marsh Agricultural Type	3 Marsh Development	PP1 Marsh Development 1.1 Feasibility Study of Marsh Development 1.2 Environmental Impact Study 1.3 Marsh Development 1.4 Establishing and Strengthening the Water Management Units 1.5 Promotion of Rice Production during the Dry Season in Marsh 1.6 Promotion of Vegetable Production during the Rainy Season in Marsh
	SP 1	Colline Agricultural Type	1 Environment Protection	PP2 Environmental Protection 2.1 Grass Fixing in Contour Line 2.2 Afforestation in Colline 2.3 Nursery Construction 2.4 Environmental Awareness Seminar 2.5 Promotion of Fruit Tree Production
			2 Soil Fertility Improvement	PP3 Soil Fertility Improvement 3.1 Distribution of Chemical Fertilizer 3.2 Compost Production 3.3 Enhancing the Effectiveness of the Fertilizer Use by Mixing Chemical Fertilizer and Organic Manure
	SP 3	Colline Agricultural Type	4 Selected Seed Solidarity Chain	PP4 Selected Seed Solidarity Chain 4.1 Dissemination of Selected Seed 4.2 Strengthening the Seed Multiplication System 4.3 Seed Storage Construction
			5 Livestock Promotion	PP5 Livestock Promotion 5.1 Dissemination of Livestock 5.2 Strengthening the forage production 5.3 Strengthening the animal health
Program 3	SP 12	Off-farm Type	9 Agricultural Products Processing Promotion	PP6 Agricultural Products Processing Promotion 6.1 Establishment and Strengthening the Association 6.2 Agricultural Processing Training 6.3 Processing Machine Install
			10 Marketing Promotion	PP7 Marketing Promotion 7.1 Market Research for Marketing of the Cash Crops 7.2 Establishment of the Marketing Information Providing System 7.3 Improvement of Access to Market
			11 Handicraft Promotion	PP8 Handicraft Promotion 8.1 Establishment and Strengthening Association 8.2 Handicraft Training 8.3 Machine Installation

7.2 List of Pilot Projects

The figure below shows basic information of pilot projects. Type of pilot projects, collines in each commune, building provided and name of associations.

Table 7.2 Information of Pilot Projects

* Inputs and their quantities in the table are for each site.

Type	PP	Item	Sites (Name of marsh or colline) (and Associations)			
			Makebukoko	Itaba	Bukirasazi	
Marsh	1. Marsh: Phase 1		Nyamusuwaga	Rurembera	Kibuye	
		Input	- Feasibility Study - Irrigation Facility - Multipurpose Storage - Huller Machine + apparatus - Maintenance tools - Parcel Inventory			
		Training	1. Association management 2. Cooperative management 3. Organization management & maintenance 4. Watershed protection 5. Cropping techniques 6. Huller machine use			
		Trial	1. Rice trial 2. Vegetable trial			
		1. Marsh: Phase 2		Nyakigezi	Mutukura-Kamirange	Gishanga 1
			Input	- Feasibility Study - Irrigation Facility - Parcel Inventory		
		Training	- Organization management & maintenance			
Colline	2. Environment		Karoba (<i>Dusubize Hamwe</i>)	Mugomera (<i>Haguruka Dukore</i>)	Ruhinda (<i>Dusubize Hamwe</i> <i>Dufashe Impfuyi</i>)	
		Input	- Banagrass seedling (12,000pc) - Grevillea seedling (480pc) - Calliandra seedling (4,800pc) - Avocad seedling (ave. 100pc) - Orange seedling (ave. 100pc) - Caring tools			
		Training	1. Association management 2. Environment protection 3. Seedling preparation & tree plantation			
Colline	3. Soil			Rukobe I (<i>Turwanye Inzara</i>)	Rukoki (<i>Twiziganirize</i>)	
		Input	- Potato (1,000kg) - Beans seed (40kg) - DAP (150kg), KCL (30kg), Manure (2.5t(=1 truck)*6)			
		Training	1. Association management 2. Soil fertility improvement 3. Compost making 4. Mixing chemical and organic fertilizer			
		Harvest		Potato 1,682kg	Potato 1,655kg	
				Beans 166kg	Beans 26kg	
		4. Seed		Nyamagandika (<i>Kerebuka</i>)	Kagoma (<i>Dutembere</i> <i>Mugufasha Impfuyi</i>)	Nyambuye (<i>Twikenure</i>)
		Input	- Potato (200kg) - Beans seed (9kg) - Cassava cutting (500pc) - Banana seedling (ave. 76pc) - DAP (33kg), KCL (20kg), UREA (5kg), Manure (2.5t(=1 truck)*4)			
		Training	1. Association management 2. Multiplication of selected seed 3. Demonstration of sowing 4. Seed selection			
		Harvest		Potato 1,341kg	Potato 494kg	
				Beans 149kg	Beans 86kg	
	5. Livestock		Muhororo (<i>Tuuzze Ikvi</i>)			
	Input	- 4 cows - Starter kit (medicine, concentrates)				
	Training	1. Association management 2. Livestock promotion, breeding techniques				

Type	PP	Item	Sites (Name of marsh or colline) (and Associations)		
			Makebuko	Itaba	Bukirasazi
Off-farm	6. Processing		Mwaro-Mavuvu (<i>Hozimpfuyi</i>)	Gisikara (<i>Dukutsikivi</i>)	Ruvumu (<i>Ntidukumirane</i>)
		Input	- Workshop		
			Mixer (for sweet potato), Cooking tools	Milling machine	Top attaching presser, Processing tools
		Training	1. Association management		
	2. Food processing			2. Food processing	
	7. Marketing		Makebuko (<i>Avodep</i>)	Gihamagara (<i>Tugumye Urugo</i>)	Bukirasazi (<i>Dutature Amatati</i>)
		Input	- Storage - Bicycle (4pc) - Signboard - Path clearing tools		
			1. Association management		
		Training		3. Use and maintenance of machine	
	8. Handicraft For Non-Batwa		Mwaro-Ngundu <i>Carpentry</i> (<i>Garukira Impfuyi</i>)	Macu <i>Tile</i> (<i>Twiyubakireneza</i>)	Kibere <i>Brick</i> (<i>Duteze Imbere Umutumba Wacu</i>)
		Input	- Workshop		
			Circular saw, Wood lathe	Wheelbarrow (3pc), Clay: 150,000 BIF	Brick presser, Wheelbarrow (3pc), Clay: 300,000 BIF
Training		1. Association management			
		2. Carpentry	3. Tile making	4. Brick making	
For Batwa			Ceramic		Ceramic
		Input	- Workshop, Pottery wheel, Wheelbarrow (3pc), Clay: 250,000 BIF		- Workshop, Pottery wheel, Wheelbarrow (3pc), Clay: 280,000 BIF
			1. Association management		1. Association management
	Training	2. Ceramic making		2. Ceramic making	

7.3 Verified Items

Verified Items through implementation of pilot projects are tabulated below. The first table explains verified items according to the basic policies for formation of Draft Action Plan (DAP) and the second table shows verified items from the viewpoints of measures for promoting PCDC.

Table 7.3 Verified Items for Each Basic Policy for Formulation of DAP

Basic Policy for Formulation of DAP	Items to be Verified (Expected Outcome)	Indicators	Evaluation
1. Promotion of Cooperative Activities for Recovery of Community	1. Cooperative Activities are strengthened through implementation of pilot project.	1. For target association/ beneficiaries ✓ Participation rate in the meeting ✓ Decision making process ✓ Participation rate in the activities ✓ Implementation situation of the activities	1. In target association/ beneficiaries, ✓ High participation rate in the meeting ✓ High consideration for fair division of benefits in decision making ✓ High participation rate in the activities ✓ Good implementation situation of the activities Those mean cooperative activities are strengthened.
2. Pilot Projects Based on Principle of Equity	2. The Project will benefit people in need of special attention who are target association.	2. Participation rate in the activities of pilot project, and urgent pilot project of road rehabilitation	2. Benefiting to people in need of special attention through Off-farm pilot project and road rehabilitation and improve their livelihood.
3. Improvement of Road as a Starting Point for the Development of Communities and Development of a Sustainable Maintenance System	3. People living collines adjacent to the road will benefit by improvement of the transportation access through road rehabilitation and keep maintenance of the road sustainably.	3. For people living collines adjacent to the road ✓ Implementation of the activities Attribution ✓ Participation rate of the maintenance training ✓ Participation rate of the maintenance	3. Benefiting local people through creating job opportunities by employment in the rehabilitation activities and high degree of participation to maintenance trainings and activities

Basic Policy for Formulation of DAP	Items to be Verified (Expected Outcome)	Indicators	Evaluation
4. Conflict Prevention	4. The Project will consider reflection of needs from persons who in need of special attention, prevention of land conflict.	4. Decision making process, advice / opinions from local officers	4. In decision making process, consideration for person who in need of special attention and land conflict are made well. Also, local officers consider well about those described above and provide advice.
5. Capacity Building to Promote Sustainable Development of the Communities	5. The local officers increase ability in formulation / implementation / monitoring and evaluation of plan.	5. For local officers <ul style="list-style-type: none"> ✓ Degree of understanding of training they took ✓ Situation of work described in DAP ✓ Spontaneous advice, follow-up 	5. For local officers <ul style="list-style-type: none"> ✓ High Degree of understanding of training they took ✓ Good Situation of work described in DAP ✓ Frequently provision of spontaneous advice, follow-up Those mean increase in ability of local officers

Table 7.4 Verified Items for Each Measure for Promoting PCDC

Measures for Promoting PCDC	Items to be Verified (Expected Outcome)	Indicators	Evaluation
1. Consideration for People in need of special attention <ul style="list-style-type: none"> ✓ Policy of support for people in need of special attention ✓ Inclusiveness of people in need of special attention in cooperative activities and strengthening support for those people through Off-farm activities 	1. Off-farm pilot project will benefit people in need of special attention who are member of target association or those assisted by target association.	1. In-Off-farm activities pilot project; For people in need of special attention <ul style="list-style-type: none"> ✓ Attribution ✓ Participation rate in the meeting ✓ Inclusiveness in decision making ✓ Participation rate in the activities ✓ Implementation situation of the activities People who are assisted by target association <ul style="list-style-type: none"> ✓ Attribution ✓ Details of Assistance ✓ Frequency of Assistance 	1. Benefits to people in need of special attention through Off-farm activities pilot project shall be evaluated through followings; For people in need of special attention; <ul style="list-style-type: none"> ✓ Policy of assistance for people in need of special attention described in DAP have high adequacy ✓ High participation rate in the meeting ✓ High inclusiveness in decision making ✓ High participation rate in the activities ✓ Good implementation status of the activities People who are assisted by target association <ul style="list-style-type: none"> ✓ Policy of assistance for people in need of special attention described in DAP have high adequacy ✓ Expansion of assistance will be confirmed ✓ Frequency of assistance will increase
2. Improvement of agricultural project described in PCDC	2. Improvement Points will contribute to effect of agricultural project.	2. High degree of understanding; High progress of practice of technique with improvement based on agricultural survey	2. High degree of understanding and practice of technique with improvement based on agricultural survey show contribution of those points to expected outcome of the project.
3. Cascade training will be taken at the first stage of the project	3. i) Necessary technique for the project will be acquired by local officers in province and commune. ii) Necessary technique for implementation of the project will be acquired by local officers in zone and colline. iii) Cascade training system for transferring necessary technique from local officers in provincial level to beneficiaries will be strengthened. iv) Central officers will utilize capacity development program to be finalized in the end of the Project and training system in MINAGRIE/DPAE will be strengthened.	3. For local officers; <ul style="list-style-type: none"> ✓ Degree of understanding of cascade training ✓ Status of filling the role of local officers described in Draft Action Plan ✓ Spontaneous advice, follow-up ✓ Degree of understanding of officer in MINAGRIE on capacity development program 	3. For local officers; <ul style="list-style-type: none"> ✓ High degree of understanding of cascade training ✓ Good status of filling the role of local officers described in Draft Action Plan ✓ Frequent spontaneous advice, follow-up ✓ High degree of understanding of officer in MINAGRIE on capacity development program will show high degree of establishment of training system in MINAGRIE/DPAE.

7.4 Monitoring Structure and Verification Items

Pilot projects are being monitored by officers of MINAGRIE, administrators of Gitega Province and the Project Team. Government officials from MINAGRIE establish the monitoring structure; Zone Agronomist is in charge of collecting monitoring reports from each of the collines every week. After receiving reports from Zone Agronomist, the Commune Agronomist submits monthly monitoring report to the Chief of DPAAE in the monthly meeting convened at the MINAGRIE. Colline Chief and CDC, on the administrative side, regularly monitor activities of target associations. They are responsible for reporting to the commune administration through Zone Chief. For collecting information, government officials from the both lines ideally hold information sharing sessions in weekly security meeting. Lastly, the Project Team monitors the entire process of pilot project

implementation structure in the figure below.

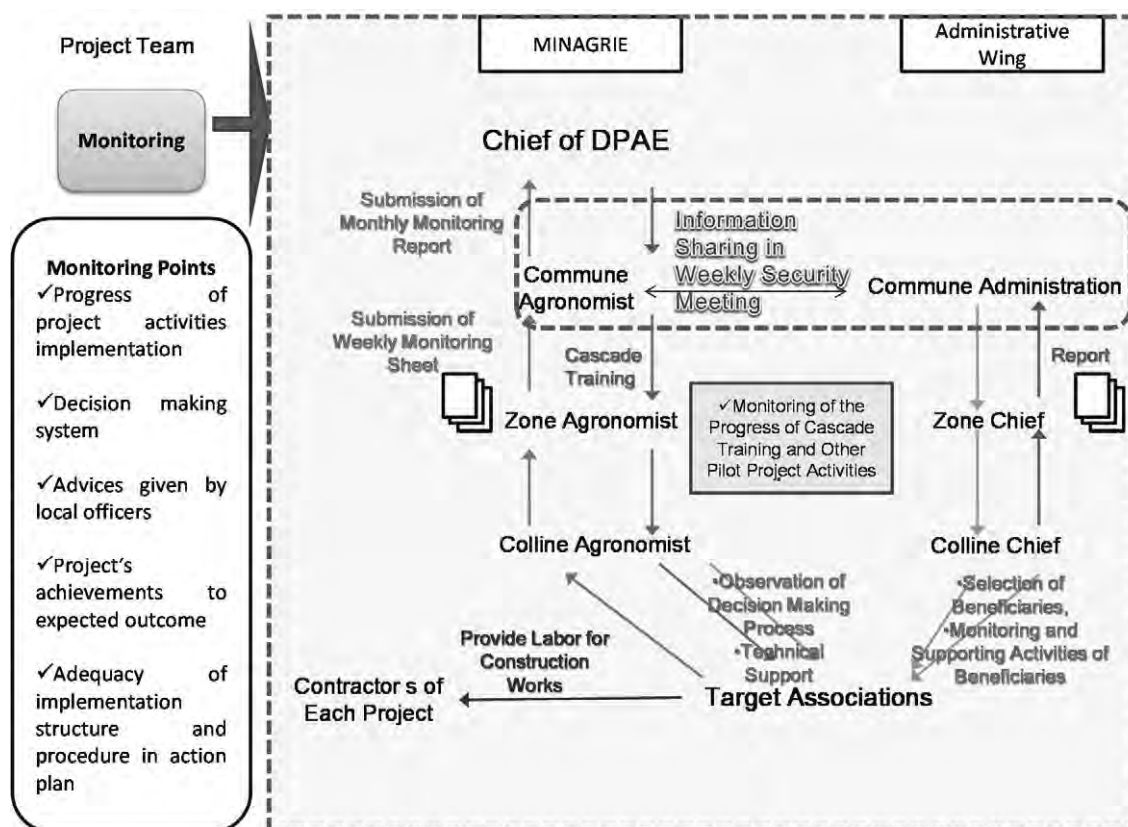


Figure 7.2 Monitoring Structure of Pilot Projects

Since pilot projects are carried out to verify the items explained above, they should be monitored during implementation of pilot projects. But targets of verification items vary according to purposes so that each pilot project has several verification items with different purposes. Relationships between verification items and pilot projects are sorted in the table.

Table 7.5 Targets of Verification Items

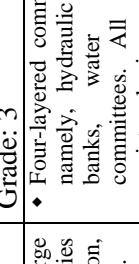
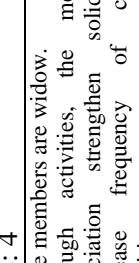
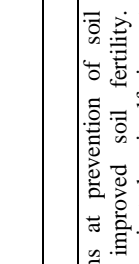
Level	Verification Item	Target Pilot Project
Basic Policy	1. Cooperative activity	All projects
	2. Equity	Off-farm pilot projects
	3. Road improvement	Road rehabilitation
	4. Conflict prevention	All projects
	5. Capacity building	Capacity building of government staff (all projects)
Measures	1. People in need	Off-farm pilot projects
	2. Agricultural production	Marsh & colline agriculture type pilot projects
	3. Capacity building	Capacity building of local people (all projects)

7.5 Summary of Results of Pilot Project

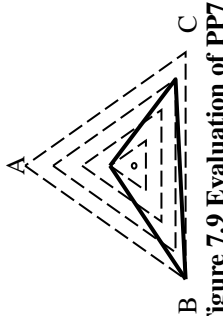
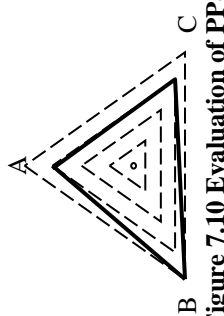
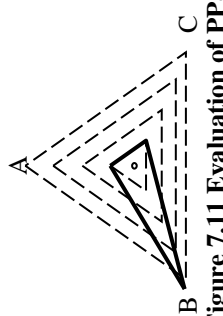
7.5.1 Summary of Overall Results

Results of pilot project are evaluated by using 5 grades in the aspects of economic impact, social consideration and coherence of association. Maximum positive grade is 5 and minimum is 1. The summary is described in the following table.

Table 7.6 Summary of Results of Pilot Projects

PP	Evaluation			Figure
	A. Economic Impact	B. Social Consideration	C. Coherence of Association	
PP1: Marsh Development	<p>Grade: 4</p> <ul style="list-style-type: none"> ♦ Apart from the rice sales, association members engaged in this project will gain profit from rice milling activities and rice bran sales. Benefit will be utilized for the project management of Marsh committee members. 	<p>Grade: 2</p> <ul style="list-style-type: none"> ♦ Marsh development involved a large number of beneficiaries. The beneficiaries are specified by the geographical condition, so there is no discrimination among them. 	<p>Grade: 3</p> <ul style="list-style-type: none"> ♦ Four-layered committees were established namely, hydraulic blocks, left and right banks, water intakes, and marsh committees. All hydraulic blocks were registered in each commune as an association. The marsh committee is in charge of storage management, milling activity, and facility maintenance. 	 <p>Figure 7.3 Evaluation of PPI</p>
PP2: Environment Protection	<p>Grade: 2</p> <ul style="list-style-type: none"> ♦ The association is ready to sell seedling. However, the price of seedling is around 50 BIF and this amount cannot cover input. It is necessary to consider promotion of impact for environmental protection with other activities in the midterm. 	<p>Grade: 4</p> <ul style="list-style-type: none"> ♦ Some members are widow. ♦ Through activities, the members of association strengthen solidarity and increase frequency of collaborative activities. ♦ Necessary inputs were distributed in fair and transparent way and no conflicts occur on distribution of materials. 	<p>Grade: 4</p> <ul style="list-style-type: none"> ♦ Participation rate in the activities is good. ♦ The members received inputs and technical training and opportunity of collective work was increased. Hard works such as contour ditch digging were carried out by all members. ♦ In addition, monitoring committee for nursery bed was established by themselves and system for supervision on afforestation and nursery was formulated. 	 <p>Figure 7.4 Evaluation of PP2</p>
PP3: Soil Fertility Improvement	<p>Grade: 3</p> <ul style="list-style-type: none"> ♦ This project aims at prevention of soil degradation by improved soil fertility. Therefore, the project by itself is not necessarily measurable in terms of profitability. Sales profit from the vegetable seeds is fluctuated according to the climate of the year, market price and other factors. 	<p>Grade: 5</p> <ul style="list-style-type: none"> ♦ Some members are widows and IDPs. ♦ Association members consider fair division of inputs. ♦ Contribution to association is fair among members including socially vulnerable members. 	<p>Grade: 4</p> <ul style="list-style-type: none"> ♦ Participation rate in the activities is good. ♦ The members received inputs and technical training, and opportunity of collective work was increased. After technical training on compost making and effective application of fertilizer, association members teach techniques each other and participate in planting and weeding activities. 	 <p>Figure 7.5 Evaluation of PP3</p>

Evaluation			
PP	A. Economic Impact	B. Social Consideration	C. Coherence of Association
	<p>Grade: 3</p> <ul style="list-style-type: none"> Although benefit is rather limited as other on-farm pilot projects, seed solidarity chain, which guarantees sustainability of agricultural activity, is functioning and vegetables (potatoes and beans) are sold at last. If qualified selected seeds push up agricultural activities, the project contributes to not only to the increased agricultural productivity, but also income generation of the local people. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Some members are widows and IDPs. The members distributed seeds to other associations after they secured seeds for themselves, and sold remaining. Solidarity chain which gives seeds to other association was applied. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Participation rate in the activities is high. The members received inputs and technical training, and opportunity of collective work was increased. After technical training on sowing rate and application amount of fertilizer, association members teach techniques each other. Committees for management of seed storage and monitoring were established, and they registered seed and collected store fee weekly.
	<p>Grade: 4</p> <ul style="list-style-type: none"> Livestock breeding can be alternative core business for the farmers as it gets growing. With the solidarity chain of milk cow and milk producing, association can obtain rather stable profit throughout a year. If association members improve milking capacity they can earn more profit. 	<p>Grade: 4</p> <ul style="list-style-type: none"> Some members are widows and IDPs. Association considers well for fair division, and no conflicts happened. Solidarity chain which gives calves to other association was applied. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Participation rate in the activities is high. A calendar for all activities was authorized among members and they take care cows well by rotation. Salinity committee was established and started to check animal health.
	<p>Grade: 4</p> <ul style="list-style-type: none"> Associations have already started to sell their products and could get small benefit. (Milling) As needs for the milling machines have been observed in the pilot project, reducing the operational cost is the key for sustainability of this activity (Donut Making) Donut business can be a good sideline business for female workers, when it gets on the track (Banana wine) This activity is also characterized as a sideline business as well. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Some members are widows, IDPs and orphans. Widows' participation rate in the activities is high. Through activities, members of association strengthened solidarity and increased frequency of collaborative activities. They support activities for vulnerable people such as small land holders. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Participation rate in the activities is high. Action plan on agro-alimentary processing business of association was prepared and elaborated by themselves. And they started collaborative activities.
PP4: Selected Seed Solidarity Chain			<p>Figure 7.6 Evaluation of PP4</p>
PP5: Livestock Promotion			<p>Figure 7.7 Evaluation of PP5</p>
PP6: Agricultural Products Processing Promotion			<p>Figure 7.8 Evaluation of PP6</p>

		Evaluation			
PP	A. Economic Impact	B. Social Consideration	C. Coherence of Association	Figure	
PP7: Marketing Promotion	<p>Grade: 3</p> <p>This project is directly related to the livelihood improvement of those who engage in agricultural activities. However, considering the possible shipping volume and store facilities, effect of value-addition by shipping adjustment is still limited.</p>	<p>Grade:5</p> <ul style="list-style-type: none"> Some members are IDPs and widows. IDPs members' participation rate in the activities is high and they are active. Through activities, members of association strengthen solidarity and increase frequency of collaborative activities. 	<p>Grade: 4</p> <ul style="list-style-type: none"> Participation rate in the activities is good. Action plan on storage business of association was prepared and elaborated. They started collaborative activities. Decision making system is well established and cash flow of storage business is managed. 	 <p>Figure 7.9 Evaluation of PP7</p>	
PP8: Handicraft Industry Promotion (not Batwa)	<p>Grade: 4</p> <ul style="list-style-type: none"> Profitability of the off-farm activities vary according to the respective pilot projects. Generally, however, people can earn stable income during agricultural off-peak season. (Tile making) Tile making is considered as a side business in agricultural off-season for farmers. However, if working ratio is improved, association members can obtain sufficient amount of money. (Brick making) Brick making is also considered as a side business in agricultural off-season for farmers. (Carpentry work) Carpentry work is the single most profit making activity of all the pilot projects and economic impact on the workers are considered to be very high. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Some members are widows, IDPs and handicapped persons. IDP and widows' participation rate in the activities is high. Through activities, members of association strengthen solidarity and increase frequency of collaborative activities. They support activities for vulnerable people such as orphans and farmers who do not have own field. 	<p>Grade: 4</p> <ul style="list-style-type: none"> Participation rate in the activities is good. Action plan on handicraft business of association was prepared and elaborated by themselves, and they started collaborative activities. 	 <p>Figure 7.10 Evaluation of PP8 (not Batwa)</p>	
PP8: Handicraft Industry Promotion (Batwa)	<p>Grade: 2</p> <ul style="list-style-type: none"> Towa pottery business is rather niche business and demand stimulation of the products are required. As the unit price of the products is very cheap, it is difficult to boost the benefit from the pilot project. In order to diversify the products, Twa attempted value addition of their traditional pottery products by coloring them. Marketing of the products (acquiring market needs, sales strategy etc.) is a key for the growth of income. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Batwa is poor living on self-sufficient and target to be supported. Through activities, members of association strengthen solidarity and increase frequency of collaborative activities. 	<p>Grade: 2</p> <ul style="list-style-type: none"> Batwa do not have custom of collective work and association was newly established for this pilot project. Participation rate in the activities was not good at the beginning. However, because of official registration as an association, members were motivated for activity. At the beginning, they did not like collective work. However, they became active gradually and participation rate became higher. 	 <p>Figure 7.11 Evaluation of PP8 (Batwa)</p>	

8. Urgent Pilot Project

Urgent Pilot Projects were implemented to bring quick impact to the targeted communes. Marsh development and road rehabilitation (of Provincial Road 212) were urgently implemented due to strong demands from local community. Both Urgent Pilot Projects are implemented in consideration of the results from social survey explained in chapter 3. As for the lessons learned from marsh development, it is reflected in chapter 5 as Action Plan for PCDC promotion, and chapter 6 as capacity development for strengthening institutional development. As for the lessons learned from the road rehabilitation, they are mainly reflected in the chapter 6 as capacity development. Lessons learned through monitoring and outputs from both Urgent Pilot Projects were reflected to the Action Plan in chapter 5 and the Manual in Annex.

8.1 Marsh Development

8.1.1 Purpose and Framework

Marshes have high potential as farmland, so marsh development will contribute to regional food security and livelihood improvement of the people through production increase. On the other hand, from a viewpoint of community regeneration which the Project is aiming, maintenance of irrigation facilities and water management will facilitate community activities and contribute to community regeneration through arising people's sense of togetherness.

Marsh development is implemented in 2 phases. The 1st phase is implemented as a part of the urgent pilot project in the dry season of 2012. The 2nd phase was implemented as a part of the ordinary pilot project after approval of JCC meeting for the Interim Report on November 2012. Both phases include 1 marsh each in 3 target communes, so 6 marshes in total are developed.

8.1.2 Outline of Marsh Development

Marsh development includes construction of irrigation facilities in marshes and establishment of Marsh Committees in each marsh. The features of each marsh selected by stakeholders are explained in the table below. The total net irrigated area is 201 ha.

Table 8.1 Selected Marshes

Item		Makebuko		Bukirasazi		Itaba	
Marsh Name		Nyamuswaga	Nyakigezi	Kibuye	Gishanga1	Rurembera	Mutukura-Kamirange
Phase		1	2	1	2	1	2
Net Irrigated Area (ha)		44	25	31	39	19	43
Collines		Bugumbasha, Kagege, Mwaro-Ngundu, Ntina, Rweso	Karoba, Janja, Kiyange	Kibuye, Tema (Bukirasazi), Bugumbasha (Makebuko), Buhanga (Itaba)	Nyamisure, Bukirasazi, Rugabano, Kibere	Gisikara, Karemba, Macu, Mutanga	Kagoma, Rukobe1, Rukobe2, Kanyonga
Present Products	Rainy Season	Rice	Rice, beans, vegetable	Rice	Vegetable, beans, staple crops	Vegetable, beans, staple crops	Rice
	Dry Season	Vegetable, beans	Beans, staple crops	Vegetable, beans	Potato		Vegetable, beans

8.1.3 Implementation Process

Although marshes were utilized by the local people due to their high potential as farmland, most farmers have little experiences for irrigation agriculture. In order to manage and operate irrigation agriculture, it is very important to establish ownership of beneficiaries. Therefore consensus building

with beneficiaries and supporting agencies like commune governments and MINAGRIE from the planning stage is necessary. Implementation process of Phase 1 is explained below.

Table 8.2 Outline of Implementation Process

Process	Activity
Site Selection	The Project Team, a counterpart of the Rural Engineering Department of MINAGRIE, commune agronomists and advisors of the commune governments visited the candidate sites for development to select target marshes and decide the area of topographic survey
Sensitization Meeting	Sensitization meetings were held to explain the outline of project activities and a component of marsh development to beneficiary farmers.
Engineering Works	In parallel with above activities, topographic surveys and feasibility studies (in the fields of irrigation planning, pedology, geo-technique, socio-economy and tender document making) were conducted for 3 marshes.
Marsh Committee Formulation Meeting	According to the progress of the project activities, Marsh Committee formulation meetings were held. An election of board members of the committee was carried out for each colline.
Tender	The Project Team and members of the tender opening committee received necessary documents from candidate contractors and the tender analysis committee selected winners according to the selection criteria.
Construction Period	The construction period for all marshes was planned as 2 months aiming completion before the rainy season. But small works along the primary and secondary canals and finishing works were continued during rainy season until their completion in the beginning of November, although the major works, especially the works along the main stream, were completed before the rainy season. Construction was completed in November 2012 and facilities were handed over in June 2013 after the guarantee period.

8.1.4 Achievement

(1) Parcel Inventory and Establishment of Marsh Committees

In parallel with construction works, parcel inventory surveys were conducted with supports from colline chiefs and Colline agricultural monitor in order to collect information of land parcels (location, area, name and colline of cultivator). The figure on the right shows the structure of committees. Committees consist of 4 levels, from the bottom, Hydraulic Block Committees, Bank Committee, Water Intake Committees and a Marsh Committee at the top. Hydraulic Block Committees are registered as associations to each commune.

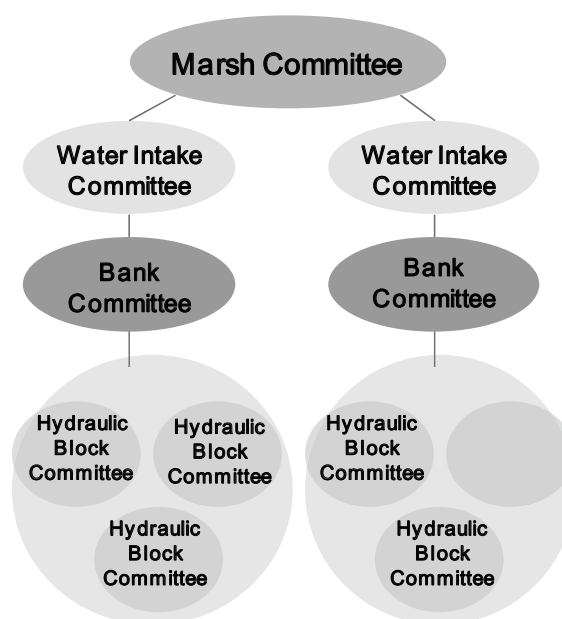


Figure 8.1 Structure of Committee

(2) Maintenance of Irrigation Facilities and Capacity Building

The Project Team started instructions since January 2013 to prevent wrong use including destruction of dike of the river and canals and to maintain irrigation facilities. Also in the Pilot Project (PP) 1 Marsh Development, series of training were conducted, specifically for organizational management, group operation, regulation making, reference laws and accounting, and a study tour for representatives of committees was also conducted. They visited an irrigation system of Bugendana, the northern commune in Gitega Province. Refer to Chapter 7 for other supports to beneficiaries such as rice and vegetable cultivation and other activities and outcomes through PPI. Through those efforts, maintenance activities are familiar for beneficiaries and they conduct maintenance works once or twice a week.

8.1.5 Lessons Learned and Recommendation on Marsh Development

(1) Involvement of Beneficiaries

Involvement of beneficiaries since the initial stage of marsh development is very important. Since marsh land has high potentiality as farmland where at least 2 crops can be cultivated in a year, land parcels are subdivided into small pieces, so the number of beneficiary through marsh development is quite large. However, operation and maintenance must be done by themselves, as supports from no outsiders or local organizations are expected after the end of projects. Sensitization and involvement of beneficiaries since the initial stage of the project make them understand responsibilities better and foster their ownership more strongly.

(2) Institutional Development

Although people have used marshes for generations, they have cultivated land independently. But since now on, they have to use limited water resources in a rational way for better agricultural productivity of all beneficiaries under irrigated condition. Besides, they should utilize provided equipment and facilities to improve their livelihood. In order to achieve those, coordination and management among beneficiaries are necessary. Though the Project provided basic training for institutional operation and management, beneficiaries must continue self efforts to sustain or improve their capacity and DPAE and commune administrations should support them.

(3) Technical Support

Farmers in Nyamuswaga and Kibuye have grown rice but they have cultivated in a traditional way. They are not familiar with dike making to store water, method of good seed selection, land leveling, line planting, appropriate density of planted seedling, etc. Although the Project provided technical training to limited number of leader farmers, it takes time to extend the techniques and for ordinary farmers to use new techniques. Therefore further technical supports from DPAE officials to farmers are expected.

8.2 Road Rehabilitation

8.2.1 Purpose of the Road Rehabilitation Project

In order to accelerate community development, it is important to secure access particularly through the improved road conditions. In Buraza commune, the provincial road 212, the most important access route to other communes, is not maintained in good condition. It turns out to be disincensive of the development. Therefore it is assumed that the road rehabilitation implemented in this project will make a huge contribution to further community development of the communes.

In addition, as access roads are considered to be public infrastructure which benefits large population, it is imperative to implement maintenance activities by residents themselves. In order for people in villages located at Buraza, Bukirasazi, the maintenance activities should be done with regional participation. These road maintenance activities will be the basis to realize the sustainable community development in the future for strengthening the organization.

8.2.2 Outline of the Road Rehabilitation Project

Table 8.3 Outline of the Project

Items	Contents
Project Content	Rehabilitation of the Provincial Road 212
Project Area	From the protection with the National Road 8 to the border of Gitega Province. L=20.48km
Policy of the Road Rehabilitation	Width of the road is not expanded. The total width of 5-6m and two-lane are secured according to the existing condition. The present alignment is retained and additional land acquisition should be avoided.
Main Components	Necessary side ditches should be constructed to drain rainwater properly. Pavement is done basically with laterite (one layer, 10cm thickness). Slope sections which have significant damage are strengthened by DBST (Double Bituminous Surface Treatment) pavement.
Construction Period	1 st September 2012 ~ 25 th December 2013

8.2.3 Implementation Method

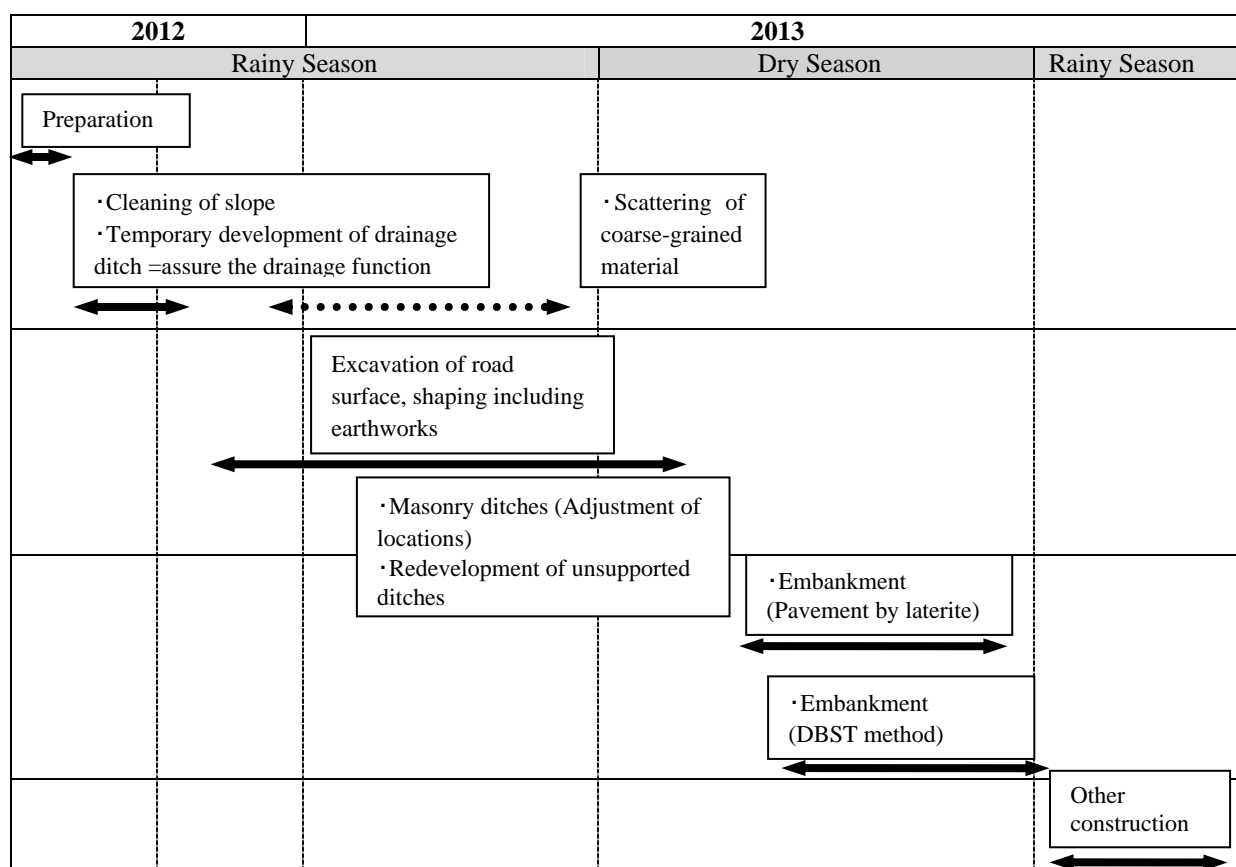


Figure 8.2 Process of the Construction Works

As soon as the contractor was determined, construction started. Soon after the commencement of construction works, progress of the work fell into a sluggish pace due to the advent of rainy season. Therefore, after shaping the slopes by grader, the Project team carried out temporary reconstruction of recovery drainage ditches in order to secure drainage function.

After securing the drainage function, severe unevenness of the road surface was scraped off. After excavating the road surface by bulldozers and graders, the Contractor conducted compaction by vibration roller. Since heavy rain in the rainy season made the road surface muddy, the Project team

scattered coarse-grained on the surface of the road.

With the method described above, the contractor completed almost all the excavation work within the rainy season. From the second half of the rainy season when the rainfall became weak, the construction of drainage ditches was started.

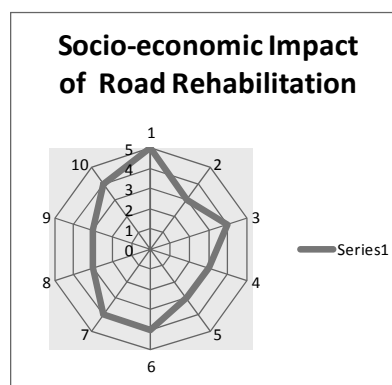
Considering the damage of the unsupported ditch, the Project team reviewed the deployment plan and changed unsupported ditches to masonry ditches as much as possible. Further, since it was difficult to compact the boundary between the ditches and carriage ways, the Project team performed the compaction near the ditch sufficiently.

Thereafter, embankment construction of the road body and DBST were executed in the rainy season.

8.2.4 Evaluation of Economic Aspects of Road Rehabilitation

Improved road condition enabled better transportation services (smooth travel, more traffic volume and various sort of transportation means) to the residents, which positively impact on the local economy of the region, improve access to social infrastructure. It is also expected that some of the hindering factors against the livelihood improvement are removed after the road rehabilitation. In order to verify economic impact of rehabilitation of PR 212, the Project conducted the traffic volume survey. The purpose of this survey is to grasp socio-economic changes before and after the project through comparative study. The figure below shows evaluation of overall works from some viewpoints.

Improvement of the Transportation Service	1	Decrease in the transit hours	5
	2	Increased traffic volume	3
	3	Diversified transportation means	4
Vitalized Local Economy	4	Increase in the buyers volume	3
	5	Better business opportunity	3
	6	Improved Motivation	4
Improved Access to Social Infrastructure	7	Better access to social infra	4
	8	Increased communication	3
Increased Capital Investment	9	Investment in estates and commercial activities	3
Improvement of the Livelihood of People	10	Overall rate	4



Scores are rated compared to the results of preliminary survey conducted before the rehabilitation.
The scores indicate as follows; 1:very low 2:low 3:moderate 4:improved 5:highly improved

Figure 8.3 Process of the Construction Works

Improvement of the Transportation Service: Total transit hour has decreased from 2 hours to 50 minutes. Although traffic volume of vehicles remains almost the same in both communes, people are tangibly aware of the increase in the number of bicycles and motor bikes. Also, they are more accustomed to use public transportation for trade activities.

Vitalized Local Economy: Assuming from the traffic volume on the road, there seems to be no significant change in the buyers' volume. However, they are motivated to engage in trade activities. From the key informant and group interviews, business people and middlemen directly went to rather remote villages from the center of the communes to buy agricultural products, charcoal and timber. Presumably, reduction in transit hour and paved road motivated people in both communes to go to the market more frequently.

Improved Access to Social Infrastructure: Access to social infrastructure was shortened in Buraza commune, whereas the time remained almost the same in Bukirasazi commune.

Increased Communication: As a result of the rehabilitation works, more active commercial interaction was reported between Buraza and Bukirasazi communes. According to the questionnaire

survey, some farmers went to Bukirasazi central market in the morning and sell vegetables at Buraza market in the afternoon. On the other hand, rehabilitation of the road by itself did not change social interaction of local people dramatically.

Increased Capital Investment: No private investment in estates and commercial activities has been reported as a result of the rehabilitation works yet. However, commune administration levies tax on buses, trucks and commercial cars, which contributed to the slight increase in the annual budget of communes.

8.2.5 Formulation of Maintenance System for Sustainability

It is necessary to keep daily maintenance to utilize the road paved with laterite for the long span. Therefore it is important to promote the awareness activity continuously to the villages in the target site from the stage of survey and planning of the road rehabilitation. Also, the organizational structure shall contribute to community development in the long run.

(1) Implementation of the Awareness Activity

As mentioned above regarding the necessity of the maintenance, it is important to implement the awareness activity from the early stage. In this project, the awareness activities were implemented during the topographical survey and the borrow pit survey conducted in March 2012 for residents living in the villages along the road and the leaders of colline in the targeted communes.

(2) Consultation to Formulate the Maintenance System

Regarding the road maintenance, the consultation with C/P of MTTPE and commune leaders of the targeted communes was conducted. To do the maintenance, it is effective to utilize the existing system in Burundi, adopting the method of 'Participatory Maintenance of Feeder Road' in Sierra Leone, which was acquired in the third country training program in participation of C/P of MTTPE. For instance, from the past experience, it is necessary to provide technical training for the capacity development to residents along the target road, especially to maintenance leaders, as well as to provide maintenance equipment to communes.

(3) Proposed Maintenance Organization

In light of utilization of the community work for maintenance activity, it is suitable to form the maintenance organizations on the commune-base. However, it was necessary to judge whether the residents in collines located at distant areas from the targeted road needed to be included as a part of the maintenance organizations, according to the results of the socio-economic impact survey. It had to be also judged to what extent collines, as a smallest unit for maintenance organization, should be included in the activity, by having discussion with leaders of collines and communes. Difference of involvement and responsibility among residents in a colline might cause sense of inequality, so that enough consultation and involvement with them were important.

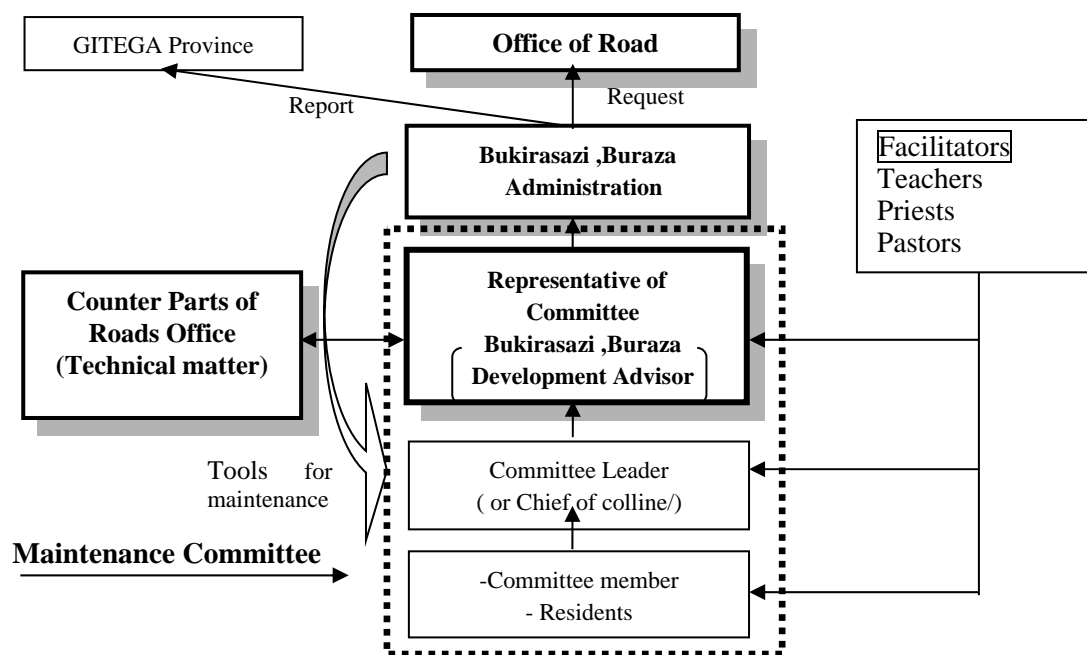


Figure 8.4 Maintenance Organization

Table 8.4 Roles of Actors for Road Maintenance

Actors	Roles
Committee	<ul style="list-style-type: none"> Committee members take responsible for the following activities; Monitoring the damaged areas on the road Supervision of the usage and preservation of tools for maintenance in order to keep them in a good condition If any problem on the condition of the road and tools, he/she reports to the leader for the issue.
Communal administration	<ul style="list-style-type: none"> The commune is responsible for supervising the condition of the road If they find damages not reported from the chief of Collin or leader, the commune obliges them to conduct the maintenance work If there are activities which is difficult for members to complete, commune has to report to Office of Road as soon as possible to report the situation of the road The commune keeps safety of the tools in storage The commune supervises those tools are utilized properly for public interest
Technical commune advisor in charge of development	<ul style="list-style-type: none"> He/she is the representative of the maintenance committee who supervises road maintenance activities Technical commune advisors are responsible for the following activities; Monitoring the condition of the road and sharing information during weekly meeting Taking care of the usage of maintenance tools, repairing or replacing damaged tool It can happen that the structures which are damaged require funds for repairing, in that situation; he will facilitate to find solution.
Leader	<ul style="list-style-type: none"> The leader is chosen among committee members by election He/she is a representative of that committee and known at communal level His/her term is not predetermined; however, if the committee or the administration find that he/she doesn't help for nothing, they may change him/her He/she is responsible for observing the condition of the road and monitoring damaged areas, usage and preservation of tools for maintenance He/she report the issue of damaged area to the chief of Collin He/ she coordinates activities of maintenance He/she ensures that tools are working for public interest
Chief of Colline	<ul style="list-style-type: none"> He/she collaborates closely with the leader on the road maintenance issue He/she visited the damaged area and discuss with the leader how to deal with and which equipments are required for the maintenance He/she is responsible for monitoring damaged areas, and preservation of tools for road maintenance He/she supervise whether tools are working for public interest

Actors	Roles
Chief of Zone	<ul style="list-style-type: none"> · He/she collaborate with the chief of colline in the sensitization of the local people · He/she share information on the road maintenance with the commune administration during weekly meeting
Counter Parts of Roads Office	<ul style="list-style-type: none"> · He/she makes some advices on the technical matters give proper guidance to liaison with the Office of Road
Facilitators	<ul style="list-style-type: none"> 【Teachers】 · They are responsible for teaching children the importance of following the road safety 【Priests and Pastors】 · They are responsible for sensitizing the population through their preaching about the importance of road maintenance.

(4) Maintenance Activities

In the maintenance work of road, it is required to deal with the weather condition and sudden accidents. Activities normally to be done on the regular basis are shown as follows.

- Cleaning of drainages and corrugate pipes
- Cutting shrubs on the slopes for more visibility
- Filling pot holes on the road surface by laterite
- Removing herbs on the road surface
- Removing landslide from the road

(5) Training Sessions on the Maintenance Works

Since road is not only working as public goods but also the property of residents, it tends to be devastated again if it left untreated. Hence, people needed to nurture voluntarism to keep the road maintained by them. At the same time, since Provincial Road 212 is crossing over two communes, it is required to gain understanding and cooperation among both communes. Therefore, the Project team conducted training sessions on the maintenance of the road, and tried to foster ownership of the road.

Each commune has four collines along the road and a committee is composed of 20 persons. Those committee members are chosen by chief of Collines, because there are keen for community works usually scheduled at Saturday morning. The list of committee members has been approved by the commune administration. The committee leader was chosen by committee members through democratic election.

Three sessions were carried out in March, July and December 2013. The first was for sensitization, while the second was for understanding of maintenance and practices. The third session was held just after the completion of rehabilitation work, and participants practiced during the community work.

8.3 Environment and Social Impact Assessment (ESIA) of the Urgent Pilot Projects

8.3.1 Necessity of Conduction of ESIA Study

The conduction of the environment and social impact assessment (ESIA) study for the urgent pilot projects i.e. marsh development and road rehabilitation of provincial road 212, was mandatory as per the requirements of;

- (a) Decree N100/22 Du 7 October 2010 of Burundi. The decree is the main environment procedural mechanism in Burundi. The Article 4 of the decree states “Works listed in Annex I shall require an environmental impact study regardless of the cost of their implementation”. There are twenty items of work for which the study for environment impacts are must. The road work is listed as item no.1 and work for development of marsh of more than five (5) acres is listed as item no. 19. Further, the excavation or exploitation of quarry is also listed as item no.3. Here, it is proper to mention that the laterite is the main constructions material for road rehabilitation work and such

laterite shall be excavated from several borrow pit areas. It was evident that the urgent pilot projects related to marsh development and road rehabilitation fell under the Annex I and hence the conduction of ESIA was mandatory as per law of Burundi.

- (b) JICA's guidelines for environmental and social consideration, April 2010; The Project is classified as Category 'B' under the guidelines. As per Article 2.2 of the guidelines, the projects of category 'B' are site-specific; few, if any, are irreversible; and in most cases, normal mitigation measures can be designed more readily.

8.3.2 Key Observations of ESIA Study

For urgent pilot projects i.e. both marsh development and road rehabilitation, following key observations have been made;

- a) Most of the negative impacts that might affect natural and social environment of the project site and area are confined to the construction phase of the project and most of them are of nature in temporary, low level and local. The mitigation measures have been provided to overcome such negative impacts. No permanent negative impact has been foreseen for the operational phase of the project.
- b) The positive impacts and benefits of the urgent pilot projects were considerably large in terms of both environment and social aspects. Hence it was recommended for the implementation of the project.

8.3.3 Correspondence on project

The both pilot projects i.e. marsh development and road rehabilitation were implemented with the consent of the local residents while applying the mitigation measures which had been provided by the study. Therefore, no negative impacts that might affect natural and social environment of the project site and area have been observed.

9. Lessons Learned and Recommendations

9.1 Lessons Learned

9.1.1 Managerial Aspects

(1) Strengthening Ownership of People

After the cease-fire agreement, considerable amount of foreign assistances were disbursed for humanitarian assistance and peace-building, which have contributed to the socio-economic stability and development of the country. On the other hand, it is undeniable that the situation makes people accustomed to reception of external assistances. But the country has advanced from reconstruction period to stable long-term development phase which requires autonomy and sustainability. Therefore, it is imperative to make sustainable development through building strong ownership of the beneficiaries.

(2) Technical Support from DPAE

The pilot projects implemented in this Project attempted to establish monitoring system from Colline agricultural monitors, zone agronomists, commune agronomists to DPAE staffs in order to check technical aspects of PP and to tackle the issues arisen from the ground. Also, Project Team has kept in mind to take technical staffs of DPAE to the pilot project sites for the technical transfer to associations, in order for them to nurture the ownership in assisting community. The Project Team therefore strongly recommends this type of technical assistance continues in the future.

(3) Sustainable Support from Administration

Ownership of donated facilities and mechanical equipment belong to the commune administration which can exert certain authority, know each association member, and provide managerial service to communities. Involvement of and assistance from the local authorities closest from the direct beneficiaries is the key in project management for community development.

(4) Consideration to Land Ownership

Land ownership is very important and sensitive problem which takes considerable time to settle for those who were forced to leave their original land caused by social and security turmoil during the conflict. There are plenty of cases in which other people resettle in the place during the conflict. Land issue can sometimes foment conflict among residents in the community. Therefore, this Project gave full attention in selecting construction sites for the pilot projects. There was no major conflict regarding the land issue at the Project site, since the Project selected public land owned by the commune administration in close consultation with them.

(5) Institutional Development

Many associations have not been engaged in sustaining activities, so it is important to assist activities that are in line of real objectives of the associations and to help forming associations and operation & management of the group activities. Such efforts should be continued by themselves primarily through association activities, and commune administrations and DPAE should also support them with periodic monitoring or technical advices.

(6) Appropriate Documentation

The Project clarified ownership and the right of use of various products and equipments in the course of project implementation, and exchanged notes among commune administration, target associations, DPAE and the Project Team to make sure those conditions. Exchanging note is one of the effective tools so that stakeholders can avoid unnecessary conflict.

(7) Trust Building with Counterparts

The Project faced difficulty in communication at the beginning, due to insufficient understanding regarding the difference in the manner of project implementation between the Project side and the Burundian side. Hence, the Project held weekly meetings as a platform for information and opinion exchange, took counterparts to the project sites, consulted individually with counterparts in question, and regularized procurement for trust building. As a result, these activities forged trust between the Project and counterparts, which resulted in efficient and smooth project management and good evaluation of the Project.

9.1.2 Technical Aspects

(1) Involvement of People from Initial Stage

Seeking sustainability after the project period, it is crucial to involve residents from the initial stage. It signifies that their involvement enables the Project directly to ensure engagement of the labor force, as well as the remedial resolution of problems related to selection of construction site at the implementation stage. After the project, it leads to securing of ownership as organization, effective use as well as maintenance of facilities.

(2) Importance of Maintenance Activities

Since financial supports from administrations are not expected, maintenance of facilities is basically entrusted to residents as beneficiaries after the completion of projects. Therefore, it is an important

agenda to build a maintenance system initiated by residents and strengthen their capacity. Regarding construction works of marsh development and road rehabilitation in this Project, explanation workshops to residents and beneficiaries for maintenance were held and maintenance organizations were formulated since the implementation stage. Lectures and exercises for maintenance were also provided. As for pilot projects, trainings for proper use of equipments and methods of maintenance were provided to establish sustainable maintenance system after the Project.

(3) Careful Selection of Contractors and Order

In the Project, various kinds of projects such as road rehabilitation, marsh development, and pilot projects were undertaken through the means of subcontracting to contractors but, due to the insufficient understanding for method of bidding procedure at initial stage, there was a little friction between Japanese side and Burundian side. Therefore, a document designating the method of bidding (the bid opening committee and bid evaluation committee to be held) was made and agreed on both sides. Since then, biddings went smoothly. On the other hand, it is important to assess technical capacity of contractors in terms of technical capacities, financial and management conditions. Appropriate ways of ordering, considering the capacity of contractors, are also important.

(4) Works during Rainy Season (Road Rehabilitation)

For the road rehabilitation, the rainy season started soon after the contract was made, while the construction period was very tight. In case of this road rehabilitation, the major work was the earth work, so quality control was difficult for embankment of the main body of the road and a contractor usually tends to hesitate about implementation due to possibility of reworks. However, in this Project, the drainage works were conducted with observation of actual situation and the earth works followed with appropriate drainage function. Thus it was possible to shorten construction period effectively and to implement the drainage works according to site conditions. Completion within the construction period had been a concern before the work started but construction has been completed according to the schedule.

9.1.3 Aspects of Capacity Development

As described so far, it is necessary to build capacity of stakeholders and to establish training system in order to ensure sustainability after the end of the Project. Therefore, a variety of trainings in cascade wise were carried out for capacity building in the Project. In particular, farmers have limited chances for training and difficulties in accepting new knowledge and skills by themselves due to low literacy rate, so trainings provided through the Project were valuable for them.

(1) Effect of Cascade Training

Cascade trainings were conducted in three steps and trainees evaluated trainers, in other words trainees in the earlier step, very positively. Trainers were also satisfied for chances to teach the knowledge and technique they learned. According to questionnaire survey results for those trainings, most trainees understood theoretically but they requested on the job training at sites by technical officers and exchange visits for practical and further understanding.

(2) Importance of Exchange Visit

Most farmers with self-sufficient life have limited chances for capacity development and it is also difficult for them to move around due to economical constraints. It is also difficult for most farmers to understand abstract contents due to inadequate educational opportunities caused by the civil war. In consideration of such situations, the Project incorporated site visits for beneficiary associations of all pilot projects. Such site visits contributed largely to deepen their understanding and to facilitate their activeness.

(3) Timing and Duration of Training

According to the survey on training for association members, timing and period of the training affected to their understanding. In regards to timing, training in off farm season and nearer timing to practice were important for farmers to deepen their understanding and to attract more participants. For period, it is necessary to secure adequate training time for further understanding and continuous trainings are expected to facilitate more practical understanding.

9.1.4 Support in Conflict Affected Area

(1) Livelihood Improvement

Careful attention should be paid for support to the conflict affected area not to cause negative impacts which may bring unstable factors to the fragile society, because the long term target of the Project is reconciliation and reconstruction of the society. Even for livelihood improvement components, social factors were considered prior to benefit increase. The Project Team evaluated activities of associations if they support vulnerable people, when selection of association was made. Therefore, attentions for social inclusiveness brought fruitful results.

(2) Strengthening Coherence of Community

The Project aimed at strengthening coherence of community, while it was deteriorated during prolonged conflict. The Project supported associations, smallest social community, and improvement of coherence was observed in most associations as increase of meetings and democratic decision making. Implementation and monitoring on project activities should include factors to measure change of coherence of communities such as number and participation rate of meetings and activities, how to share benefits, and so on.

(3) Promotion of Community Activities

The traditional system of community work can be applied in the Project as facilities provided by the Project, mainly PR 212 and irrigation facility in marshes, require regular maintenance by people to sustain their functions. Therefore the Project formulated maintenance groups and provided necessary trainings and tools to them. As of target marshes, beneficiaries carry out maintenance activities once a week, while practical maintenance works were implemented during the community work for target road. Those activities contribute not only to sustainable use of facilities but also to promotion of community activities. To promote community activities, it is important to involve and organize people from the initial stage of projects.

9.2 Recommendations

9.2.1 Effective Utilization of Action Plan and Manual

The Action Plans for 3 communes and the Manual for promotion of PCDC mainly in agricultural sector were formulated in the Project. The Action Plan aligned activities of PCDC to PPIA according to types of livelihood of people, and this arrangement helps for both commune administrations and DPAE selecting appropriate activities smoothly. The Manual can be used for planning and evaluation of projects and efficient implementation for activities of each sub-sector. Utilization of them will contribute to promotion of community development activities of PCDC and effective use by stakeholders is expected.

9.2.2 Viewpoint of Social Consideration

In the conflict affected areas, dividends of peace should be shared with equity and attentions should be paid for interventions to aim at reconstruction of deteriorated community. Negative impacts which may harm them should be excluded as many as possible. Thereby, inclusiveness of vulnerable groups

should be considered for interventions especially at the conflict affected society. Such kind of efforts of each group should be evaluated for selection of targets by including it in selection criteria and the use or the way of sharing of benefits should be monitored from the viewpoint of equity.

9.2.3 Strengthening Ownership

As influences of the conflict will be smaller and Burundi will take an ordinary process for development in the future, Burundian's role will be heavier for national development. Hence, stronger ownership of both people and government officials is expected for sustainable development. To strengthen their ownership, their participation to projects from the earlier stage should be secured as much as possible and managerial and technical guidance should be given thoroughly. The government should also enhance community based activities, such as promoting community works and providing assistance for the projects planned by communities.

9.2.4 Importance of Capacity Building

Efforts for continuous capacity building of people and officers are very important to take a major role for sustainable development. The Project formulated the capacity development program to propose the effective methodology, structure and contents of trainings for promotion of agricultural projects in PCDC. Training modules were also compiled and submitted to DGMVA (General Directorate of Agricultural Development and Extension) of MINAGRIE. Effective utilization of the program is expected for successive capacity building.

9.2.5 Importance of Maintenance

Needless to say, both the rehabilitated PR 212 and irrigation facilities provided by the Project require regular maintenance by people to sustain their functions. The Project formulated maintenance groups and provided necessary trainings and tools to them foreseeing the maintenance after the project period. In case of marsh, beneficiaries carry out maintenance activities once a week and in case of the road, practical maintenance works were implemented during the community work. People should continue maintenance activities to sustain their benefits, while commune administrations should support them through sensitization and mobilization, and DPAE should give technical advices.

9.2.6 Expansion of Support

Considering the above lessons learned, a technical cooperation project is proposed in order to expand the achievement of this Project to wider areas. As for its direction, the new project aims to achieve livelihood improvement through technical capacity building in agricultural sector and covers the whole Gitega Province, from the view point of multiple effects and improvement of sustainability. Capacity development of MINAGRIE, DPAE officials and commune officials will be emphasized more in the new project, therefore, the new project will aim to improve the technical capacity of officials through planning of livelihood improvement pilot projects, implementation and monitoring.

In this Project, pilot projects were implemented to clarify the validity of formulated Action Plan and Manual for acceleration of PCDC, while the new project will define meanings of activities at every step for counterparts to implement projects with ownership in order of prioritization => planning => implementation management => monitoring and evaluation". The flow of the main activities is shown below.

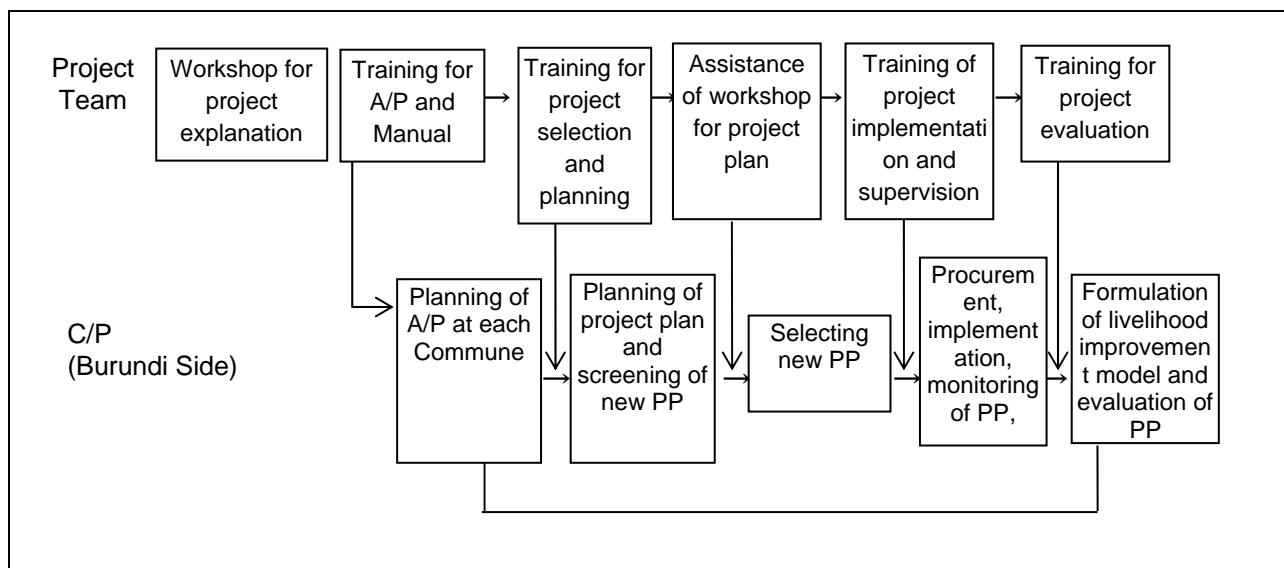


Figure 9.1 Flowchart of Technical Capacity Building for Livelihood Improvement

Functions of public institutions are fragile in fact, so beneficiaries' (= residents') active involvement is quite essential. Therefore, it is important to incorporate beneficiaries' responsibilities for implementation of pilot projects in the new project. In particular, beneficiaries' responsibility can be one of conditions for selection of pilot projects and fostering ownership of targeted beneficiaries before implementation is critical.

**The Project for Community Development
for Improvement of Livelihood in the Conflict - Affected Areas
in Gitega Province in the Republic of Burundi**

Final Report

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ABBREVIATIONS

Abbreviation	Français	Anglais	Japonais
ACORD	-	Association for Cooperative Operations Research and Development	アコード（国際 NGO）
ACSA	Agent Communautaire en Santé Animale	Community Agent for Animal Health	家畜衛生官
ADIC	Association pour le Développement Intégral des Communautés	-	-
ADLP	Programme d'Appui à la Décentralisation et à la Lutte contre la Pauvreté	Support Program for Decentralization and Poverty Alleviation	地方分権化・貧困対策支援プロジェクト
APRS	Appui au Programme Burundais de Reinsertion et Reintegration des Sinistres	Support Program for Reinsertion and Reconstruction for Conflict Affected People	被害者の社会復帰・再統合プログラム支援プロジェクト
ARFIC	Autorité de Régulation de la Filière Café	Authority for Coffee Regulation	-
BINUB	Bureau Integre des Nations Unies au Burundi	United Nations Integrated Office in Burundi	国連ブルンジ統合事務所
BNUB	Bureau des Nations Unies au Burundi	United Nations Office in Burundi	国連ブルンジ事務所
CAPAD	Confédération des Associations de Producteurs Agricoles pour le Développement	Confederation of Agricultural Producer Associations for Development	発展のための農業生産者組合連合
CARE	-	CARE International	ケア・インターナショナル
CBR	-	California Bearing Ratio	路床土支持力比試験
CCDC	Comité communauté de développement communautaire	Commune Community Development Committee	コミュニティ地域開発委員会
CDC	Comité de Développement Communal	Community Development Committee	コミュニティ開発委員会
CDF	Centre de Développement Familial	Family Development Center	家族開発センター
CENI	Commission Electorale Nationale Independante	Independent National Commission for Election	独立選挙委員会
CISV	-	Comunità Impegno Servizio Volontariato	CISV（国際 NGO）
CNDD-FDD	Conseil National pour la Défense de la Démocratie/Forces de Défense de la Démocratie	National Council for the Defence of Democracy-Forces for the Defence of Democracy	民主防衛国民会議・民主防衛勢力
CNDDR	Commission Nationale de Désarmement et Réinsertion	-	国家・武装解除、動員解除、社会再統合委員会
CNTA	Centre National de Technologie Alimentaire	National Center of Food Technology	-
COGERCO	Compagnie du Gérance du Coton	Management Company for Cotton	-
Coopec	Coopérative d'épargne et de crédit	Saving and Credit Cooperative	貯蓄・融資協同組合
CPD	Comité Provincial de Développement	Provincial Development Committee	県開発委員会
CTB	Coopération Technique Belge	Belgian Technical Cooperation	ベルギー技術協力機構
DAP	Di amino phosphate	Di-Ammonium Phosphate	リン酸アンモニウム
DBST	-	Double Bituminous Surface Treatment	二層瀝青表面処理
DDR	Demobilisation, Désarmement, and Réintégration	Demobilisation, Disarmament, and Reintegration	武装解除、動員解除、社会再統合
DGA	Direction Générale de l' Agriculture	General Directorate of Agriculture	農業総局
DGE	Direction Générale de l' Elevage	General Directorate of Livestock	畜産総局
DGMAVA	Direction Générale de la Mobilisation pour l'Auto-Development et la Vulgarisation Agricoles	General Directorate of Agricultural Development and Extension	農業開発・普及総局
DGPAAE	Direction Générale de la Planification Agricole et de l'Elevage	General Directorate of Agricultural and Livestock Planning	農業・畜産計画総局
DPA	-	Department of Political Affairs	国連政治局
DPAE	Direction Provinciale pour	Provincial Directorate of Agriculture and	県農業・畜産部

Abbreviation	Français	Anglais	Japonais
	Agriculture et Elevage	Livestock	
DPKO	-	Department of Peacekeeping Operation	国連平和維持局
EAC	Communauté de l'Afrique de l'Est	East African Community	東アフリカ共同体
EIA	Evaluation del l'Impact Environnement	Environmental Impact Assessment	環境影響評価
EU	Union Européenne	European Union	欧州連合
F/S	-	Feasibility Study	フィージビリティ調査
FFS	-	Farmers Field School	
FACAGRO	Faculté Agronomique	Faculty of Agriculture, Burundi University	ブルンジ大学農学部
FAO	-	Food and Agriculture Organization	国連食糧農業機関
FIB	Franc Burundais	Brundi Franc	ブルンジフラン
FNL	Forces Nationales de Libération	National Forces of Liberation	国民解放勢力
FONIC	Fonds d' Investissement Communal	The Communal Investment National Fund	コミュニケーション投資国家ファンド
FRODEBU	Front pour la Démocratie au Burundi	-	ブルンジ民主戦線
FVS	Familles pour Vaincre le SIDA	Family to Overcome AIDS	AIDS 対策グループ
GIZ	-	Gesellschaft für Internationale Zusammenarbeit, German International Cooperation	ドイツ国際公社
GOB	Gouvernement du Burundi	Government of Burundi	ブルンジ国政府
GOJ	Gouvernement du Japon	Government of Japan	日本国政府
GUTWARA NEZA	Programme d'appui à la bonne gouvernance	Support Program for Good Governance	
GRH	Gestion des Ressources Humaines	Human Resource Management Unit	
GSADR	Groupe Sectoriel Agriculture et Développement Rural	Agriculture and Rural Development Sector Group	農業・農村開発セクターグループ
IDMC	-	Internal Displacement Monitoring Center	IDP モニタリングセンター
IDP	-	Internally Displaced Persons	国内避難民
IFAD	Fonds international de Développement Agricole	International Fund for Agricultural Development	国際農業開発基金
IFIs	Institutions Financières Internationales	International Financial Institutions	国際金融研究所
IGEBU	Institut Géographique du Burundi	Geographic Institute of Burundi	地理局
INCEN	Institut National de la Conservation de l' Environnement et de la Nature	National Institute for Conservation of Environment and Nature	環境・自然保全局
IRAZ	Institut de Recherche Agronomique et Zootechnique	Institute of Agricultural and Livestock Research	
IRRI	-	International Rice Research Institute	国際稲研究所
ISABU	Institut des Sciences Agronomique du Burundi	Institute of Agronomic Sciences of Burundi	ブルンジ農業科学研究所
ISTEEBU	Institut des Statistiques et des Etudes Economiques du Burundi	Institute of Statistics and Economic Studies of Burundi	統計・経済調査局
JCC	Comité de Coordination Conjoint	Joint Coordinating Committee	合同調整委員会
JICA	Agence Japonaise de la Coopération Internationale	Japan International Cooperation Agency	国際協力機構
KCL	Chlorure de potassium	Potassium Chloride	塩化カリウム
MDC	Ministère du Développement Communal	Ministry of Community Development	コミュニティ開発省
MINAGRIE	Ministère de l'Agriculture et de l'Elevage	Ministry of Agriculture and Livestock	農業・畜産省
MINPCD	Ministère du Plan et du Développement Communal	Ministry of Plan and Community Development	コミュニティ開発計画省
MLGRD	-	Ministry of Local Government and Rural Development, Sierra Leone	シエラレオネ国地方行政・農村開発省
MOI	Ministère de l'Intérieur	Ministry of Interior	内務省
MRC	Mouvement pour la Rehabilitation du Citoyen	-	市民回復運動
MTTPE	Le ministère des Transports, des Travaux Publics et de l'Equipement	Ministry of Transport, Public Works and Infrastructure	公共事業・設備省
NGO	Organisation Non-Gouvernement	Non-Governmental Organizations	非政府組織
OCHA	(UN) Le Bureau de la coordination des affaires humanitaires	(UN) Office for the Coordination of Humanitarian Affairs	国連人道問題調整事務所
OHP	Office de l'Huile de Palme	Office of Palm Oil	

Abbreviation	Français	Anglais	Japonais
OJT	-	On the Job Training	実地研修
ONCCS	Office National de Contrôle et Certification des Semences	National Office of Seed Control and Certification	
OPA	Organisations Professionnelles Agricoles	Agricultural Professional Organizations	
OTB	Office du Thé du Burundi	Office of Tea in Burundi	
OTRACO	Office Transport en Commune	-	ブルンジ公共交通機関
PAI	Programme d'Appui Institutionnel	Institutional Support Programme	年間投資計画
PAIVA - B	Projet d'Appui à l'Intensification et à la Valorisation Agricoles du Burundi	Agricultural Intensification and Value-enhancing Support Project	農業強化・付加価値支援プロジェクト
PARSE	Projet d'Appui à la Reconstruction du Secteur de l'Elevage	Livestock Sector Rehabilitation Support Project	畜産セクター修復支援プロジェクト
PBF	-	UN Peace Building Fund	国連平和構築基金
PCDC	Plan Communal de Développement Communautaire	Communal Plan for Community Development	コミュニケーション開発計画
PAIOSA	Programme d'Appui Institutionnel et Opérationnel au Secteur Agricole	Institutional Support Program in Agriculture	農業制度支援プログラム
PNA	Analyse des besoins et des effets pour la consolidation de la paix	Peacebuilding Needs and Impact Assessment	平和構築アセスメント
PNIA	Plan National d'Investissement Agricole	National Plan for Agricultural Investment	国家農業投資計画
PPIA	Plans Provinciaux d'Investissement Agricole	Provincial Plan for Agricultural Investment	県農業投資計画
PRADECS	Projet d'Appui au Développement Communautaire et Social	Community and Social Development Project	地域・社会開発プロジェクト
PRASAB	Projet de Rehabilitation et d'Appui au Secteur Agricole du Burundi	Agricultural Rehabilitation and Support Project	農業リハビリ支援プロジェクト
PRDMR	Programme de Relance et de Développement du Monde Rural	Rural Recovery and Development Programme	農村復興開発プログラム
PRODEMA	Projet de Productivité et de Développement des Marchés Agricoles	Agro-Pastoral Productivity and Markets Development Project	農業市場生産性開発プロジェクト
the Project	Le Projet de Développement communautaire visant à améliorer les conditions de vie dans les zones ayant subi le influences de conflit dans la province de Gitega	The Project for Community Development for Improvement of Livelihood in the Conflict-Affected Areas in Gitega Province	
PRSP	-	Poverty Reduction Strategy Paper	貧困削減戦略文書
PWD	-	Persons living with disabilities	障害者
R/D	-	Record of Discussion	討議議事録
RC	-	Reinforced Concrete	鉄筋コンクリート
SAF	Service Administratif et Financier	Administrative and Finance Service	
SAN	Stratégie Nationale Agricole	National Agricultural Strategy	国家農業戦略
SDECE	Stratégie Provinciale de Développement économique et de Création d'emploi	The development of Strategy for Provincial Economic Development and Job Creation	
SLFO	-	Sierra Leone Field Office	シエラレオネ国現地事務所
SLRA	-	Sierra Leone Road Authority	シエラレオネ国道路局
SODECO	Société de Déparchage et de Conditionnement du Café	Company for Coffee Hulling and Condition	
SOGESTAL	Société de Gestion des Stations de Lavage du Café	Company for Management of Station of Coffee Cleaning	
SRDI	Société Régional du Développement de l'Imbo	Regional Company for Imbo Development	
TPS	Techniciens de la Promotion de la Santé	Technician for Health Promotion	
TVC	Technicien Vétérinaire Communal	-	
UNDP	Programme des Nations Unies pour le Développement	United Nations Development Programme	国連開発計画
UPRONA	Union/ pour le Progrès National	Union of National Progress	民族進歩連合
VIMASA	Valorisation Intégrée des Marais en Appui à la Sécurité Alimentaire	-	食料安全保障のための総合的湿地評価

Abbreviation	Français	Anglais	Japonais
WB	La Banque Mondiale	The World Bank	世界銀行
WFP	Programme Alimentaire Mondial	World Food Program	世界食糧計画
WUA		Water Users Association	水利組合

Units and Currency

kg	kilogram
t, MT	Metric tons = 1,000 kg
h	hour
mm	millimeter
cm	meter
km	kilometer
ha	hectare
HP	Horsepower
km ² , sq.km	square kilometer
m ³	cubic meter
MCM	million cubic meter
MSL	Mean Sea Level
MW	mega Watt
LPS, l/s	litters per second
mm/mon	millimeter per month
mm/d	millimeter per day
m/s	meter per second
m ³ /s	meter per second
°C	degrees centigrade
%	percent
US\$	United States of America Dollar
BIF	Burundi Franc
EUR	EURO

Exchange rates (as of November 1 2013, OANDA)

	BIF	US\$	EURO	¥
BIF		0.00063	0.00046	0.06241
US\$	1,575.61		0.7273	98.25
EURO	2,165.4	1.3748		135.08
¥	16.024	0.01017	0.00740	

Chapter 1 Outline of the Project

1.1 Background

Since independence in 1962, the repeated conflicts in Burundi brought about a large number of refugees and internally displaced persons (IDPs). However, under the leadership of President Nkurunziza, final agreement on a cease-fire was struck in September 2006 and the peace process has been promoted steadily. He is re-elected in June 2010, thereby the acceleration of the recovery process is expected. The Government of Japan (GOJ) also, after resumption of the bilateral cooperation in 2006, has implemented cooperation projects in the capital, Bujumbura. In addition, due to the stabilization of the security situation, the GOJ has come up with a policy to provide assistance and support also in rural areas for the consolidation of peace.

Gitega Province (700,000 population) was selected as the first site for cooperation in rural areas. It has the second largest city in Burundi, Gitega, and an international route to neighboring Rwanda, and locates at a geographically important point between Bujumbura and the 3rd largest city of Ngozi. The province was strongly affected by conflicts and is the largest in the country as far as the number of outflow IDP is concerned. However, there are still remaining people in IDP camps (about 35,000 in the whole province) and the socially vulnerable people, such as widows, orphans, ex-combatants, returnees (former refugees and IDPs), and the ethnic minority, Batwa people. The residents of the province are largely making their living through agriculture but living in the harsh conditions. In addition, the status of the road access to markets is also poor in the southern part of the province and it has become a major obstacle in promoting the development of the region.

There is a development plan of each commune called PCDC (Plan communal de développement communautaire, Communal Plan for Community Development), which was formulated in a participatory way with a support from Germany. But PCDC is not formulated based on feasibility but on people's needs. Also projects listed in PCDC are not implemented properly due to lack of budget and inadequate capacity of government officers. Although all ministries have their offices at provinces, most of them do not have their staff in the lower level of administration (commune, zone, colline), so they cannot provide enough technical services as demanded. Only the Ministry of Agriculture and Livestock (Ministère de l'Agriculture et de l'Élevage, MINAGRIE) has staffs up to the colline level and it carries out community development activities also, but it has very little budget for both projects and management, and technical and educational capacity of staffs are not enough, so it can not provide enough technical services to farmers. Therefore manuals and systems to facilitate implementation of PCDC are really required.

Considering the above situation, the Government of Burundi (GOB) has requested a cooperation to facilitate implementation of PCDC in Gitega Province to the GOJ. Based on this request, JICA conducted a detailed planning survey. As a result, the GOB and JICA signed the Record of Discussion (R/D) which speculates implementation of "The Project for Community Development for Improvement of Livelihood in the Conflict-Affected Areas in Gitega Province" (hereinafter, "the Project"), major contents of the Project and the project period (24 months starting from March 2012).

1.2 Objectives

- (a) An Action Plan to facilitate implementation of PCDC, a Manual used by MINAGRIE and commune officials will be verified by the implementation of pilot projects. Action Plan, Manual and recommendation for PCDC will be strengthened by those lessons learned from the implementation of the pilot projects.
- (b) Capacity of MINAGRIE staffs and commune officials is strengthened and a medium term capacity development program will be formulated to strengthen implementation system of PCDC.

1.3 Project Area

The Project targets Makebuko, Itaba and Bukirasazi commune in the southern part of Gitega Province, where the large number of IDPs lives in and the provincial government strongly requests to support. They are strongly affected by conflicts and marks high levels of poverty. On the other hand, Buraza commune, the southern end of the province, will be supported through rehabilitation of the Provincial Road 212 as an urgent pilot project, since its poor condition has been the bottleneck for development in the commune.

1.4 Methodology of the Project

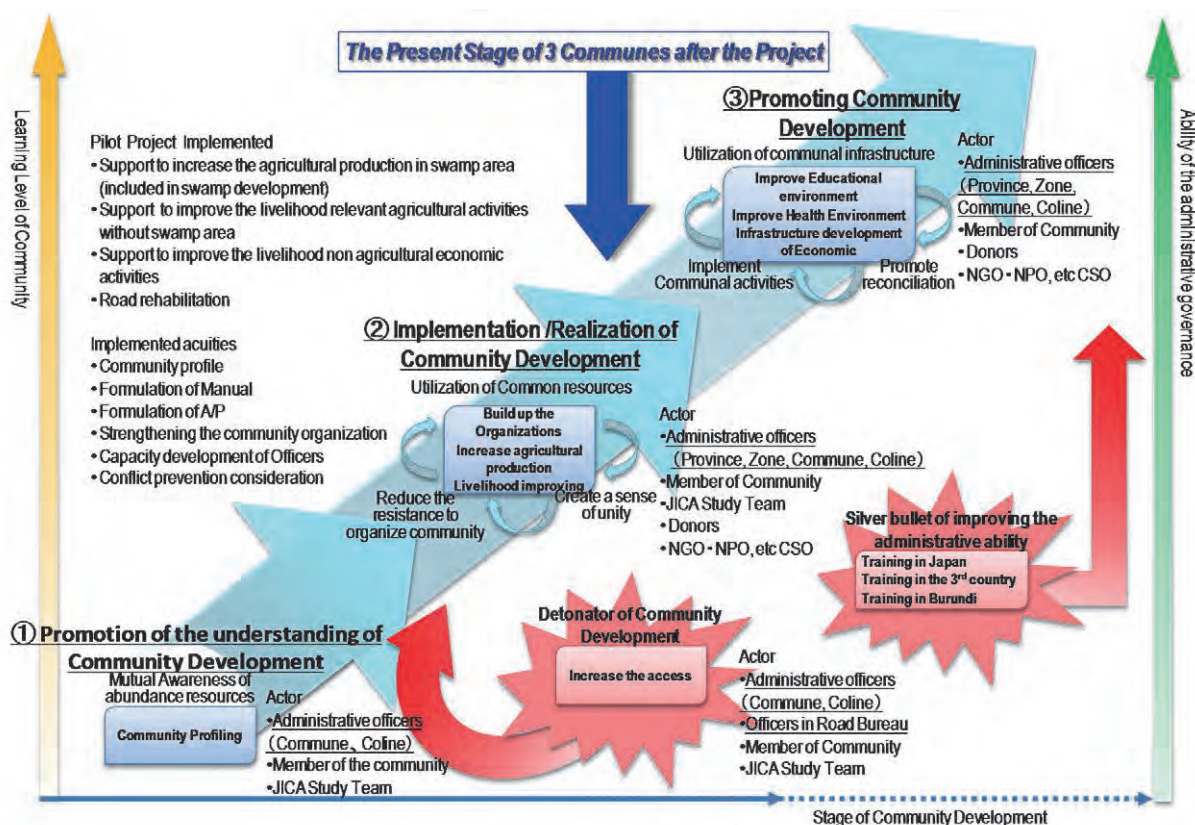


Figure 1.1 Image of Development Stages

The Project is being implemented in order to support the process of recovery in the medium and long term strategy to develop communities of three targeted communes weakened by protracted conflicts, in such a way that the communities can live in peace and solidarity of community. On the other hand, the Project will also improve the capacity of government officials and strengthening of governance to ensure the consistent recovery of the communities. The figure above indicates those concepts and the arrow from the left below to upper right indicates stages of community development. The Project practices up to the second stage of "Implementation/ Realization of Community Development" and supports the sustainable process by Burundian side thereafter.

Specifically, potential resources of communities are identified and compiled through colline profiling as the first step. Hence, implementation of pilot projects like organization strengthening and livelihood improvement will trigger sustainable community development and that brings solidarity and eases a sense of resistance to group formation. On the other hand, unlike other 3 communes, Buraza commune is left from development due to the very poor access, so it is supported through the road rehabilitation, although it is excluded from community development activities.

However, since the period of project is 2 years, the objective of this project is focused to develop an Action Plan and a Manual to facilitate implementation of agricultural projects in PCDC, which is a

valid tool to revitalize communities. Key issues in this regard are explained further as below.

(1) Importance of facilitation of PCDC

PCDC is a guiding plan of development projects/activities for communes for 5 years, drawn up in 2008 with a focus on bottom up approach and with the support of GIZ (Gesellschaft für Internationale Zusammenarbeit, German International Cooperation), which requires to be renewed in 2012. Governments of communes and provinces regard PCDC as the basis for regional development, and donors are also required to accord it while providing aid/ assistance. However, PCDC does not have adequate budgetary support and technical reviews in various sectors, and further, there is no order of priority in choosing the developing projects/activities. It is similar to just a wish list. On the top of that, there is shortage of capacity of administrative officers for implementing development projects. That is why the aims of the Project are to develop an Action Plan and a Manual so as to contribute for accelerating the implementation of PCDC, which help Burundian administrative to implement development project on their own.

(2) Elaboration of the Action Plan and the Manual

Concepts of the Action Plan and the Manual are explained here. Field surveys and the colline profiles are conducted and PCDC is reviewed based on analyses of the results of surveys for needs, local resources and challenges. Then projects of PCDC are rearranged and planned, and these processes are compiled as the Manual. Series of discussions will be conducted among stakeholders for development of contents and implementation system of the Draft Action Plan to foster the ownership in Burundian side.

Based on the above mentioned works, urgent and prioritized projects are chosen from PCDC as pilot projects and implemented. The lessons learnt from pilot projects will be fed back to the Action Plan the Manual.

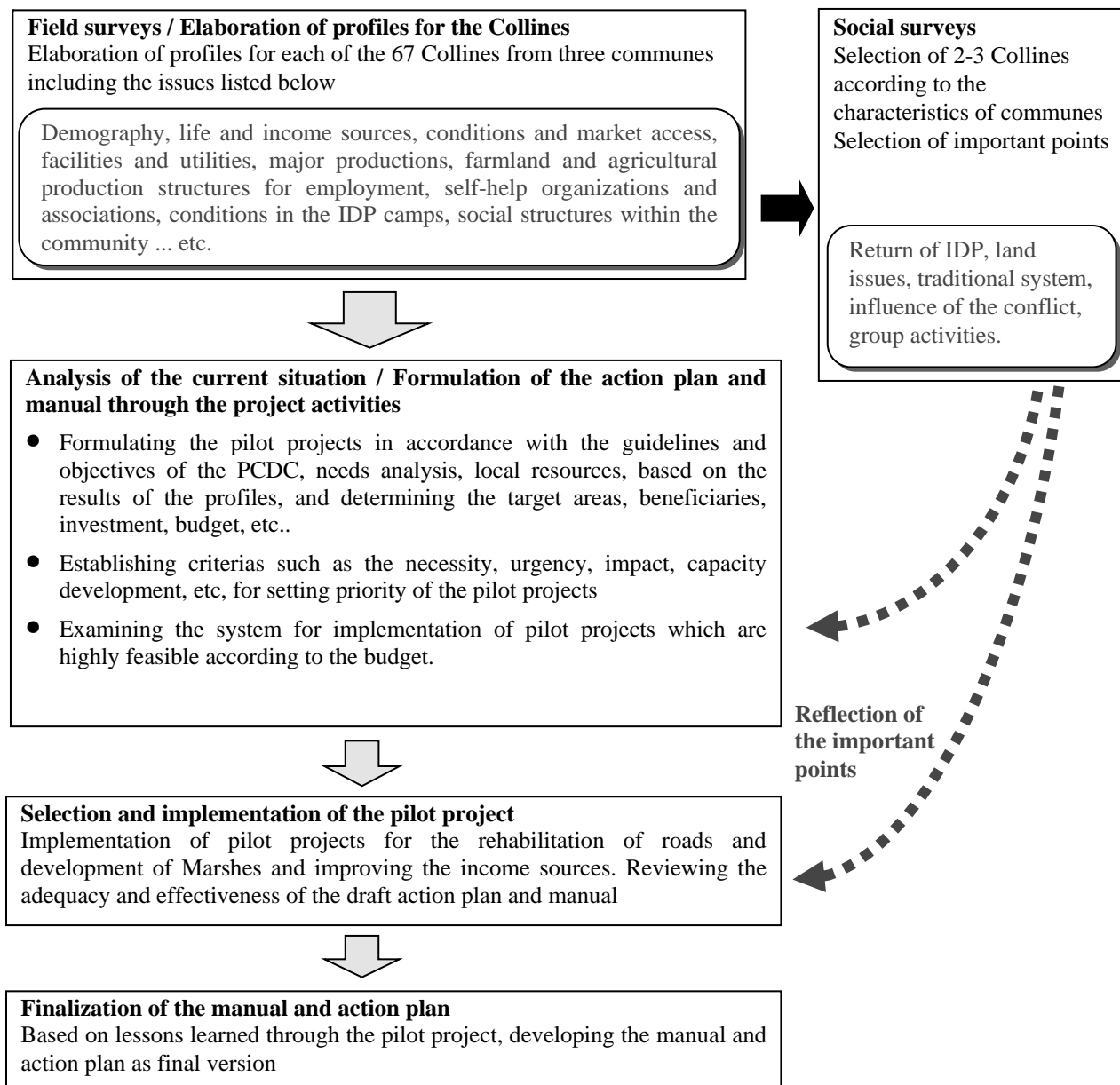


Figure 1.2 Flowchart of PCDC Promotion

1.5 Operational Policy of the Project

The four points presented below correspond to the basic policies on the operational aspect.

- Policy 1 Close cooperation with government agencies, other donors and local authorities
- Policy 2 Ensuring safety management

- Policy 1 Close cooperation with government agencies, other donors and local authorities

Good relationships should be established with not only relevant Japanese agency in Burundi but also MINAGRIE, Gitega Province and Provincial Directorate of Agriculture and Livestock (Direction Provinciale de l’Agriculture et de l’Elevage, DPAE) and information exchange should be done closely with those organizations during project implementation. Concerning project implementation, enough dialogues should be held with MINAGRIE as well as DPAE Gitega to ensure ownership from the

Burundian side. In addition, keeping close relationships with local authorities such as commune and colline level should be established through the coordination of the Project. In particular, regarding the implementation of pilot projects, the Project Team will help counterparts to withdraw accumulated outputs, challenges and lessons in an organized manner.

In addition, the cooperative relationships are established and close exchange of information is practices with other donors (IFAD (International Fund for Agricultural Development), WB (World Bank), EU (European Union), GIZ, FAO (United Nations Food and Agriculture Organization), etc.) and NGOs. In particular, since IFAD and WB (implementing projects of marsh development and agricultural production improvement) or GIZ (implementing projects to improve administrative skills in agriculture) are engaged in similar activities, establishing a close cooperation with them will contribute to the identification of valuable information for project implementation and security.

Policy 2 Ensuring safety management

In the field, the Project Team member in charge of social survey collects information about the safety situation mainly from police and the UN mission. In addition, one permanently responsible person for maintaining security within the Project Team (Project Team Leader or Deputy Team Leader and person designated by them when they are absent) will be designated for this purpose so that the safety information collected by other members will be shared. Moreover, the all team members will constantly be in touch with each other as well as the JICA Burundi Field Office through their cell phone keeping workable.

1.6 Procedure and Schedule of the Project

The project started March 2012 and will end March 2014, so the period is 2 years. The flowchart of the Project is shown below. The overall activities are categorized in 3 layers. The 1st layer is for the Action Plan and Manual for promotion of PCDC including implementation of pilot projects. The 2nd layer shows the activities for the urgent pilot projects which bring about quick impact to the target areas. The 3rd layer shows the activities for capacity development of officers and community leaders. The 4th layer is for project management and reports to be made.

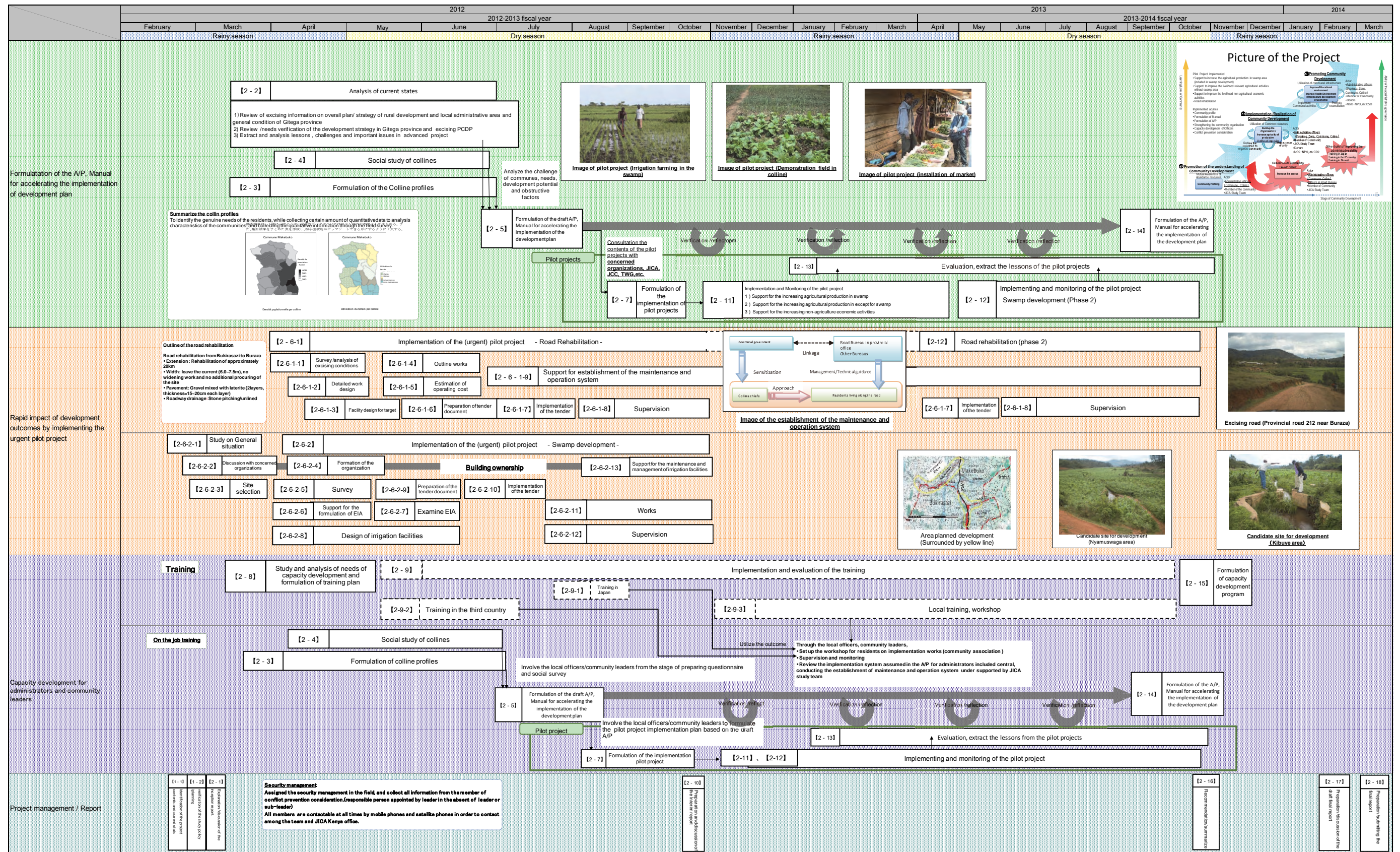


Figure 1.3 Flowchart of the Project

1.7 Structure of Project Implementation

1.7.1 Structure of Project Implementation

The figure below shows the structure of project implementation. The main activities for community development and livelihood improvement are implemented by MINAGRIE, local governments (Gitega Province and 3 communes) and JICA Project Team. The rehabilitation of the Provincial Road 212 is implemented by JICA Project Team in cooperation with the Office of Roads of the Ministry of Transport, Public Works and Equipment (Le ministère des Transports, des Travaux Publics et de l'Équipement, MTTPE) and Bukirasazi and Buraza Commune. JICA Burundi Field Office supervises all the activities of the Project.

The red dotted line shows members of the Joint Coordination Committee (JCC) that is the highest decision making body in the central level, deciding the directions or important issues of the Project. The blue dotted line shows members of the Technical Working Group (TWG) which handles technical issues in the level of the field.

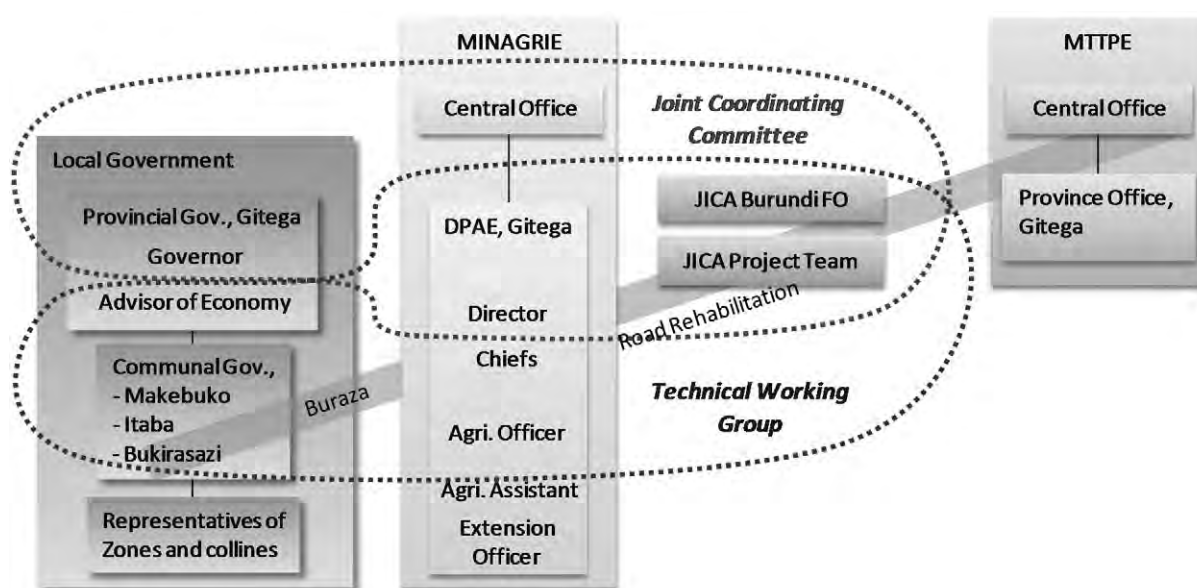


Figure 1.4 Structure of Project Implementation

1.7.2 Members of JCC and TWG

Members of the JCC and TWG are shown in the figure below.

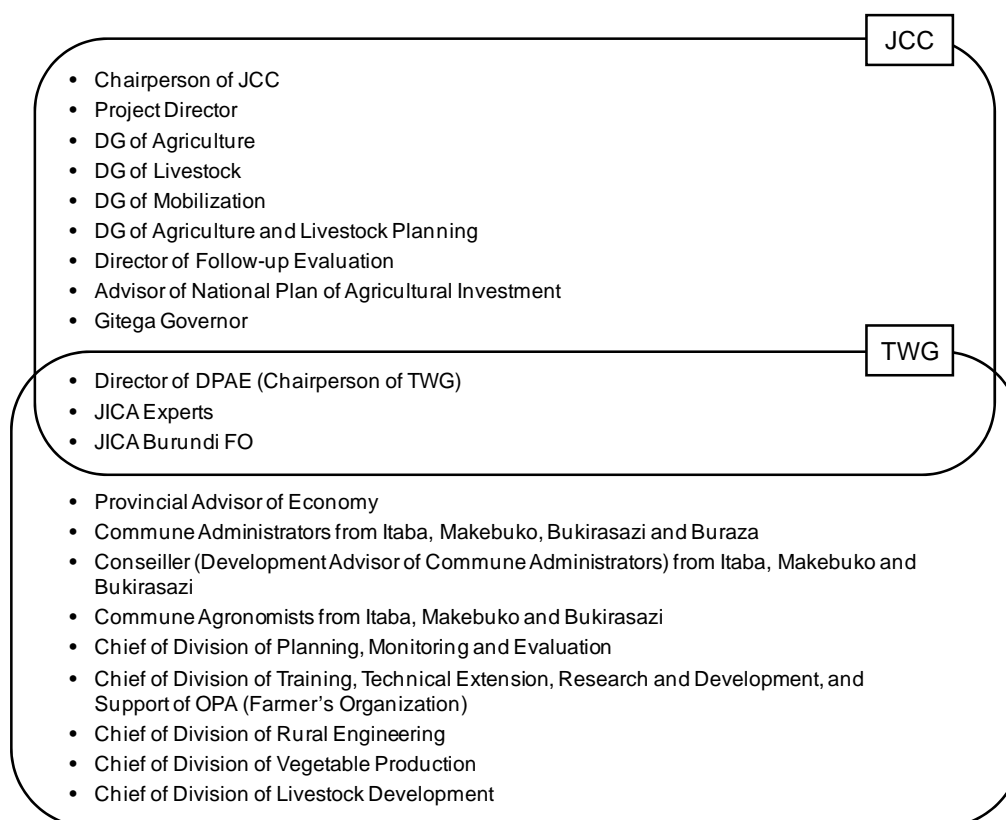


Figure 1.5 Members of JCC and TWG

1.7.3 JICA Experts and Counterpart Personnel

JICA experts and counterpart personnel from the MINAGRIE are tabulated as below. They should implement the Project with close collaboration.

Table 1.1 JICA Experts and MINAGRIE Counterparts

JICA Experts	MINAGRIE Counterparts
Team Leader / Community Development	Project Director, DPAE Director
Deputy Team Leader / Marsh Development	Chief of Rural Engineering Division, DPAE
Agriculture	Chief of Vegetable Production Division, DPAE
Livelihood Improvement	Chief of Planning, Monitoring and Evaluation Division, DPAE
Social Survey	Chief of Livestock Development Division
Farmers Association / Training Plan	Chief of Training, Technical Extension, Research and Development, and Support of Farmers' Organization Division, DPAE
Road Rehabilitation Planning	Technical Advisor, Office of Roads, Bujumbura
Construction Supervision / Cost Estimate	Supervising Technician, Office of Roads, Gitega
Procurement Support	Supervising Technician, Office of Roads, Gitega
Social and Environmental Consideration	Chief of Restoration and Consolidation of Water and Soil Division, MINAGRIE
Public Relation	-
Coordinator / Support for Construction Supervision	Project Director, DPAE Director

1.8 Structure and Use of Final Report

1.8.1 Structure of Final Report

This Final Report consists of 9 chapters and the outline of the Project is explained in Chapter 1. The present conditions are analyzed in Chapter 2 to 4 in terms of administration levels (country, province, communes, collines) and PCDC. Based on the results of analysis, the Action Plan of Chapter 5 (including pilot projects) is finalized. Chapter 6 analyzes institutional capacity in promoting PCDC and describes the results of trainings in order to develop capacity development program. Chapter 7 attempts to verify the Draft Action Plan formulated by the Project through evaluation of pilot projects. Chapter 8 reports the progress and the impacts of urgent projects, i.e. marsh development and rehabilitation of provincial road. Chapter 9 summarizes the highlights and lessons learned from implementation of this Projects.

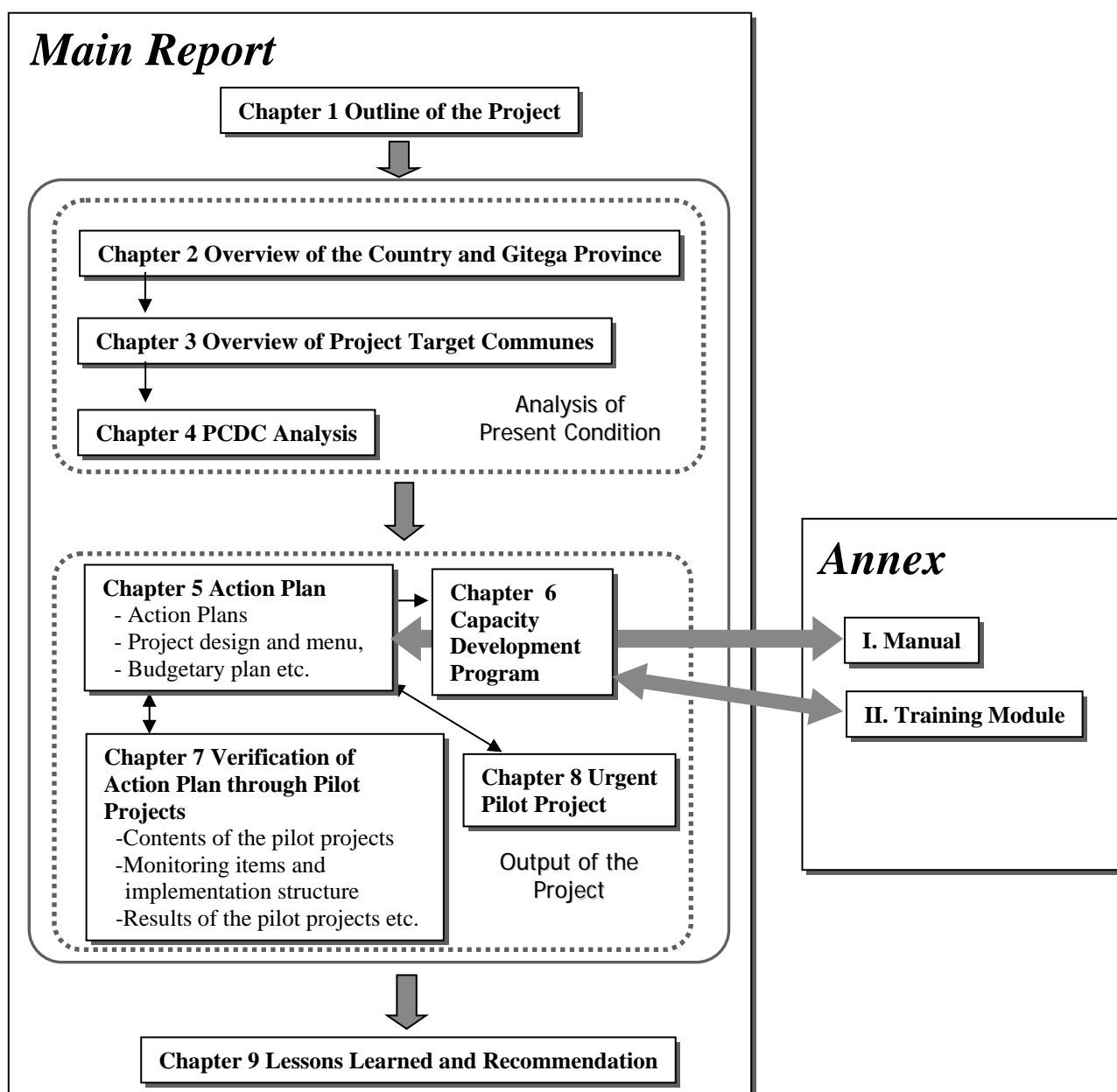


Figure 1.6 Structure of Final Report

1.8.2 Use of Final Report

Counterparts belong to various organizations and they have different roles for promotion of PCDC, so expected use of the report and annex by each stakeholder is shown in the table below.

Table 1.2 Use of the Report and Annex for Each Stakeholder

Organization	Level	How to use
MINAGRIE	Central	<ul style="list-style-type: none"> - MINAGRIE staff at the central level should refer how to survey and analyze conditions of communes and PCDC, and understand how to make an Action Plan by using the Manual. - The modules of training should be utilized for capacity building of staff. - Lessons and recommendations should be utilized for future projects in other areas.
	DPAE	<ul style="list-style-type: none"> - DPAE staff should refer how to survey and analyze conditions of communes and PCDC, and understand how to make an Action Plan by using the Manual. - They should learn how to manage projects and provide technical supports to associations by using the Manual. - The modules of training should be utilized for capacity building of staff. - Lessons and recommendations should be utilized for other projects in the province.
	Commune	<ul style="list-style-type: none"> - Staff at commune and colline level should understand the Action Plan and the Manual, and they should also learn how to manage projects and provide technical supports to associations by using the Manual. - The modules of training should be utilized for capacity building of association members. - Lessons and recommendations should be utilized for other projects in the commune.
Commune Administration		<ul style="list-style-type: none"> - Staff of commune administration should refer how to survey and analyze conditions of communes and PCDC, and understand how to make an Action Plan by using the Manual. - They should learn how to manage projects and provide managerial supports to associations by using the Manual. - Some of the modules of training should be utilized for capacity building of staff and associations. - Lessons and recommendations should be utilized for other projects in the commune.

Chapter 2 Overview of the Country and Gitega Province

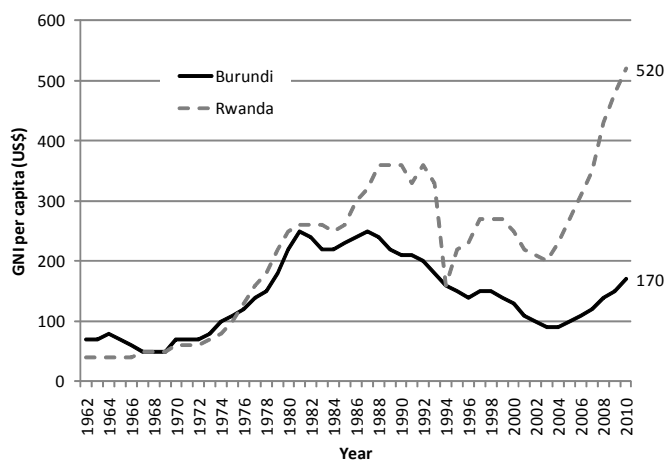
2.1 Country Overview

2.1.1 Country Overview and Socio-Economic Condition

Burundi is an inland state located in the northeast of Lake Tanganyika which falls on the center of the African continent, surrounded by the country of Rwanda, the Democratic Republic of Congo and the United Republic of Tanzania. Total area is about 27,800 km² and total population of the country is 8.6 million according to the United Nations Statistics in 2011. The average population growth rate from 2000 to 2005 is 3.03% yearly which is 14th rank in the world. The population density reaches 308.1 people/km² (the average in Sub-Saharan Africa: 21.9 people/km²). Although it is under the tropical climate, the average temperature is relatively as cool as 18 degrees the whole country is a plateau more than 800m above sea level. The rainy season is between October and April and it gives enough precipitation about 900- 1600mm. The ethnic composition is 85% of Hutu, 14% of Tutsi, and 1% of Batwa, which is Pygmy tribe. The official languages are French and Kirundi and religions are divided into 65% of Catholic, 10% of Protestant, and the 23% traditional religion.

The main industry is agriculture and it accounts for approximately 35% of GDP, 90% of the working population, 60% of export earnings. In addition, in recent years, the second and tertiary industries have developed and the former accounts 20% of GDP and the latter, 45%.

The average real economic growth rate in year 2006-2009 reached 4%, enough to see the steady development. However, in comparison with Rwanda where has similar geographical condition and conflict experience officially ended in 1993, as shown in the figure on the right, since the inauguration of President Kagame in Rwanda in 2003, Rwanda has achieved a rapid economic development, reaching US\$ 578 of GNI per capita in 2012, and 7.5% of the average rate of real economic growth in the year 2006-2009 after starting recovery of the conflict from 1993. On the contrary, Burundi's economy had declined from 1987 to 2005 during the turmoil stemmed from the conflict, until the sign of peace was foreseen in 2005, and the economic growth is not as good as Rwanda's as recovery from the conflict. On the top of that, GNI per capita remained at US \$ 270 in 2012, which is one of the lowest in the world. Thus, the reduction of poverty in Burundi has become an urgent issue.



Source; Project Team, made from World Development Indicators

Figure 2.1 GNI per capita of Burundi & Rwanda

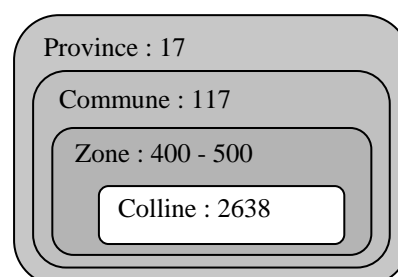


Figure 2.2 Administrative Layers of Burundi

Burundi consists of 17 provinces, beneath them, 117 communes, 400-500 zone, and 2,638 collines as local administration. Moreover, as a subdivision of collines, there are sub-collines separated by small collines and waterways as the geographical boundary.

2.1.2 Political Situation

After the independence in 1962 from Belgium which was the country's former colonial power, Hutu and Tutsi clashed since the early 1970s, and it turned out to be a civil war. Due to the impact of the conflict, more than 500,000 people were killed, and more than 280,000 of IDPs were generated. Also, more than 800,000 people became refugees to neighboring countries such as Tanzania. However, the peace process started in 2000 and the final ceasefire agreement was made in September 2006 between the government under President Nkurunziza and the FNL (Forces nationales de liberation, National Liberation Forces). Burundi is in the process of disarmament, demobilization and reintegration of FNL members. After reelection of Nkurunziza as President in 2010, it is expected to accelerate the recovery process by making an effort for the prevention to relapse of conflict, such as installing the ethnic power sharing system. Until September 2011, 489,770 Burundian refugees from the United Republic of Tanzania, 14,643 Burundian refugees from the Democratic Republic of Congo, as well as 9,753 Burundian refugees from other countries have repatriated to Burundi followed from the Arusha agreement, and over 162,300 refugees were naturalized in the United Republic of Tanzania. On the top of that, 38,211 Burundian refugees out of 46,890 including people under refugee-like situation and asylum-seekers in the United Republic of Tanzania currently most likely repatriate due to the closure of one of the refugee camps called Mtabia refugee camp in the United Republic of Tanzania. However, there are some 78,900 Internally Displaced Persons (IDPs) in need of durable solutions, and they will be target of the action plan toward durable solution that will be established by Burundian Government in 2012 with help of UNHCR.

2.1.3 Government System

It is a fact that the centralized system remains in Burundi, although the policy document of three-year action plan of decentralization for long-term and short-term as well as the national policy of decentralization from 2009 to 2020 came into effect and the actions related to decentralization started. However, in terms of the governance, cooperation between ministries and decentralization including allocation of budget are in need of efforts to be promoted.

(1) Central Government

In Burundi, the Ministry Communal Development and the Ministry of the Interior take responsible for community development, and MINAGRIE is the executing body for the field of agricultural production and rural development. Here, the figure below shows the organization chart of MINAGRIE, the implementing agency of the Project, and MTTPE as related organization.

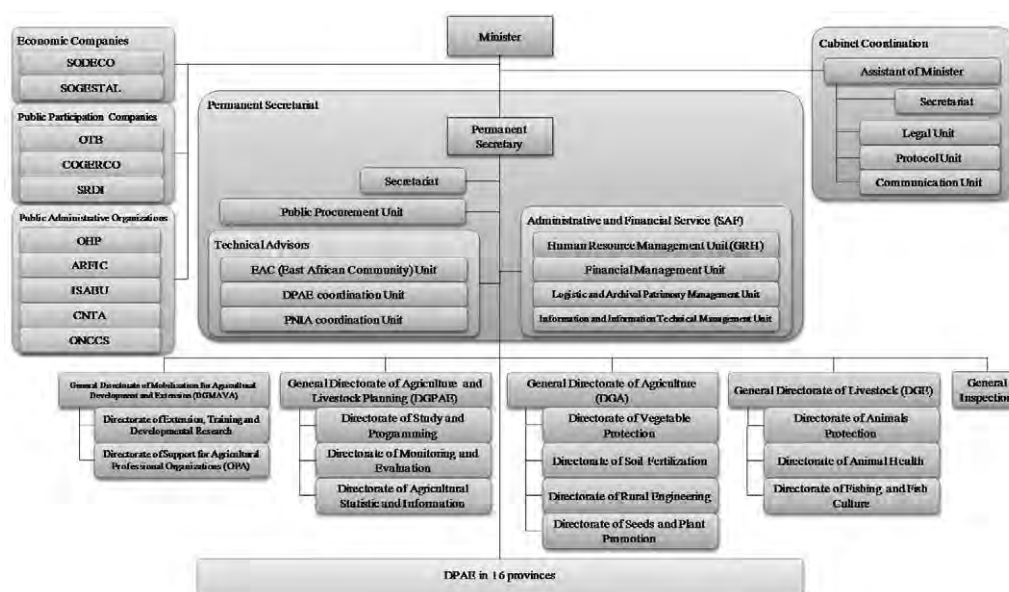


Figure 2.3 Organigram of MINAGRIE

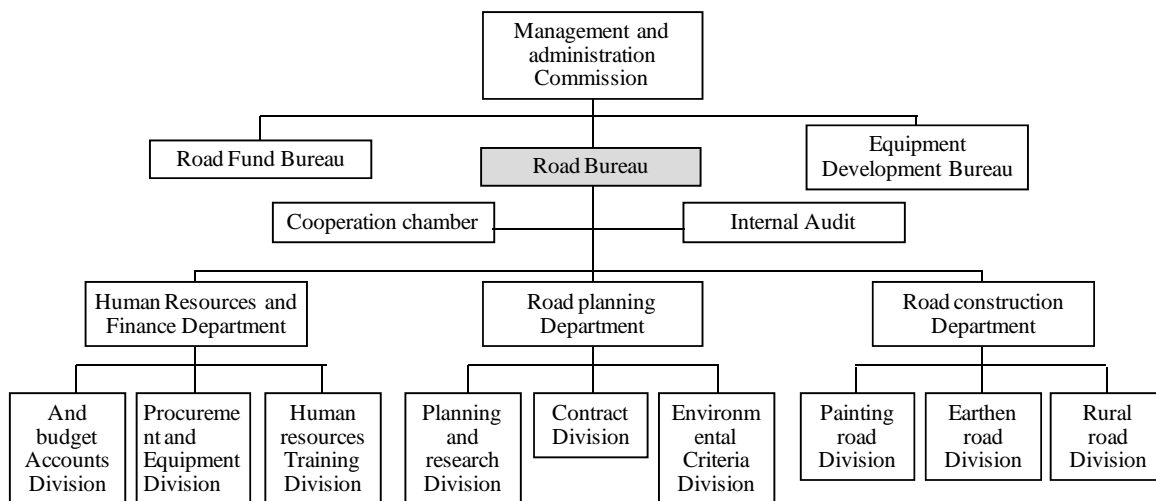


Figure 2.4 Organigram of MTTPE

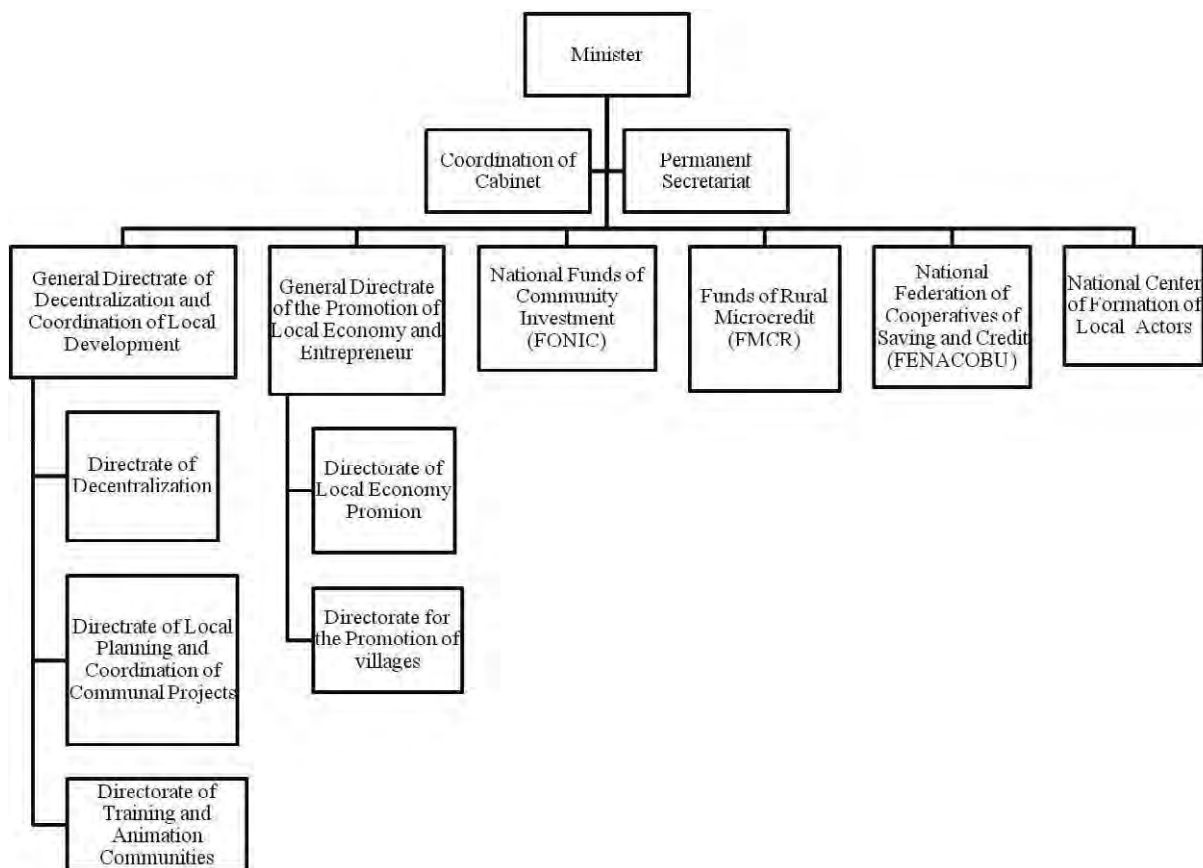


Figure 2.5 Organigram of Ministry of Communal Development

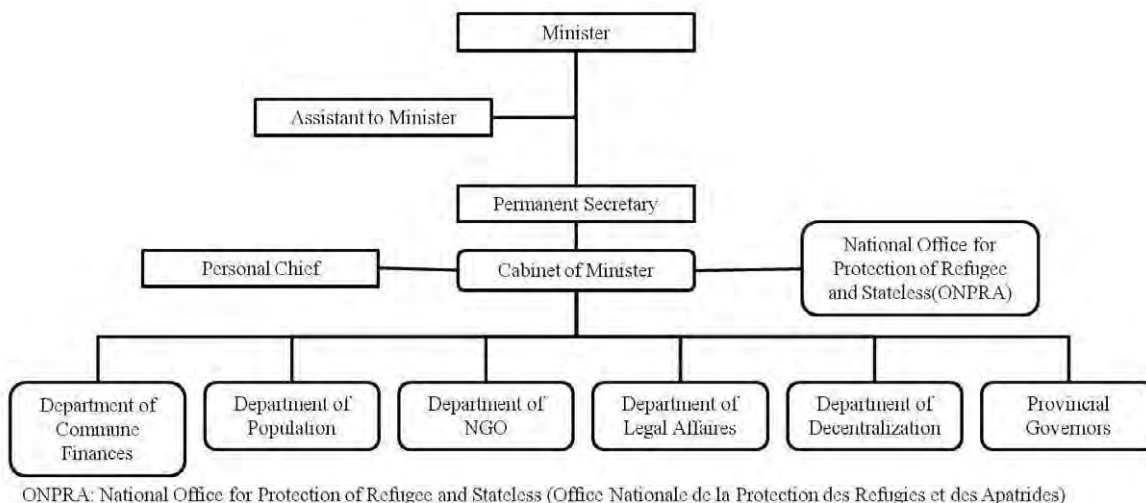


Figure 2.6 Organigram of Ministry of Interior

(2) Local Government

The government of Burundi is promoting decentralization of the service provision to the local government. The following shows the overview of the local administrative structure.

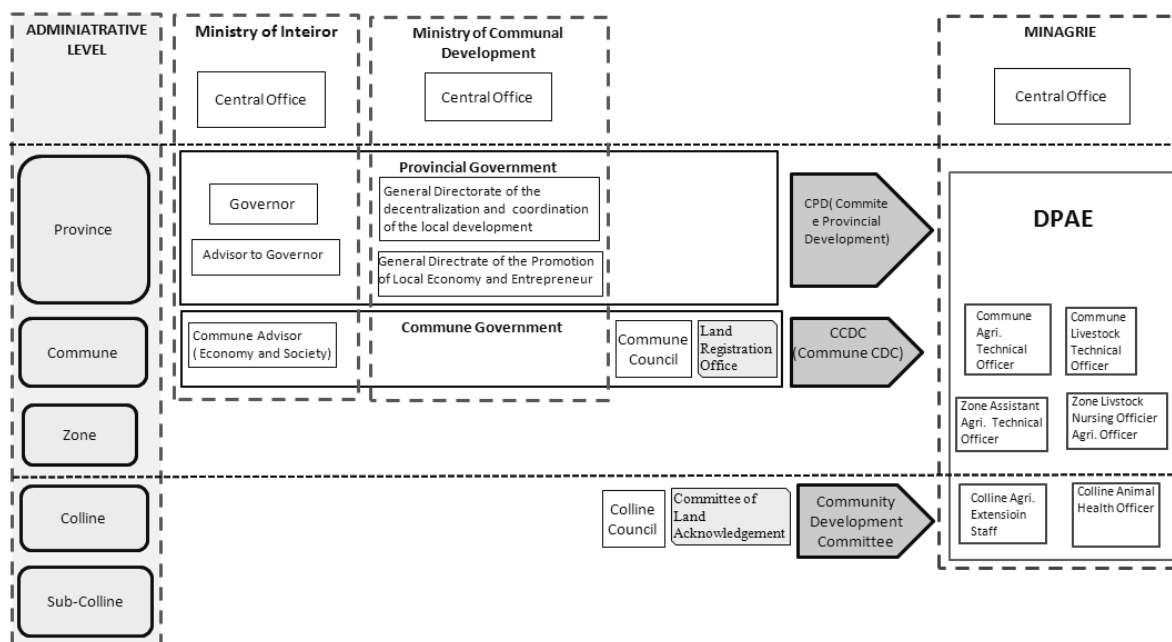


Figure 2.7 Local Administrative System

1) Provincial Government

In a provincial government, there are the Governor who was appointed by the President, advisors (a main adviser and an economic adviser) and administrative staffs. Those persons take roles of supervision of the commune administration, development project design, coordination, and monitoring. The branch offices of ministries carry out projects in each sector.

Coordination related to the community development is carried out in regular meetings of the provincial committee for development (Comité Provincial de Développement, CPD), held in once every three months. In case, there are development projects proposed by donors, the special

committee is held to cope with. CPD is based at Governorate and consisted of the Governor as the head of CPD, the main advisor to the Governor as the vice-chair. Also under CPD, there are 4 commissions which are economy, Justice/Human rights/Governance, Health/Water/Sanitation, and Education headed by each representative from the Governorate offices of Ministries in Gitega.

2) Commune Government

A commune government is a local government with a legal status and financial autonomy, and it consists of 15 councilors whose ethnic ratio is set to be 10 Hutu, and 5 Tutsi, selected by direct election, in accordance with the provisions of the Constitution. The commune leader is elected from the nominated councilors and each term ends at 5 years.

The main role of a commune government is ought to implement community development, such as execution of the budget, formulation and implementation of PCDC with participation of residents, the progress reports of PCDC to a commune council and the establishment of a development committee at commune and colline level.

3) Zone Government

The role of the zone administration is limited to the mediator and communicator between commune and colline government, and it does not possess the council. A zone leader is recommended from commune leaders and come into the office with an approval from the commune council. Main tasks of the zone leader are to hold conferences for colline leaders and deputy leaders once a week, as well as meetings about 40 people, including Community Development Councils (CDC) members once a month. However, there are cases that commune residents consult directly with the commune government, as it does not have decision-making authority and budget as an administrative body.

4) Colline Government

Colline government is the smallest and closest administration for local residents, administered by an elected colline chief and 5 councilors. The primary role of a colline government is the promotion of economic activities of the colline, promotion of colline development, and mediation and arbitration issues in the colline under the leadership of the colline chief and the council.

On the other hand, CDC, an advisory body to the government on the development of the colline, consists of 12 people in total, 5 councilors and 7 citizens. The primary missions of CDC are development of PCDC in colline, prioritization of needs, activities related to poverty reduction and development projects proposed by the council, but actual works are just coordinating development projects in the colline and sharing information.

(3) DPAE

DPAE is the executive body to implement agricultural projects in the level of province. In 2012, restructure of MINAGRIE started, and the Department of Rural Engineering in the Ministry of Environment has been transferred to MINAGRIE as well as adding the Department of Farmers' Organization Support to the General Directorate of Agricultural Development and Extension.

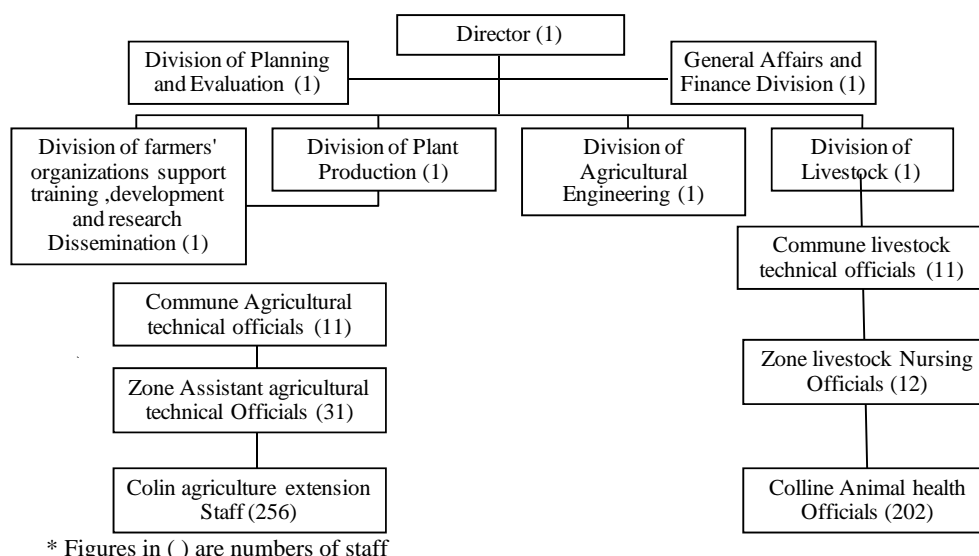


Figure 2.8 Organigram of DPAE in Gitega

2.1.4 National Development Plans and Donors' Activities

(1) National Development Plans

1) Poverty Reduction Strategy Paper II (PRSP)

In Burundi, the Poverty Reduction Strategy Paper (PRSP)-II has been published in August 2012. It is intended to realize the Millennium Development Goals and Burundi's Vision 2025. After the first PRSP adopted in 2006 and led Burundi to receive substantial debt relief from its foreign creditors due to its successful implementation, the fundamental priorities defined for the PRSP-II are to bring down the energy deficit, increase agriculture sector productivity, consolidate human capacity building programs already under way, and provide stronger, sustained support for the private sector. In this context, successful implementation of the policies will enable the government to realize its development vision, which is to make Burundi a peaceful, secured nation with a transformed economy based on the promotion of good governance and qualified, competitive human resources. Especially, the key goals related to community development are encouraging security and peace building, economic growth of 8.2% per year by 2015, and reducing poverty for rural areas. However, it analyses there are 6 developmental challenges as follows:

i) *Demographic growth*

Population growth has yet to be controlled; the government's vision is to reduce population growth to 2 percent by 2025.

ii) *Inefficient agricultural production*

Overall agricultural productivity is too low to ensure food security for the Burundi people and generate a marketable surplus.

iii) *Weak public expenditure execution*

The allocation of resources should accord preference to sectors with growth potential.

iv) *Underinvestment in the private sector, the driver of growth*

Domestic private investment and foreign direct investment have increased but remain modest; yet

private investment represents the greatest hope for more rapid growth of Burundi's economy.

v) ***Persistent electricity deficit***

Burundi's power deficit, the result of inadequate and unreliable electricity production, is a major obstacle to developing industry and services and reducing poverty.

vi) ***Lack of capacity to manage development***

Gaps in terms of human resource capacities, institutional structures and performance, the legal and institutional framework, and weak contribution from the non-government sector point to the need for a coherent strategy to build national capacities.

In order to overcome the above-mentioned development challenges, PRSP II offers set of strategic pillars;

- Pillar 1: Strengthening The Rule of Law, Consolidating Good Governance, and Promoting Gender Equality
- Pillar 2: Transforming Burundi's Economy To Generate Sustainable, Job-Creating Growth
- Pillar 3: Improving Access And Quality In Basic Social Services And Strengthening The Social Safety Net
- Pillar 4: Promoting Development Through Sustainable Environmental and Space Management

Especially in Pillar1, PRSP II places importance of re-integration of victims into the economic and social activities and acceleration of decentralization process, which is highly relevant to this Project. Also, in Pillar II, it defines agricultural sector as one of the 'sectors with growth potential' and attempts to increase the productivity through development of profitable segment (horticultural products, coffee, tea, and avocados). PRSP II further points out extending the network of paved road, rehabilitation of deteriorated routes, extension of maintenance of rural road etc. are prioritized in sustaining economic growth of the country.

2) Burundi Vision 2025

Burundi Vision 2025 is a goal of long-term development plan by 2025, which formally announced in June 2011. It is designed to meet the needs of the present generation, as well as to avoid the same mistake (conflicts) of the past, without negative affects to the next generation. Therefore this plan was mainly composed by Ministry Communal Development and Ministry of Plan and Reconstruction in cooperation with experts from Ministries, universities, and research institutes as well as representatives of women, citizens and youth organizations for reflecting the voices of the people. As a specific target for the long-term development, it is proposed to raise GNI to 720 US\$, and to halve the poverty rate which is about 65% in 2011.

3) National Agricultural Strategy (SAN) 2008-2015

In the National Agriculture Strategy (Stratégie agricole nationale; SAN, 2008- 2015) announced in 2008 formulated by the government through MINAGRIE, policies and provisions are indicated to promote increase of agricultural productivity and diversification of the agricultural production, diversification of farmers' income, and protection of environment and natural resources. By these measures, the overall goal of this strategy has been set for contributing to the reduction of poverty and supporting the sustainable economic growth in Burundi which is consistent with the PRSP through the increase of the productivity of agricultural production, diversification of the productions, diversification of income opportunities, and preservation of environmental and natural resources. To achieve the overall goal, it sets specific objectives such as; (i) Sustainable increase in productivity and agricultural production, (ii) Promotion of the dies and the agri-business in a perspective of improvement and development of sources of income, (iii) Professionalization of producers and development of private initiatives, (iv) Capacity-building for management and development of the

agricultural sector.

Table 2.1 The Contents of SAN

Objective	Evaluation Indicator	Source	Required Conditions
1) Sustainable increase in productivity and agricultural production	- The level of production of various crops, livestock and forestry increases by at least 4% per annum	Reference case, investigations and reports	A safe environment favourable to sustainable development is consolidated
	- Income from plant and animal sectors and agribusiness grew 30% from 2010	Investigation and evaluation reports and other reports	The agricultural training takes into account the needs and agricultural constraints of the country
2) Promotion of the supply chain and the agri-business in a perspective of improvement and development of sources of income	- The purchasing power of the rural population has increased by 30% in 2015.	Reports of activities	The rational management of revenues of the sector and the choice of new niches of investments are effective
	- The foreign exchange earnings have increased by at least 35% by 2015.		
	- A unit of sector coordination is in place since 2009.		
3) Professionalization of producers and development of private initiatives	- In 2015, 25% of producers are members of POs operational and viable 60% of the OP are organized apex (coffee, tea, cotton, etc.).	Reports of activities and coordination reports	A policy favorable to domestic savings, access to agricultural credit and private investment in the agricultural sector is implemented
	- 25% of support services are provided from the private sector in 2015		
4) Capacity-building for management and development of the agricultural sector	- A coordination and management of agricultural activities is functional and efficient in the office of MINAGRI in 2008.	The budget bill 2009	A process of land reform to secure the small farms, establish populations in their terroirs is implemented
	- 80% of the required human and material resources are met by 2015.		
	- At least 10% of the national budget is allocated to the agricultural sector in 2015 and 3% in 2009.		

For the four goals above, a more detailed activity and target have been set. For example, 1) to increase productivity of rice production, wheat, corn, sorghum, legumes, cassava, bananas in particular by the spread of quality seeds and technical guidance to producers for encouraging food security. As of the goal Related to 2), it is to promote the commercialization of agricultural products by improving processing technologies and storing surplus of products in order to increase cash income of the producers. As for livestock, it is planned to increase 30 percent of the population engaged in livestock sector in the five years from 2005 to 2010, for rebuilding the livestock sector through the introduction of technology and excellent breeds of livestock. MINAGRIE and DPAE have been implementing projects as the activities in accordance with these strategies with the support of donors on their own. In particular, the activity of 1) in the above table has prioritized, planting along contour line for the preservation of agricultural land, and the development wetlands have been actively promoting. As for 3), as any organization of producers has been progressed but activities have not been initiated by many organizations, or even stagnated, it needs to improve ways of institutionalization and awareness of producers different from the previous methods. In addition, as of legal reform for land ownership related to 4), it is necessary to take dramatic measures to reform of the legal system or land reform of agricultural land after careful examination to understand the history, the way of land usage, and intention residents, in light of its sensitivity to avoid cases of any kinds of disputes.

4) National Plan for Agricultural Investment (PNIA)

Agriculture is the key sector of the national development for the recovery of the country. In spite of

National Agricultural Strategy (SAN) has been developed in Burundi over three years but has not yet been implemented due to the financial issue. In consultation with all stakeholders in the sector, it was agreed to establish a coherent PNIA, prioritized operational and capable of responding to the needs to control the management and coordination of the agricultural sector. Under this circumstance, National Plan for Agricultural Investment (PNIA) formulated and announced in June 2011, as the strategic framework for prioritization and planning of investments in the agricultural sector for next 6 years starting from 2012, for increasing household income, earning foreign exchange, providing material for the industrial sector and creating jobs in the processing sector and related services to agriculture. PNIA is consistent to the Burundi Vision 2025 and PRSP (II), SAN, and it has an intention of the Government of Burundi to realize transformation of the current threat of food insecurity to opportunity for great conversion of the Burundian agriculture which meet national needs and lead to exporting food. For achieving its goal, PNIA sets the 4 programs such as; (i) Production and Sustainable Food Security, (ii) Professionalization of Producers and Promoting Innovation, (iii) Development of industries and agribusiness, (iv) Improvement of the institution frame, as shown in the table below;

Table 2.2 PNIA Programs

Main Program	Sub-Program
Program 1: Production and Sustainable Food Security	Sub-Program 1: Productive Capital Protection
	Sub-Program 2: Upgrade and Rehabilitation of Irrigation Schemes
	Sub-Program 3: Intensification of Agricultural Production (plants and animals)
	Sub-Program 4: Development of Fishing and Fish Farming
	Sub-Program 5: Food Security, Nutrition and Vulnerability Management
Program 2: Professionalization of Producers and Promoting Innovation	Sub Program 6: Organization of Producers and their Capacity Building
	Sub Program 7: Development of Local Services and Innovation Project
	Sub Program 8: Rural Finance Project
	Sub Program 9: Research / Development
Program 3: Development of industries and agribusiness	Sub Program 10: Export Sectors
	Sub Program 11: Animal Food Chain
	Sub Program 12: Rural Infrastructure
Program 4: Improvement of the institution frame	Sub-Program 14: Improvement of the frame and labor condition
	Sub-Program 15: Implementation of PNIA

Priority actions have been identified with representatives of producers through consultations at the provincial level throughout the country on the basis of the following criteria: (i) to ensure food security for all and make this sustainable food security through rehabilitation and backup tool production, (ii) to stabilize and increase the sources of household income to enable them to invest in the growth of agricultural production and productivity. This process will be based on the structure and organization of producers to make them aware and responsible for their sector (agriculture) and the revitalization of structures to support the production so that producers can find the services needed to increase production without much effort.

Financial plan of PNIA is shown below. The plan covers 6 years from 2012 to 2017 and total needs is 1,452 trillion BIF (942 billion US\$, US\$1.0=BIF1,540). All the expected financial sources were summed as resources, such as donor funding of grants and loans, NGO projects, government budget and so on, and the total is 577 trillion BIF (375 billion US\$). Therefore the deficit is 875 trillion BIF (568 billion US\$) and its rate is 60%.

Table 2.3 Financial Plan of PNIA

PNIA Program & Sub-program	Cost (Billion BIF)			Deficit (%)
	Needs	Resource	Deficit	
Program 1: Production and Sustainable Food Security	811.5	354.7	-456.8	56
SP1 Productive Capital Protection	189.1	45.8	-143.3	76
SP 2 Upgrade and Rehabilitation of Irrigation Schemes	176.2	92.3	-83.9	48
SP 3 Intensification of Agricultural Production (plants and animals)	250.0	202.0	-48.0	19
SP4: Development of Fishing and Fish Farming	15.7	0.1	-15.6	99
SP5 : Food Security, Nutrition and Vulnerability Management	180.5	14.5	-166.0	92
Program 2: Professionalization of Producers and Promoting Innovation	292.6	143.3	-149.3	51
SP6 : Organisation des producteurs et renforcement de leurs capacités	108.6	84.9	-23.7	22
SP7: Development of Local Services and Innovation Project	79.7	7.1	-72.6	91
SP8: Rural Finance Project	36.3	30.3	-6.0	17
SP9: Research/ Development	68.0	21.0	-47.0	69
Program 3: Development of industries and agribusiness	277.0	49.2	-227.8	82
SP10: Export Sectors	116.8	2.9	-113.9	98
SP11: Food and Animal Industry	66.5	10.6	-55.9	84
SP12: Rural Infrastructure	93.7	35.7	-58.0	62
Program 4: Improvement of the institution frame	71.2	29.8	-41.4	58
SP13: Reform of MINAGRIE	50.2	28.9	-21.3	42
SP14: Improvement of the frame and labor condition	8.9	0.3	-8.6	97
SP15: Implementation of PNIA	12.1	0.6	-11.5	95
Grand Total	1,452.3	577.0	-875.3	60

5) Villagisation Program

Villagisation program is a government policy of Burundi announced in 2010 to create new villages by constructing houses and transferring IDPs, returnees and socially vulnerable people (children or elderly headed households, widows, the sick or handicapped) to them. It is set as a highly prioritized program in Burundi Vision 2025, to increase effectiveness of land usage and provision for poverty. Implementation of its program is supervised by National Funds for Communal Investment (FONIC), a government organization under Ministry of Communal Development with budget of US\$ 120 million and is supported by UN offices and International Financial Institutions (IFIs) and other donors. It was initially launched in 1978, for modernizing the collective housing, but its objective has changed to settling and avoiding issues of land ownership and random and unlawful movement of returnees and IDPs due to the turmoil from the conflict, As of October 2011, FONIC select the less populated communes with basic infrastructure for the model villages where villagisation is prioritized in PCDC, and set aside to locals to initiate construction projects by providing materials for housing construction, and social infrastructure such as markets and schools.

In terms of Gitega province where the Project site is located, currently model villages have been formed in three communes (Bugendana, Giheta, Gishunbi), and it will be expanded to all 11 communes in the next three years.

However the challenging issues are that the problem regarding the use and ownership of farmland is difficult to solve as it often leads to the conflict among the people and is still at the stage of developing land registration and terms. Therefore, it requires time to realize this plan. For IDPs, there is also issue that returnees reluctant to come back to their village of origin, while the government promote the return to the village of origin. For those people, the government has an intention that they are allowed to settle at model villages or IDP camps, eventually transformed their status to ordinary villages.

6) Decentralization and Community Development

Ministry of Community Development (Ministère de l'Développement Communal, MDC) is in charge of decentralization including management and evaluation of PCDC. The Document of National Policy of Decentralization of Burundi and 3 years Action Plan (2009-11) to realize the

policy were formulated in March 2009. The document set 5 strategic axes; 1. Strengthening the legal framework, 2. Strengthening the institutional framework, 3. Strengthening the capacity of stakeholders, 4. Promotion of local economic development, poverty reduction and the provision of services, 5. Fiscal and financial decentralization. Communal Investment National Fund (Fonds d' Investissement Communal, FONIC) was also formulated under the ministry to support communes financially.

However, according to the paper issued by the ministry called "NOTE SUR LA DECENTRALISATION AU BURUNDI (Note on Decentralization in Burundi)", "communes failed to implement PCDC satisfactorily, particularly because of incomplete legal and institutional framework, inadequate financial resources and lack of qualified human resources." So the paper proposes 5 categories of activities (same as 5 strategic axes of the policy document) to enhance the move of decentralization and 3 years financial plan (2012-2014). But more than 90 % of needed amount has no financial resources as seen below.

Table 2.4 3 Years Financial Plan

Unit: '000 USD

Priority Actions	Financial Need	Acquired Source and Amount		Needed Amount	Needed Rate (%)
		Gvt	Partners		
Support commune investment	422,832	17,942	9,886	395,004	93
Capacity building of local actors	16,395	288	7,303	8,804	54
Support local economic development	9,635	200	2,690	6,745	70
Support for legal and institutional reforms	2,519	100	330	2,089	83
TOTAL	451,381	18,530	20,209	412,642	91

FONIC started operation in 2009, although the amount was quite limited (50 million BIF = 32,000 US\$ per commune) and the use has been specified (villagesation and fundamental school) until 2012 budget. Unspecified 47 million BIF per commune has been added since 2013 but still the amount is quite small. The ministry is also planning to allocate revenue share but its realization will not be realistic before the election of 2015.

Table 2.5 National Development Plans

Development plan		Summary
National Development Plans	Poverty Reduction Strategy Paper (PRSP)	<ul style="list-style-type: none"> ✧ Strengthening the Rule of Law, consolidating good governance, and promoting gender equality (rehabilitating the justice system, promoting human rights, strengthening security, reintegration of victims of the conflict into the economic and social fabric, strengthening the democratic process, improving civil service performance, accelerating the decentralization process, consolidating public finances) ✧ Transforming Burundi's economy to generate sustainable, job-creating growth (Increasing productivity in sectors with growth potential, diversification of export crops and development of profitable segments, developing agricultural production through professionalizing producers, strengthening the institutional framework, promoting burundi's cultural heritage and tourism potential, promoting the private sector and creating jobs, improving access to better quality economic infrastructures(energy, transportation, ICT), developing means of transportation for integrating rural areas, and promoting regional integration, for sustaining economic growth, promoting information and communications technologies, promoting regional integration and cooperation with countries of the region and belongs to several regional and subregional organizations) ✧ Improving access and quality in basic social services and strengthening the social safety net (Increasing the capacity and quality of the education system, improving higher education and scientific research, controlling population growth, intensifying efforts against HIV/AIDS and major pandemics, promoting access to drinking water, strengthening the social safety net)

		<ul style="list-style-type: none"> ◇ Promoting development through sustainable environmental and space management
	Burundi Vision 2025	<ul style="list-style-type: none"> ◇ Reforming national unity, restoration of national security ◇ Regulation of population growth, the establishment of food security ◇ Problem-solving unemployment, an increase in household income ◇ Diversification and economic development with a healthy and competitive, promotion ◇ Infrastructure development that contributes to higher productivity ◇ Educational improvement and increase in the rate of literacy
Others	National Agricultural Strategy (SAN) (2008-2015)	<ul style="list-style-type: none"> ◇ Under the slogan "the development of agriculture to create the future of Burundi", the diversification of production and the improvement of agricultural productivity in the national agricultural strategies for propelling the preservation of the environment and natural resources and diversification of farm receipts policies and countermeasures for consideration.
	Transportation Post and Telecommunications Sector Policy Document	<ul style="list-style-type: none"> ◇ Overall goal "to ensure the movement of people has set, to ensure public transportation for people to move within the country" as the target.

(2) Donors' Activities

Several donors have been working in Burundi. As one of the major donors, World Bank has been carried out the financial support, investment projects, research, and technical assistance, on the basis of the Country Assistance Strategy. They have plans to support for encouraging economic growth, governance, and interdisciplinary projects by a loan of about US\$ 300 million in the 4 years from 2008 to 2012.

Also, Burundi has been a target of UN Peace Building Fund (PBF) in June 23, 2006. The assistance was decided in 2007 for US\$ 35 million to implement the project in the sector of governance, strengthening rule of law and security sector, human rights and the land ownership issue.

Major donors of community development in agricultural sector are World Bank, IFAD, FAO, EU, GIZ, and Belgian Development Agency (CTB). Currently, 31 projects and programs have been implemented by MINAGRIE, the number of agricultural development projects in each province is the most, and development and preservation of agricultural land, such as steep lands and wetlands in collines, capacity development of MIANGRIE and research institutes, reconstructing livestock sector, marketing development for agricultural products follow. Within the framework of rural development, 2 projects specialized in harmonizing post-conflict societies have been also carried out.

Especially, EU has been working in Burundi since including Gitega province, the target province of the Project through assistance concentrated on three fields: rural rehabilitation and development, health and general budget support. EC support has been contributing to processing and effective use of farm products, rural electrification and renewable energy (hydroelectricity, solar power and biomass), road building, fishing and the environment (biodiversity). It has also supported a national-scale health policy pilot project. Additional aid has been granted for action on governance, support for non-state actors and to strengthen institutions. The multi-annual indicative programme for Burundi under the 10th European Development Fund (EDF) for the period of 2008-2013, amounts to €212.1 million to address these priorities distributed as follows: i). rural development and rehabilitation (€ 52 M), ii) the healthcare sector (€ 25 M), iii) general budgetary support (€ 90 M). Other areas also have received funding totalling € 21 M. These include good governance and support for the national ordonnateur. Finally, a total of € 24.1 M has been provided for unforeseen requirements in a B envelope. Demographic growth and density, the waves of refugees and repatriated citizens and poor use of the land are other threats to the country's economy, which is based primarily on agriculture. Since 2008, projects have been initiated dealing with processing and increasing the value of food products, the management of roads, rural electricity supply, use of renewable energy and environmental protection,

etc.

Also, CTB, Belgian Development Agency, has been under partnership with Burundi since 1962 of its independence. CTB's assistance concentrates on its action on three priority sectors as of 2010, that is health care, education, agriculture. In general, the supports that Belgium provides to solve development problems in Burundi take the form of: Promotion of a favourable institutional environment; Improvement of sectoral governance; Capacity development and training of staff; Participation to funding of the sector via a sectoral funding tool. It also has been that Belgian cooperation aims at strengthening the sector strategies defined by the Burundi government. The objective is to strengthen the performance of the national systems for its reform. CTB provides assistance targeted entire Burundi including Gitega province.

2.2 Overview of Gitega Province

2.2.1 General Condition of Gitega Province

Gitega province, the target site of the Project, has 1,979 km² of total area, 731,370 of population, and 370 people/ km² of population density. Elevation is 1,600-2,000m with the average annual temperature of about 20 degrees Celsius, and the average annual precipitation is about 1,200 mm, enough to keep its province relatively humid and warm throughout the year. Seasons are divided into 3 parts, big rainy season from January to April, dry season from May to October, and small rainy season from November to December. Monthly temperatures and precipitations are listed in the table below.

Table 2.6 Meteorological Data of Gitega Province

Month	1	2	3	4	5	6	7	8	9	10	11	12	Ave/Sum
High (°C)	18	18	20	21	20	24	26	28	26	22	20	20	21.9
Low (°C)	16	16	18	20	16	20	22	26	22	12	16	16	18.3
Ave. (°C)	17	17	19	20	18	22	24	25	24	20	18	18	20.2
Rain (mm)	170	160	160	120	90	-	-	20	80	90	120	180	1,190

Gitega province consists of 11 communes. A commune consists of 2-4 zones, and a zone consists of 10-20 of collines as shown in the table below. Populations are 30,000 to more than 100,000 in communes, 20,000 to 40,000 in zones and 3,000 to 4,000 in collines.

Gitega province has the city of Gitega, the nation's second largest city after the capital Bujumbura, and it locates at the center of the country, so it is a strategic point as national roads concentrated in a radial pattern.

Table 2.7 Basic Data of Communes in Gitega Province

Commune	Area (km ²)	Zones	Collines	Population	Pop.Density (Pop./km ²)
Mutaho	222	2	18	63,976	288
Bugendana	283	4	22	104,137	268
Giheta	156	3	31	75,852	486
Gitega	315	4	38	123,811	393
Itaba	170	3	20	54,793	322
Makebuko	151	3	29	61,469	407
Bukirasazi	89	2	18	34,358	386
Buraza	159	2	19	46,191	291
Gishubi	165	3	34	91,860	557
Nyarusange	96	3	17	41,470	432
Ryansoro	173	3	17	33,453	193
Sum/Ave.	1,979	32	263	731,370	370

Source : Monographie de la Commune, Province Gitega, Ministère de la planification du Développement et de la Reconstruction Nationale and UNDP (2006)

2.2.2 Impact of the Conflict and Current Status

According to the investigation report for IDPs in Burundi done by Office for the Coordination of Humanitarian Affairs (OCHA) of UN, 17,000 IDPs live in Gitega province which is about 15% out of 116,000 IDPs (see the left table below). Gitega province is one of the provinces heavily affected by conflicts, and the poverty rate is the second highest in the country¹

Table 2.8 Number of IDP in the Country and Gitega Province

Province	No. of Site	IDP	Rank	Province	No. of Site	IDP by Commune	Rank	IDP by Site	Name of Site
Bubanza	7	7,325	8	Gitega	17	17,066		17,066	
Buja-Mairie	4	8,424	7	Bugendana	2	1,667	5	1,333	Bugendana/Bitare/Mugera
Buja-Rural	12	4,141	10					334	Mugera
Bururi	4	1,988	15	Bukirasazi	2	1,575	6	1,303	Bukirasazi
Cankuzo	5	2,234	14					272	Kibuye
Cibitoke	4	3,381	12	Buraza	2	2,166	3	1,858	Buraza Center
Gitega	17	17,066	1					308	Kangozi/Muyange
Karuzi	11	7,161	9	Giheta	2	1,509	7	321	Mashitsi
Kayanza	12	12,859	3					1,188	Rweru
Kirundo	15	9,754	5	Gishubi	1	1,457	8	1,457	Muhuzu
Makamba	28	13,169	2	Gitega	2	1,368	9	1,186	Itankoma
Muramvya	9	3,790	11					182	I.S.A.ou Zege
Muyinga	12	9,116	6	Itaba	3	2,442	2	557	Buhoro
Mwaro	1	166	17					992	Gisikara
Nzoz	6	12,156	4					893	Mujejuru/Gihamagara
Rutana	7	555	16	Makebuko	1	1,683	4	1,683	Mwaro-Ngundu
Ruyigi	6	3,122	13	Mutaho	1	3,008	1	3,008	Mutaho
Total	160	116,407		Nyarusanga	1	191	10	191	Nyarusange

Source : Enquête sur les populations déplacées au Burundi, 2005, OCHA

Although the largest recipient commune of IDP is Mutaho in the north, Itaba (2nd), Buraza (3rd), Makebuko (4th) and Bukirasazi (6th) in the south follow (see the right table above). Therefore Gitega provincial government has urged strongly to receive the assistance at Itaba, Makebuko, Bukirasazi, located in the south where the issues of large population of IDPs and high degree of poverty exist. To respond to the request, Itaba, Makebuko, Bukirasazi have been selected for the Project area. As for Buraza, although there is the greater significance of the assistance, Buraza is set to the target of urgent pilot project for road rehabilitation due to the devastating road conditions, from the fact that very few assistance from other donors have achieved.

2.2.3 Agriculture

Agricultural sector in Burundi constitutes approximately 35% of GDP, over 60% of income of foreign currency and 90 % of labor population. 90% of the entire population live in the rural area, and engaged in production of potatoes and beans, as well as raising cash crops of coffee and sugar for acquiring cash and raising cattle. According to the statistics of FAO, approximately 77% (21,500 km²) of the total area of Burundi (27,800 km²) is utilized for the agricultural production including pasture land.

Although Burundi has high potential for the agricultural production, it is unstable due to effects of the civil war, bad weather, soil erosions, deterioration of soil caused by the shortage of fertilizer, and it has been leading 75% of population under chronic scarcity of food. According to the statistics of FAO, food import accounts for 12.5% of total import.

In Gitega province whose altitude is between 1,500-2,000m , over 90% people there also earn living out of agriculture and there is 9,271ha of cultivative wetland along the rivers. Farmers can cultivate in rained for 6 months in the small rainy season from September to December (season A) and the big rainy season from January to April (season B) which enable this region to receive 1,200-1,500mm per

¹ 89.7%, 1998 Priority Survey, ISTEUBU, PRSP (2006) also draws this value.

year of rainfall. They cultivate peas, haricot, potatoes in dual cropping and maize, cassavas, bananas in single cropping. Grains such as millet and sorghum, or banana as the staple food in colline, and potatoes and legumes are grown by traditional farming methods in both collines and wetlands. Because wetlands can be cultivated 1-3 times, depending on rainfall and flooding situation in particular, potato production is thriving in Gitega province. Although cropping throughout a year is possible in the marsh area, small scale intensive cultivation is practiced for potatoes, maize, and vegetables due to the limitation of areas which amount for some hundreds to less than 2 thousands m² per farmer. The main cash crops in Gitega are coffee, banana, and peanuts, as well as rice produced in some marshes. Modern agricultural techniques are adopted by some farmers through agricultural extension workers, such as appropriate interval planting, mulching, application of chemical fertilizers and pesticide mainly for beans, potatoes, maize, and rice.

However, farmers in colline areas usually practice mix cultivation for beans, maize, cassava in extensive farming with little or no chemical fertilizer and compost. Since obtaining chemical fertilizer is difficult in terms of cost, it is recommended to make compost at home by using the residue of food or plants. However, due to lack of materials and livestock manure, usage of composts is limited to some crops. As for coffee and banana, agricultural extension workers stationed at each colline are supposed to distribute seedlings and technical guidance. Because of the recognition that marsh areas are more fertile than hilly areas, most farmers do farming without fertilizers, but some use a little chemical fertilizer for cultivation of vegetables and potatoes.

On the other hand, the Government of Burundi applies a new system of fertilizer subsidy is implemented by The MINAGRIE, which will be established to coordinate the transfer and the up a new way of subsidy for all stakeholders (government, producers and sellers of fertilizer). That is called "The National Committee Fertilizer and Amendments of CNFA". It was discussed at the National Forum on Food Security in Dec.2011 to formulate avoiding shortages agricultural inputs, if necessary with targeted subsidies. The functions of CNFA are to ensure consistency and application of laws and regulations on fertilizer and to facilitate consensus among all stakeholders on price setting, subsidy rate, and procurement by private sectors. This program will be launched from 2013, and continue up to 2018. At the present, the program is under preparation by CNFA.

As for the seeds of the next season, the cereal seeds such as beans, potatoes, and maize other than vegetables is preserved from a part of the harvest for the next season. However, the preservation method and drying method of the post-harvest is not appropriate, so severe degradation of the seeds often occurs. As a result, farmers have to purchase seeds in the market and it has become a burden. In some cases, it may be possible to obtain seedlings from neighboring farmers for banana and cassava with small amount of expenses or without.

According to the statistics of MINAGRIE in 2010, it is accounted for 45% of yam as well as sweet potato, and cassava production nationwide, hence Gitega province is considered as one of the most food producing areas and Burundi country. However, due to the inadequate spread of post-harvest management and storage warehouse, they are often turned to self-consumption for the most population in the country. Examining in detail of the production of food crops, a largest amount of production come from Bukirasazi and Bugendana in all crops, totally both communes account for about 50% of food production. In addition, the average yield of Gitega province is 3.0 t / ha, while the average amount of food intake per person is 811.2 kg /person. Except for Makebukoko, Itaba, which are at average, agricultural productivity by commune differs greatly. In comparison with 500kg / person/year of the world standard including potatoes, it seems food shortage in the half of the communes in Gitega province.

As a major challenge in the field of agricultural Gitega province, problems can be identified as follows.

- i) Shortage of the materials (chemicals, excellent quality seeds, fertilizers, and excellent breeds of livestock)

- ii) Soil degradation due to over-cultivation and heavy rains and droughts derived from unseasonable weather conditions
- iii) Lack of quality and quantity of the extension workers
- iv) Spread of pest
- v) Lack of access to technical information for agriculture

Although seeds and fertilizers have been distributed to Gitega province, through the commune from the General Directorate of Agriculture, not all the population engaged in agriculture have not benefited from it due to the shortage of the quantity, and high prices of materials. In addition, technical trainings have been held every year on soil fertility and conservation of farmland to the extension workers and agricultural technicians that has been assigned to the commune from the General Directorate of Agricultural Development and Extension, nevertheless, the trainings have not led to the level of spread of technology and practice among residents, as neither materials for carrying out the demonstration and training nor the absolute number of the agricultural population and comprehensive capacity of extension workers is in short. In addition, the amount of agricultural production including the cash crops except for potatoes and rice during the rainy season in the closed collines is unstable and even declined because the pest is likely to be propagated. Ownership of agricultural land per capita in this province is 40-80a which is considered as small, and it is popular to cultivate in the collines. Due to the geographical features of collines is located on slopes, it is highly difficult to introduce the agricultural machineries to increase productivity and efficiency. On the top of them, the biggest challenge in Gitega province related to agriculture is a transition to the appropriate land-use management in the terrain and natural environment from unplanned and traditional land-use. Also, due to the turmoil of the conflict, there are many cases that land ownership is unclear due to the evacuation of refugees and IDPs.

According to the financing situation in rural area, COOPEC and Post office are popular borrowing organization. Although people can easily open their bank account and withdrawing deposit, they need bond to borrow money. In case of farmers, their land is collateralized, but most of them do not register their land ownership. It means that when farmers borrow money, basically they do not have register statement; therefore, borrowing is difficult for them.

2.2.4 Development Plan of Gitega Province

(1) Strategy of Provincial Economic Development and Job Creation (SDECE)

The Strategy of Provincial Economic Development and Job Creation (Stratégie Provinciale de Développement économique et de Création d'emploi; SDECE), was developed in accordance with the national policy and strategy i.e. PRSP and SAN.

For the development of the key sectors of the provincial economy the directions have been issued. The directions have been classified into four broad categories of the sectors- a) Agriculture sector, b) Livestock sector, c) Industry and food processing sector, and d) Service and tourism sector. Furthermore, for development of each categorized sector, various themes are classified which are given as follows.

Table 2.9 Sectors and Themes Set in SDECE

Sectors	Theme
Traditional & Non-Traditional Agriculture Sector	1. Supply of seeds, 2. Supply of chemical fertilizers and pesticides, 3. Technical capacity building, 4. Production of organic manure, 5. Marshland development, 6. Promotion of Agricultural Organizations, 7. Access to credit
Livestock Sector	1. Restocking of Livestock, 2. Supply of livestock inputs, 3. Capacity building

	of service providers and farmers, 4. Livestock infrastructure (public), 5. Adaptation of laws and regulations.
Industry and Food processing Sector	1. Development of profitable agricultural sectors, 2. Calculation of profitability, 3. Marketing channel, 4. Support to private developers, 5. Availability of electricity and water
Services and Tourism Sector	1. Development of tourism, 2. Quality of products and services, 3. Capacity building, 4. Development of the associative spirit, 5. Access to credit.

For each theme the specific objectives to achieve has been set and activities, responsible person and Stakeholders/partners have been provided. For agriculture and live stock sector, DPAAE is the main responsible person to execute the activities under various themes. However, the theme related to the adaption of law and regulation is the responsibility of the provincial government. For industry and food processing sector, the DPAAE is the responsible for the activities of the themes of development of profitable agricultural sectors and calculation of profitability whereas the economic commission of the provincial committee for development (Comité Provincial de Développement, CPD) is responsible for the activities of the themes of marketing channel, support to private developers, and availability of electricity and water. For service and tourism industry, the economic commission of CPD is responsible for all the activities for each theme.

(2) Provincial Plan for Agricultural Investment (PPIA)

The Provincial Plan for Agricultural Investment (Plans Provinciaux d'Investissement Agricole, PPIA) is the provincial version of PNIA. The draft was formulated in December 2012 through series of workshops with all stakeholders, financially and technically supported by PAIOSA (project carried out by CTB, refer to **2.2.5 Activities of Development Partners**). The document consists of 8 chapters, starting from the introduction followed by analysis of Gitega Province and its agriculture. It also contains the financial plan, its economic analysis and risk analysis for sustainability. Programs and sub-programs are the same as PNIA but the target values are corresponding to the situation of the province.

The financial plan for needs is quite incomplete, as there are lots of blanks seen in the following table. According to the chief of planning, monitoring and evaluation division of DPAAE who is in charge of financial planning of PPIA, DPAAE requested to submit budget plans to various stakeholders but there were no replies, so financial planning of PPIA both for needs and resources is put on the shelf so far. Also in Chapter 7 Risk Analysis and Sustainability, of the document, financial availability is listed as one of the risks for sustainability, noted on the top for all the sub-programs. That is, PPIA does not have substantial finance background and has to depend on donor funds mostly.

Table 2.10 Financial Plan of PPIA

A.	B.	PPIA Prioritized Action	Unit	Quantity	Unit Price (BIF)	Cost (Million)
		Program 1: Production and Sustainable Food Security				69,260
		SP1 Productive Capital Protection				10,350
		Develop seedlings for agro-forestry	pc	10,000,000	200	2,000
		Digging contour line	Km	60,000	20,000	1,200
		Installation of hedge against soil erosion	Km	50,000	40,000	2,000
		Plant tree for agro-forestry and grow fruit	HJ	100,000	1,500	150
		Digging and maintenances of small dam	Ha	1,000	5,000,000	5,000
		SP 2 Upgrade and Rehabilitation of Irrigation Schemes				3,200
		Feasibility study and Topographic survey for identification of new arable land	FF			0
		Irrigation facilities are installed	Ha	200	4,000,000	800
		Manage and maintain irrigation facilities	FF			0
		Collection of rainwater for irrigation	Ha	800	3,000,000	2,400
		SP 3 Intensification of Agricultural Production (plants and animals)				55,226
		Sensitization of people on intensification of agricultural production	Sessions	30	50,000	2
		Timely, enough amount, good quality agricultural inputs	FF			0
		Making more functional 3 seeds centers (Rutegama, Mutobo and Nyabisaka)	Ha	50	100,000	5
		Promoting the consolidation (groups) of population in order to expand farmlands				0
		Mecanize agriculture especially in seeds centers (50x2 seasons x 4 years)	Ha	400	50,000	20
		Promoting small processing centers like Agakura association and Mutovi center				0
		Disseminate milking cows	head	50,000	1,000,000	50,000
		Diversify forage	Ha	250	100,000	25
		Create centers of collection, processing and storage of milk.				0
		Building capacities of veterinaries and ACSA	Sessions	24	6,000,000	144
		Availing material for artificial insemination	Dose	5,000,000	1,000	5,000
		Availing medicines and equipment of Veterinaries	FF			0
		Rehabilitating veterinaries centers	site	6	5,000,000	30
		SP4: Development of Fishing and Fish Farming				82
		Sensitizing the population on the interest of fish farming and make inventory of all sites suitable fish farming	Sessions	22	50,000	1
		Developing fish farming ponds	site	30	2,000,000	60
		Developing fish farming ponds of commune	site	25	500,000	13
		Creating a fish farming nursery in all province for easy supply	site	2	2,500,000	5
		Protecting rivers and watersheds around farming ponds	site	30	100,000	3
		SP5 : Food Security, Nutrition and Vulnerability Management				403
		Conserving part of harvest	Sessions	30	50,000	2
		Availing phyto-sanitary (like Actellic super) used for conservation of harvest	Kg	5,000	80,000	400
		Promoting nutritional education	Sessions	30	50,000	2
		Reinforcing warning system				0
		Program 2: Professionalization of Producers and Promoting Innovation				308
		SP6 : Organisation des producteurs et renforcement de leurs capacités				0
		Educate producers to form associations				0
		Popularizing law on pre-cooperative groups				
		Organizing study tours				0
		Settlement of legal framework of collaboration between agricultural Producers Organization and public services			FF	
		Decentralize agribusiness sector to the provincial level	Consultancy			0
		SP7: Development of Local Services and Innovation Project				308
		Reinforcing and multiplying OPA and providers services			PM	
		Creating suitable environment for OPA	Sessions	125	1,500,000	188
		Organizing study tours	Sessions	7	10,000,000	70
		Building capacities of OPA	Sessions/year	5	10,000,000	50
		SP8: Rural Finance Project				0
		Creating guaranteeing fund	Commune	PM	PM	
		Promoting accessibility to agricultural credit in favor of OPA		FF	FF	
		SP9: Research/ Development				625
		Broadcasting research through technical sheets	Study	FF	FF	
		Creating concertation framawork between researchers-extension-OPA	Sessions	50	500,000	25
		Promoting demonstration fields in the exploitation of OPA	Sessions/year	5	120,000,000	600
		Reinforcing research centers of ISABU (Ndebe and Murongwe) and IRAZ (Mashisti)				0

A.	B.	PPIA Prioritized Action	Unit	Quantity	Unit Price (BIF)	Cost (Million)
		Program 3: Development of industries and agribusiness				14,290
		SP10: Export Sectors				0
		Producing coffees seedlings for 1,500 ha	Ha	500		0
		Buliding capacities of coffee farmers on techniques producing cherries of quality	Ha	350		0
		Strengthen the capacity of local organizations involved in the coffee sector	Sessions	5		0
		Promoting Macadamia cropping				0
		SP11: Food and Animal Industry				0
		Sensitizing the population on modern farming techniques and management of lands	Ha	500		0
		Promote food chains including banana, cassava, rice, potato, maize, pineapple and avocado	No. of chain			0
		Importing and diffusing performant varieties (heifers, bulls sires)				0
		Reinforcing calves centers of Mahwa and Gitega and Mutoyi poultry centers	FF	FF	FF	0
		Developing meat sector				0
		Developing dairy industry				
		Developing egg sector				
		Developing apiculture sector				
		Developing fish culture sector				
		Developing skins and leather sector				0
		Hear markets runoff from these fields	FF	FF	FF	
		SP12: Rural Infrastructure				14,290
		Rehabilitation and maintaining existing path	Km	120	87,000,000	10,440
		Rehabilitation of bridges and culverts	Nbre	15	250,000,000	3,750
		Multiplying modern markets like that of Bitare (Bugendana)	Nbre	7	PM	
		Building new storages	Nbre	5	20,000,000	100
		Building processing and marketing infrastructures	Nbre	10	PM	
		Rehabilitating existing storages	FF	FF	FF	
		Building semi- modern straughterhouse at Gitega city center and commune slaughterhouses				0
		Program 4: Improvement of the institution frame				0
		SP13: Reform of DPAE	PM	PM	PM	0
		SP14: Improvement of the frame and labor condition				0
		Improve salaries of staff of DPAE				0
		Giving communication fee of monitoring staff at commune and provincial level				0
		Increase the cartage of DPAE and ensure its operation				
		Make it more effective decentration				
		Supporting implementation structures of SDECE	FF	FF	FF	
		SP15: Implementation of PNIA				0
		Create a communication network of stakeholders				0
		Build the capacity of staff involved in the implementation of the PPIA	FF	FF	FF	
		Grand Total				83,858

A. PNIA Programs

B. PNIA Sub-Programs

2.2.5 Activities of Development Partners

Major activities of the development partners in Gitega Province in agriculture and livestock sector cor community development and capacity building are as listed as below.

Table 2.11 Projects by Donors

Project	Age -ncy	Period/ Area in Gitega	Summary
Support Program for Reinsertion and Reconstruction for Conflict Affected People (APRS)	GIZ	2004~ 2010/ Overall Gitega	<ul style="list-style-type: none"> ◇ Multi-sector assistance project started in 2004, the main counterpart; the Ministry of National Solidarity, Human Rights. ◇ 2004-2007 (APRS1): basic social infrastructure, community development plan created (PCDC), vocational training, business promotion, social harmony ◇ 2008-2010 (APRS2): strengthen the capacity of technicians in accordance with the practice of the PCDC, good governance, regional economic development (agriculture, non-agricultural sector) to assist residents.
Support Program for Decentralization and Poverty	GIZ	2011~ 2014/ Overall Gitega	<ul style="list-style-type: none"> ◇ Project is the same as of APRS but with the change of name. The main objective was to strengthen the capacity of staff and promote the decentralization in the Ministry of Planning and Community Development Department of the Interior. In addition to the

Project	Age -ncy	Period/ Area in Gitega	Summary
Alleviation (ADLP)			capacity building of local self-government, the provision for assistance concerning the added value of agricultural products and market will continue.
Agricultural Intensification and Value-enhancing Support Project (PAIVA-B)	IFAD FAO EU	2011~ 2017/ Bugendana and Mutaho Commune	<ul style="list-style-type: none"> ◇ Project that aims to improve the profitability and sustainability of agricultural production organizations. ◇ Activity consists of the following three components; each corresponding to the project is being conducted- <ul style="list-style-type: none"> a) Protection and enhancement of production base ,marsh development, slope maintenance, land tenure security, seeds, seedling production, improving access to agricultural equipment, Solidarity chain strengthening (breeding cows), FFS and (Field Farmers School). b) Capacity building and creation of leadership groups (producers') ,survey of agricultural markets and financial support services, help to improve the quality of agricultural products and market access, and fund agricultural diversification: diversification of production and infrastructure development. c) Coordination with the national program and support to the implementation of anti-poverty agency CP and production activities by an organization such as the CDC, project coordination and facilitate the implementation.
Livestock Sector Rehabilitation Support Project (PARSE)	IFAD	2011~ 2014/ Bugendana, Mutaho , Makebuko, Bukirasazi	<ul style="list-style-type: none"> ◇ Under the project PARSE, distribution and donation of a new livestock that were killed in large numbers in the civil war (cattle, goats, chickens) and livestock that are worth cash, such as rabbits and pigs are undertaken. Further , dissemination about the modern livestock technology to promote reconstruction and promotion of animal husbandry is also being undertaken ◇ Activity of the project consists of the following four components,. <ul style="list-style-type: none"> a) Rebuilding ability to produce livestock and diversification of livestock production and feed b) Accessible animal health services and protection from the risk of disease c) Strengthening regional organizations and small dairy farmers in sustainable training support d) Project coordination
Evaluation for Promotion of Integrated Marsh Support to Food Security (VIMASA)	EU/ CISV (Italia n NGO)	2009~ 2013/ Makebuko, Itaba Commune	<ul style="list-style-type: none"> ◇ Irrigated rice farming and terrace building in marshy and wet valleys, ◇ Strengthening of organisational structures and 'maîtrise d'ouvrage' (ownership of the construction process), ◇ Access to production means (certified seeds, fertilizer), ◇ Integrated approach of the agricultural chain, ◇ Poverty alleviation through improved food security, ◇ Integrated Water Management: local sustainability in small river basins; broader consultative bodies and strategy development.
Institutional and Operational Support Programme for the Agricultural Sector (PAIOSA)	CTB	2011~ 2017/ Gitega city only	<ul style="list-style-type: none"> ◇ Strengthening the functions of MINAGRIE and sovereign planning, programming, coordination, monitoring and evaluation of communication (central and provincial) ◇ Implementation of public structures and coordination control of the seed sector and support emergence of a of private seed sector ◇ Support teams of scientists in the implementation research for the needs of users and support redeployment of regional office of ISABU ◇ Infrastructure: rehabilitation of 3,000 hectares perimeters irrigated and 700 acres of marsh, construction of tracks, bridges, storage areas and opening markets ◇ Non-financial support to the private sector for development of value chains

Project	Age -ncy	Period/ Area in Gitega	Summary
			<ul style="list-style-type: none"> ✧ Strengthening organizational and technical producers and institutional actors in the intervention areas
Support for Vocational and Technical Training (AFPT)	CTB	2012~ 2017 Part of Gitega	<ul style="list-style-type: none"> ✧ Focusing on institutional governance (management and maintenance), but also the sub-sector of the education and technical and vocational training at the national level (school board management, staffing etc). ✧ Improving the management and quality of education in schools in the past have benefited from funding from the Belgian Cooperation and other donors. ✧ Supporting the creation of partnerships and collaborative arrangements with the corporate society and craftsmen.

Chapter 3 Overview of Project Target Communes

3.1 Colline Profiling

3.1.1 Purpose, Method and Implementation of the Survey

The main objective of the present project: Pilot projects selected from PCDC according to priority and urgency are implemented and an Action Plan to facilitate implementation of PCDC, a Manual to be used by MINAGRIE and commune officials and recommendations for PCDC are elaborated based on the lessons learned from implementation of pilot projects. Hence, the development of manual, action plan and recommendation for improvement of PCDC is possible only if the baseline information of the target area is in hand. Colline profiling is an attempt to prepare and establish baseline information on the existing condition of the target area (specifically to make better understanding of the local resources) so that ministerial / local officials can design feasible and strategic community development plan.

The target areas for the preparation of the colline profile were the collines of the commune Makebuko, Itaba and Bukirasazi. The broad categories of the baseline survey in the commune are as follows;

- Population
- Living Conditions
- Existing Infrastructure status of the commune
- Agriculture status
- Farmers Associations
- Disputes.

The method and process to be employed for the constructing the Colline profiles are as follows;

- The preparatory stage- It involves the collection of communal data, refinement of the data base files and preparation of the questionnaire and establishment of the priorities.
- Identification of the Primary and secondary information source- In each commune following persons have been identified to provide the information- a) Administrator , b) NCE President (Board of Communal water), c) President of the tribunal of residence, d) DCE, e) Head of Hospital, f) Health Centre Manager, g) Technical consultant for Development, h) Municipal accounting Officer, i) Chief of Collines, j) Colline animal health Officer, k) Colline agriculture Monitor, m) Colline Development Committee.
- Analysis and data processing
- Interpretation of results

3.1.2 Zone and Collin (including administrative organization)

According to the communal law No 01/016 20 April 2005 concerning the organization of the communal Administration, the commune is ruled by a communal Council composed of 25 members elected by universal suffrage and an administrator elected by the same council. The collines in turn is ruled by a colline council and a colline chief. Thus, the communal council, with a 5-year mandate, consists of four political families. In addition to the elected officials at the hill, there is a board of “Abashingantaha”, in collaboration with locally elected officials (represented as commune administrators and colline chiefs), play an important role in resolving the conflicts peacefully.

Representatives of community organizations (civil society, religious groups, associations and CDC) are regularly consulted in planning the development of the Commune. In the daily communal affairs management, the administrator is helped by an administrative and technical staff. The administrative staff is composed of two councilors, one for administrative and social affairs, and the other for Development, an accountant, secretary, officers of civil status, a cashier and a supporting staff.

In addition to the commune staff, we find in the commune agents who work in other decentralized

services of the government. They are made available for the Commune by their ministries to supervise the population. These include a communal agronomist, a communal veterinarian, nurses and health promoters, heads of schools and teachers, a technician for health promotion as well as the executive and agents of justice and police.

Each commune consists of several zones, and each zone has many colline as shown table below:

Table 3.1 Zones and Collines of Each Commune

Commune	Zones	Collines
Makebuko	Makebuko	Bugumbasha, Gasasa, Kagege, Makebuko, Mwaro-Ngundu, Mwaro-Mavuvu, Ntita, Rwanda, Rwesero.
	Maramvya	Buga, Janja, Karoba, Kiyange, Murago , Musave, Muyange, Rusagara, Rwezamenyo, Simba
	Murenda	Butobwe, Gasagara, Gasenyi, Kinyonza, Muhororo, Murenda, Mwanzari, Mwumba, Nyamagandika,
Itaba	Buhevyi	Kagoma, Kanyonga, Rukobe I, Rukobe II
	Gihamagara	Buhinda, Gihamagara, Kibogoye, Kirambi, Kugitega, Mugomera, Ruhanza
	Itaba	Buhanga, Butare, Gisikara, Itaba, Kanyinya, Karemba, Macu ,Mutanga, Nkima
Bukirasazi	Bukirasazi	Bukirasazi, Migano, Shaya, Gasongati, Ruhinda, Ruvumu, Tema, Kibuye, Rwinyana, Buhanda, Mpingwe, Rugoma
	Kangozi	Bunyuka, Kibere, Nyamisure, Nyambuye, Rugabano, Rukoki

Source: Communal Administration

3.1.3 Physical Features of the Communes

(1) Makebuko

The Commune of Makebuko, which is a component of the province of Gitega, has an area of 170 km² corresponding to 11.72% of the province territory with an area of 1,989 km².

This commune is completely located in Kirimiro, the famous region for its wide agricultural variety, and it is surrounded by four communes. it is limited in the north by Gitega commune, in the west by Gishubi commune bounded by Ruvyironza River, in the south by the Commune of Bukirasazi and in the east by the commune of Itaba separated from the latter by the massif named CENE.

Similarly to the other Communes of Gitega, Makebuko is located in the central highlands with the altitudes comprising between 1600 and 2000m. Its topography consists of a multitude of hills with rounded summits and plains caused by erosion. It is noticed here and there fairly pointed rocky peak that descend steeply to the valleys relatively large and often swampy.

The topography also reports a double tilt:

- On one hand, from East to West, as seen from the CENE massif, on the border of the Itaba commune to the river Ruvyironza.
- On the other hand, the slope of the terrain is noticeable, although less marked from south to north that is Bukirasazi towards Maramvya area.

In geological point of view, the highest peaks bear the quartzitic rocks, harder whereas near the valleys, there are softer rocks such as granite balls located especially at Makebuko and on the colline Mwaro - Mavuvu along the NR8.

In terms of climate, annual average temperatures vary between 17.8 ° C and 18.9 ° C with an average of 18.5 ° C. The rainfall average considered at a period of five years indicates 1457 mm / year, which

remains higher than the national average. The rainy season begins from September until mid-May, whereas the dry season lasts three months, from June to August. The 'dry' months record rainfall of less than 50mm/month, while the "rainy" months often exceed 150 mm of rainfall.

As for the vegetation, the research carried out on the commune reports an alarming regression of the natural vegetation cover in favor of some crops and artificial afforestation. However, in some places, we find small tracts of woodland in Maramvya and Makebuko zones. Tree Species are represented by eucalyptus, pine, acacia and the Callitris. In crop fields, there is the omnipresence of the avocado trees and sometimes Grevillea.

As far as hydraulic level is concerned, except Ruvyironza River, other rivers have low flow. They are characterized by flat-bottomed valleys and are usually adapted for the cultivation in the marshes.

A main part of Makebuko commune is clayey or sandy clayey generally shallow and continues to be deteriorated with a decreasing vegetation cover, leaving the soil bare.

(2) Itaba

Itaba is one of the 11 communes of GITEGA province wide of 222km located between 2 traditional regions KIRIMIRO at western side and BUYOGOMA at east side. ITABA is delimited at its western side and south by Gitega, Makebuko and Bukirasazi communes, Butaganzwa (Ruyigi Province) at north and Musongati (Rutana Province) at south-east side.

The commune belongs to central plateau and is located in tropical climate with annual average temperature close to 19.5°C, 1000 to 1200mm precipitation. Because of anthropogenic action natural humus almost disappeared like in any other parts of the country. The hills and mountainous massif grow bare (naked) or covered by artificial vegetation like Eucalyptus, Acacia, Callitris and Pinus etc...

A dense hydrographic network crosses the commune contrary to other Nile basin rivers with huge valley these ones are narrow in V shape and less water. Only Nyakijanda marsh can be managed for agricultural use (rice or other crops). At edaphic level the western side corresponding to Kirimiro contains clayey soil or sand-clayey sometimes with lateritic soil strongly damaged, eastern part contains less fertile in need of improvement to reach interesting agricultural output.

(3) Bukirasazi

Bukirasazi commune is bounded in the North by Makebuko and Gishubi communes of Gitega province, in the South by the Buraza and Musongati communes respectively of Gitega and Rutana province, in the East by Itaba commune and in the West by Gishubi commune. The total area of Bukirasazi commune is 87,78 km². This is the least extended commune of all the communes of Gitega provinces. It is entirely located in the natural region of Kirimiro. Bukirasazi commune is a continuation of the eastern slope of Congo Nile Divide. Its altitude is higher in the southern part and varies between 1800 and 2000 meters. Some affluent rivers cross the Southern commune from the North.

The climate is tropical and temperate due to the altitude. In normal conditions, the dry season is 3-4 months from June to September. Generally speaking, the climate is mild with regular heavy rains. The annual average temperature is 19.7°C (average maxima: 25.5°C, average minima: 13.8°C). Generally, the temperatures do not significantly change throughout the year. On the contrary, the diurnal range of temperature remains always high.

The population pressure leads to progressive disappearance (loss) of the natural vegetation cover on the entire commune resulting in the breaking of red soils with poor productivity. Water is a resource that could be exploited so as to produce more provided it is sustainably managed by investing in the protection of watershed and in the management of marshes (swamps).

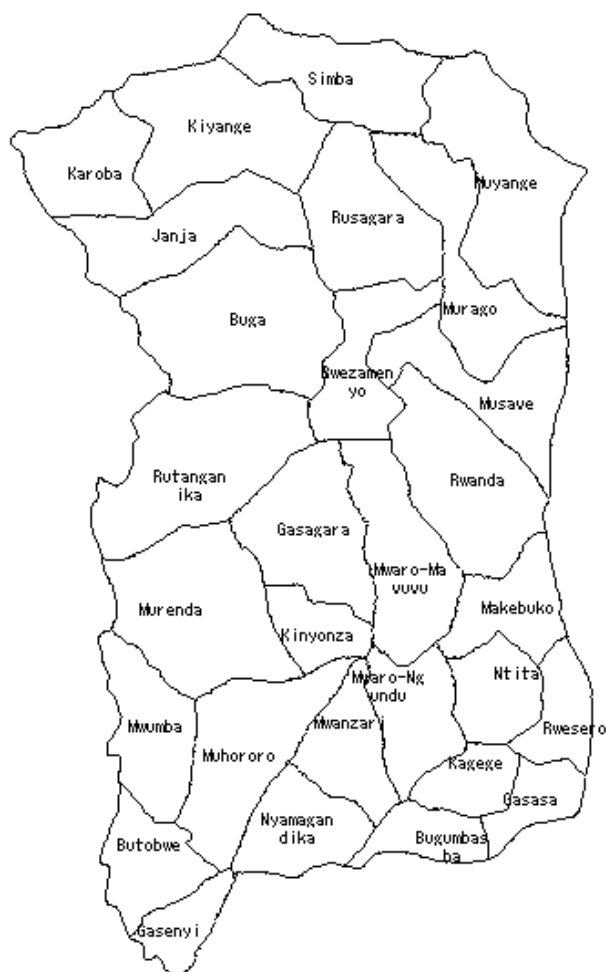
3.1.4 Inhibitory Factors and Development Challenges of the Agricultural Sector

In all three communes i.e. Bukirasazi, Itaba and Makebuko, the diagnostics of the agriculture sectors results following key challenges;

- ✧ The use of rudimentary tillage tools such as machetes, spades, etc are practiced for farming purpose.
- ✧ A family labor force dominated by females
- ✧ Degraded soils due to land overexploitation and the sloping topography that causes erosion;
- ✧ A poor agricultural production due to the lack or insufficiency of farm inputs;
- ✧ An agricultural supervision with poor performance due to the fact that some supervisors do not have transportation means;
- ✧ The disorderly exploitation and the lack of maintenance of hydraulic engineering structures limiting the productivity of soil;
- ✧ Climate conditions which are difficult to master or control.
- ✧ The size of land under cultivation is decreasing continually because of population growth.
- ✧ Taking into account the aspect of less fertile soil the need for fertilizer for the commune is great.
- ✧ Selected seeds are not available and people have to use the traditional way to keep apart seeds for the next season or buy them at local market
- ✧ The population faces shortage of organic manure because of dramatic decreasing of livestock.

3.2 Colline Profiling in Makebuko Commune

Administrations in Makebuko commune is shown below.



Zone	Colline
Makebuko	Makebuko
	Rwesero
	Ntita
	Kagege
	Mwaro-Ngundu
	Gasasa
	Bugumbasha
	Mwaro-Mavuvu
Maramvya	Rwanda
	Murago
	Karoba
	Muryange
	Musave
	Rwezamenyo
	Rusagara
	Janja
	Simba
	Kiyange
Buga	
Murenda	Mwamba
	Gasagara
	Gasenyi
	Nyamagandika
	Murenda
	Kinyonza
	Muhororo
	Rutanganika
	Mwanzari
	Butobwe

3.2.1 Population

(1) Population and Household

The population of Makebuko was 72,771 and increased by 27.8% from that in 2008 (56,923) described in PCDC. The household of Makebuko was 14,225 and increased by 11.0% from that in 2008 (12,812), at least 5 persons per household. Fewer households and households engaged in agriculture in Kagege with 584 inhabitants and 145 household. The Colline which has more people, more households engaged in agriculture is Rutanganika with 4,708 inhabitants and 819 household. Karoba Colline is the colline that has largest number of agro-pastoral household.

By analyzing the population of this commune, there is up to 69.8% of people who are engaged in agriculture while the rest are engaged in agro-pastoral.

(2) Community Members Who Need Special Attention

Makebuko commune counts a significant number of vulnerable people including: IDPs, ex-IDPs, demobilized former child soldiers, widows, orphans, persons living with disabilities (PWD), people living with HIV/AIDS and others. The most affected colline is Mwaro-Ngundu with the degree of vulnerability of 49.7%, which has Mwaro-Ngundu IDP Camp with 1980 displaced persons. Besides those two categories of vulnerables, we must mention widows, and orphans whose highest figures were found in Gasenyi (300), in Rwanda (375), to Murago (371) respectively.

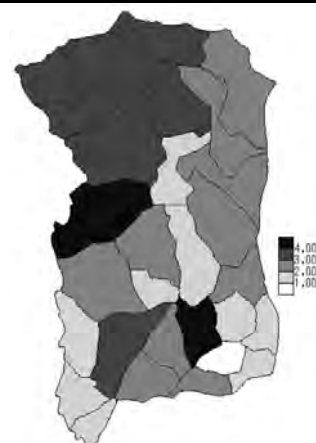
3.2.2 Livelihood and Living Condition

(1) Main Income Source

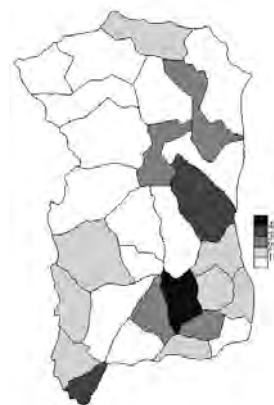
Number of People who engage in non-agricultural sector is 12.9% in Makebuko. The pottery is practiced on the colline of Murago (56 persons), manufacture of bricks is the first on Janja colline and holds 883 people, waving comes first on Mwaro-Mavuvu with 688 people, carpentry at Simba (61 people) and food processing is the first at Makebuko with 443.

(2) Quality of Water

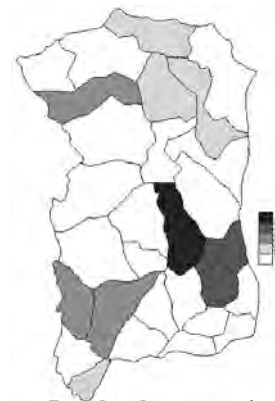
In Makebuko Commune, Number of household without supply of drinking water is 2,739, which has been decreased by 44.8% than those in 2008 described in PCDC (4,960). The maximum number of water sources managed operational amounted at Makebuko while the number of households provided with drinking water amounted at Rutanganika (812). But it is Nyamagandika that records the high percentage of water sources managed operational. For sources of water managed non-operational, the large number was found to Mwanzari (4) and the number of households without potable water has been reported at Makebuko (213) and the high rate of water sources managed non-operational (48.1).



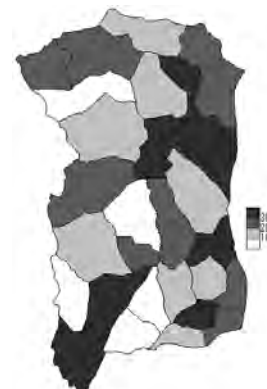
Population (No)



Community Members Who Need Special Attention (%)



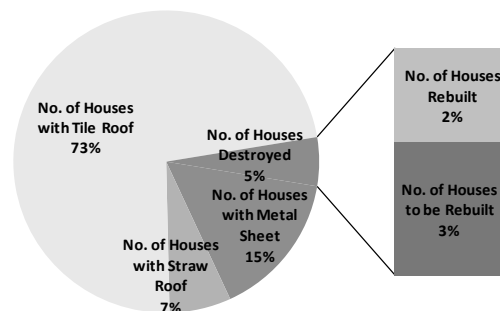
People who engage in non-agricultural sector (%)



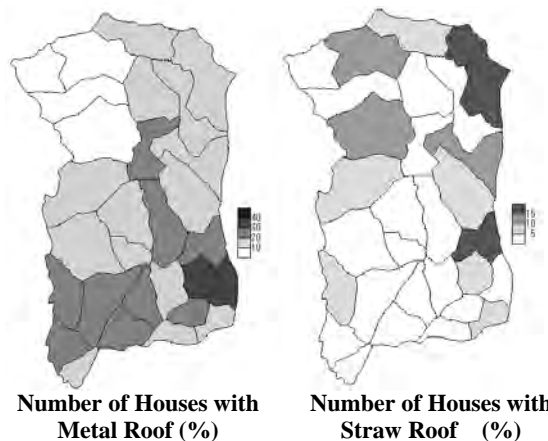
HH without supply of drinking water through water network

(3) House Condition

At Makebuko commune, we meet all kinds of houses, that is to say houses with iron roof, in straws, and tiled houses in various states such as houses destroyed. The number of houses with iron sheets amount at Rutanganika (132) and the percentage of houses with iron sheet amounted at Rwesero to (37.8). We registered more houses in straws on the colline Muyange (175) and the highest rate (23.5) of these were found on the same colline. The houses with tiles are dominant at Rutanganika (907) and the highest percentage occurs in Janja (97.7). The above gives an idea about the standard of living of the population. The houses which are destroyed in large numbers are identified in Gasagara (157) as well as the high rate of registered (23.5). The destruction of houses shows the impact of socio-political crisis in Makebuko Commune. Metal roof is strongest. On the other hand, straw roof is weakest against rain.



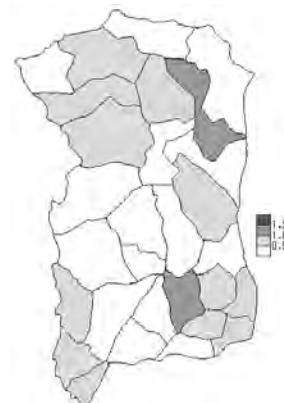
House Condition in Makebuko Commune



3.2.3 Infrastructure

(1) Primary School

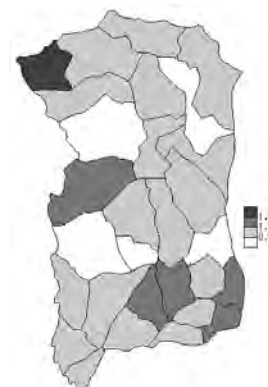
In Makebuko commune, there are 20 primary schools. The number of pupils per class is very high at Simba primary school with 153.1 which was increased by 39.2% from that described in PCDC in 2008 (110) due to increase of pupils and no extension of classrooms. The number of pupils per class was the lowest at MWARO-MAVUVU primary school with 59.4, which was decreased by 28.4% from that described in PCDC in 2008 (83) due to extension of classrooms under PCDC. The number of students per teacher is maximal at Mwumba primary school with 76.1, however, which was improved from in 2008 (123), and minimal at Mumuri primary school with 34.1, which was also improved from in 2008 (63).



Access to Primary School (hour)

(2) Secondary School

The distance is great to leave Gweso where students have to travel 1 hour of time to arrive at Technical High School, it is the same for Mwaro-Ngundu and Gasasa Co.Co to arrive at St. Alphonsus. The students Murenda Co.Co put little time to get to their school. The number of students per class is very high at Buhunja Co.Co with 89.8 and the lowest at Saint Alphonsus Co.Co with 49.6. The number of students per teacher is maximal at Mumuri Co. Co with 34.4 and minimal at Lycee Technique MAKEBUKO with 21.6.



Access to Secondary School (hour)

(3) Health Center

In Makebuko commune, there are facilities but these are insufficient in quantity and are unevenly distributed because some people are forced to travel long distances as those of Karoba to reach the Bungere Health Center who put 1.25 hours while those of Makebuko Colline need only 0,125 hours to reach the Makebuko Health Center.

The capacity of these facilities and staff are not the same. At Kibuye hospital, we saw a lot of beds (104) and a high number of staff (42) while the reduced number of beds and staff is recorded at Maramvya and Bungere with 8 beds and 7 people for staff each. For the reference, only 7.43 beds are available for 10,000 people and patient-health staff ratio per 10,000 people is as little as 7.58.

(4) Market

The distance and the time taken to reach the market are important for people who leave at Muyange to get to Mumuri market and are forced to walk 1.75 hours in contrast to those of Mwaro-Ngundu to get to Runyinya (0.25 hours). Taxes imposed in these markets are not equal. The maximum is seen at Gihamagara market (BIF 19,440,000 / year) and the minimum at Runyinya market (BIF 759 750/year).

3.2.4 Agriculture

Maize, cassava and banana are major crops. Also, sweet potato and beans are major crops produced in Makebuko commune, and sweet potato is processed into beignet with flour and sugar individually, especially in Makebuko colline.

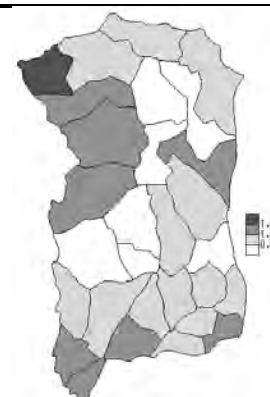
(1) Environment Protection

On agroforestry, there are in the commune contour with fixing herbs, planting of forage grasses, public and private woodlands but in different proportions. The length of the contour and fixing herbs is great at Muhororo (19.856 km) and is small in Janja (0.3 km). The area planted with forage grasses is extensive to Rutanganika (18 ha) and is reduced to Kinyonza (0.5ha). Private woodlots are found everywhere but are important to Ntita (27 ha) and less important to Kinyonza (2.5 ha), while the collinary woodlands occupy large areas in Nyamandika (28 ha)-contrary to Mwaro-Mavuvu where there is no communal afforestation. The number of public afforestation amounted to Musave (10) while we register no public afforestation at Ntita, Kagege, Mwaro-Mavuvu and Kinyonza. Maldistribution can cause erosion. To overcome this, good land management is essential to cut short with the pace of erosion in the region.

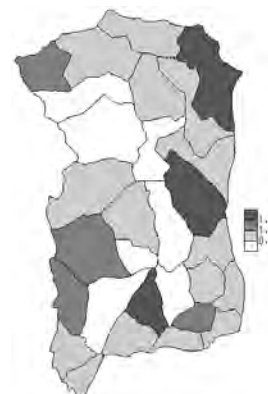
(2) Agricultural Input

The amount of chemical fertilizers distributed by the DPAE in 2011 is great for the season A and C at Mwumba at a rate of 128 bags and 54 respectively, for the season B it is great at Muhororo with 164 sacks. While the need for chemical fertilizers is important, the use of organic fertilizer has a place of choice. All over the commune, using organic manure as fertilizer mineral is inadequate, because several collines were not served livestock while the population is in need. To fight against certain diseases and plant pests, pesticide use is unavoidable. Distribution differs between collines and the ceiling is registered at Rusagara (20.5 L) and the minimum at Kagege (4L).

(3) Livestock



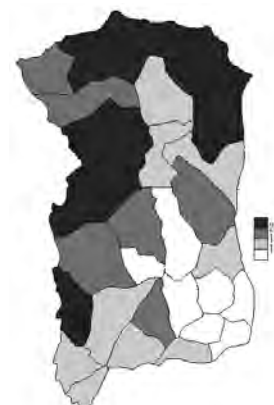
Access to Health Center (hour)



Access to Market (hour)



Distribution of Chemical Fertilizer from DPAE (kg/HH)

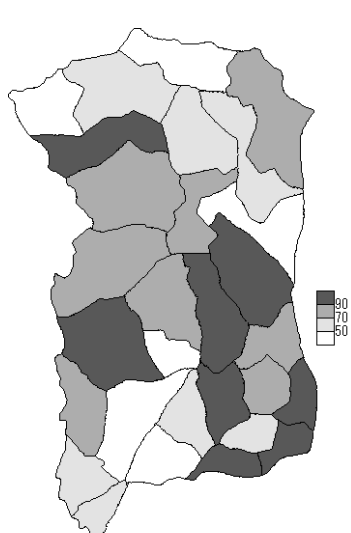


No of Cattle

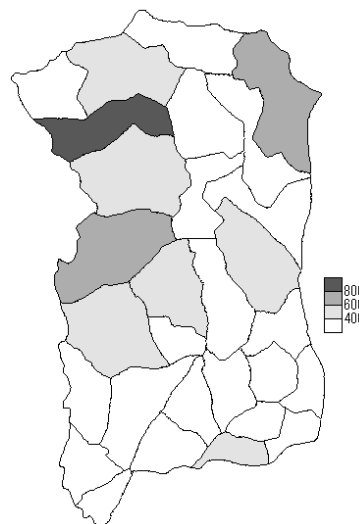
Makebukko commune being agricultural and agropastoral, there are several types of farm animals including: cattle, pigs, sheep, goats, chickens, rabbits, guinea pigs and bees. They can generate money by selling them, contribute to improving food security and can also produce manure. Note that the distribution is not fair on all the collines. The collines that come to the list top are for cattle (with Buga 1295), pigs (Simba 1008), sheep (Rutanganika with 219), goats, chickens (with Gasagara 3206 and 3270 respectively), rabbits (with Janja 950), guinea pigs (with Musave 1371), bees (Murago with 332 hives). Those who own fewer animals are Ntita for cattle (27), Mwaro-Ngundu for pigs (38), Butobwe for Sheep (24), Kinyonza for goats and chickens (206 and 102 respectively), for Gasenyi rabbits (22).

(4) Type of Farmers

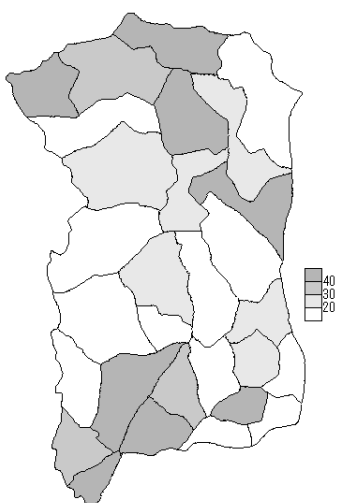
In this part of the commune where arable land is reduced, farmers are classified according to land ownership. Some have marshes and colline lands; others land without marshes but with collines on which they grow those with only marshes and finally those without land. Populations with marshes and land on colline at the same time are many on Janja colline (866) and fewer on Kagege colline (85) but the percentage is Bugumbasha (100%) and the lowest in Karoba (31.8%). There are no people with marshes only. Those with lands only on collines are concentrated in Karoba (420) as they do not exist and Bugumbasha Murenda. Landless people are few, but the high number and percentage are located at Rutanganika (24 and 2.3% respectively).



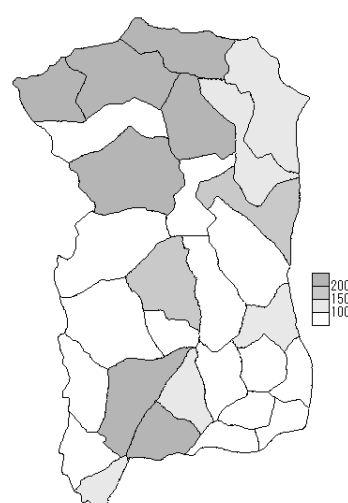
HH with marsh and hill land(%)



HH with marsh and hill land (No)



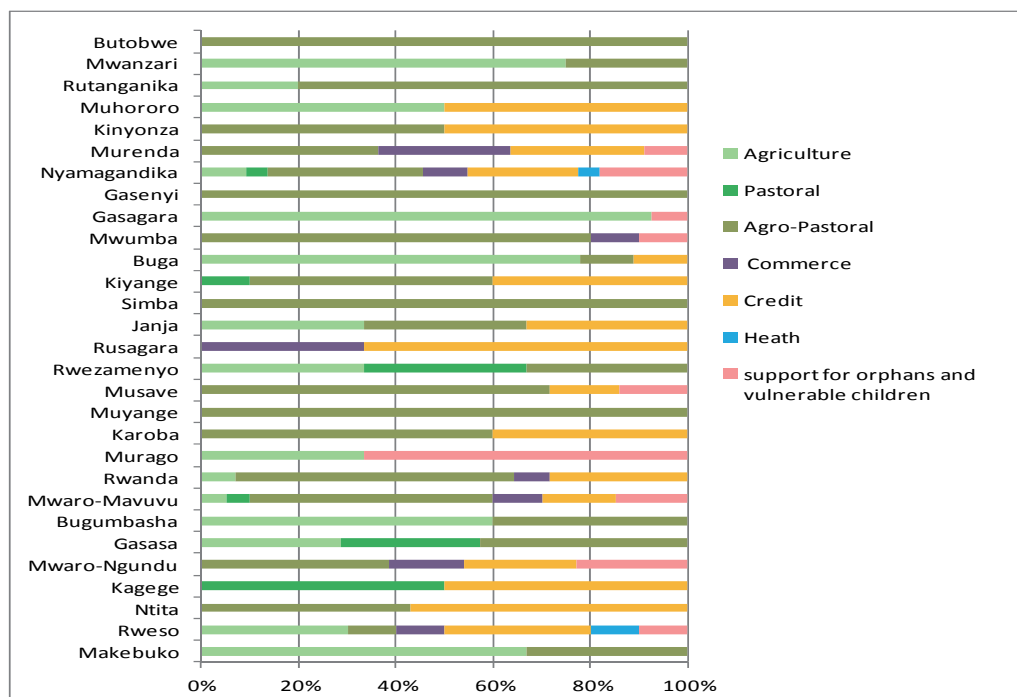
HH with hill land only(%)



HH with hill land only(No)

3.2.5 Association

There are 20 associations in Mwumba colline alone. This is followed by Gasagara, Mwaro-Mavuvu and Rwanda with total of 13, 12, 12 associations each. In most of collines, main activity was agriculture, pastoral, agro-pastoral and credit. In Murago, support for orphans and vulnerable children occupy much portions of association's activity.



3.2.6 Dispute

According to the communal court of justice, the main causes of dispute in Makebuko Commune in 2011 are land conflict and drunkenness. In Rusagara colline, 54 cases of drunkenness as one of the main causes of dispute are gathered and 52 are solved so far. About land conflict, many cases are registered in Mwumba colline, 50 cases are registered and 48 are solved. Few cases of land conflict are noticed in Kagege colline, 4 cases are registered and 3 of them are already solved. The lowest rate of dispute management is noticed in Mwaro-Mavuvu colline, it is 33.3% The highest rate is 100% and it is found in Rutanganika, Gasasa and Musave collines.

3.2.7 Promoting Factors and Challenges of Community Development

In Makebuko communes, the diagnostics of the colline profiling results in following key promoting factors of community development;

- ✧ As a result of high population density and less land for cultivating, means of livelihood other than agriculture and livestock was developed in some collines through only gradually, which contributed to labor absorption as follows; brick producing in Janja, waving in Mwaro-Mavuvu, carpentry in Simba, food processing in Makebuko.
- ✧ It takes less than 30 minutes in average to go to primary school, which contributed to improvement of access to education.
- ✧ Number of house with straw roof which is weakest against rain decreased by 6% from that in 2008 described in PCDC (13%).
- ✧ More than 50% of collines have associations which have access to credit which is informal but under mutual surveillance among members of association, it contributed to self-active

economical development of those associations through cooperative purchase of agricultural inputs and necessary material for small business.

On the other hand, challenges of community development were extracted as follows;

- ✧ As a result of high population density and less land for cultivating, there is a high demand for means of livelihood other than agriculture and livestock, especially in Mwaro-Ngundu colline with high population density.
- ✧ In primary school and secondary school, number of pupils/ students per teacher is high with 46.8 in average for primary school, 29.0 in average for secondary school. Also, number of pupils/ students per classroom is high with 84.3 in average for primary school, 58.1 in average for secondary school.
- ✧ There is no big market in Makebuko commune, most of people go to Gihamagara market, and it takes long time to go to market for people in some colline.
- ✧ Agricultural inputs (chemical fertilizer, pesticide, selected seed, etc) were provided over all collines through DPAE and developing partners, but still agricultural inputs are in shortage. However, considering overcultivation of arable land and necessity of urgent protection against soil degradation due to high population density, breakaway from input-dependent farming also should be considered.
- ✧ Land conflict is major and so complicated dispute in Makebuko commune, it requires high level of consideration for developing actors to acquire land necessary for community development.

3.2.8 Social Problems in Conflict Affected Commune

Makebuko commune has significant number of social vulnerable people, most of them are IDPs (26.2%, 2623), widows (26.6%, 2661) and orphans (24.2%, 2423 pop). And 75.4% of IDPs live in IDP camp in Mwaro-Ngundu colline. It caused high population pressure in IDP camp, as a result housing condition is worth in camp. Main hindering factor of returning to original village for people living in Mwaro-Ngundu camp was fear of destruction of houses by someone during reconstruction in original communities, and main promoting factor of returning is building peace villages where displaced people and those who live in collines can live together, and construct infrastructures around peace villages including electricities and strengthening social and economical structures there.

3.3 Colline Profiling in Itaba Commune

Administrations in Itaba commune is shown below.

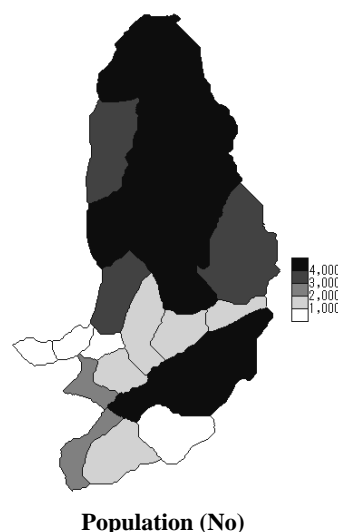


Zone	Colline
Buhevyi	Kagoma
	Kanyonga
	Rukobe I
	Rukobe II
Gihamagara	Buhinda
	Gihamagara
	Kibogoye
	Kirambi
	Kugitega
	Mugomera
	Ruhanza
Itaba	Buhanga
	Butare
	Gisikara
	Itaba
	Kanyinya
	Karemba
	Macu
	Mutanga
	Nkima

3.3.1 Population

(1) Population and Household

The population of Itaba was 69,575 and increased by 19.5% from that in 2008 (58,242) described in PCDC. The household of Itaba was 13,140 and increased by 57.9% from that in 2008 (8,320), at least 5 persons per household. Fewer households and households engaged in agriculture in Nkima with 153 household and 83 farmhold. The Colline which has more people, more households engaged in agriculture is Rukobe II with 5,200 farmers and 1,200



Population (No)

farmhold, including those in Buhoro IDP Camp. Ruhanza Colline is the colline that has largest agro-pastoral household.

By analyzing the household of this commune, there are around 62.0% of households engaged in agriculture while the rest are engaged in agro-pastoral.

(2) Community Members Who Need Special Attention

Itaba commune counts a significant number of vulnerable people including: IDPs, ex-IDPs, demobilized former child soldiers, widows, orphans, PWD, people living with HIV/AIDS and others. The most affected colline is Gihamagara with the degree of vulnerability of 56.0%, which has Gihamagara IDP Camp with 1720 displaced persons, 31 demobilized persons and 10 ex-child soldiers. Also, there were 600 displaced persons in Rukobe II colline where Buhoro IDP Camp is located, and 369 displaced persons lived in Gisikara colline which has Gisikara IDP Camp. About Widows and orphans, whose highest figures were found in Ruhanza, 500 and 1,300 respectively.

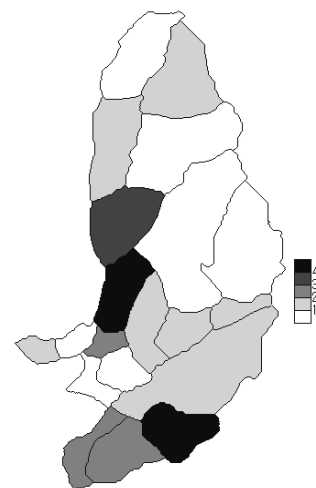
3.3.2 Livelihood and Living Condition

(1) Main Income Sources

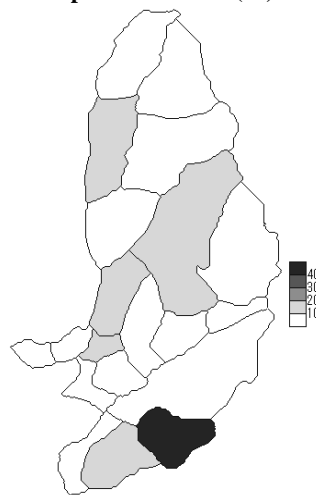
Number of People who engage in non-agricultural sector is 6.4% in Itaba. The pottery is practiced on the colline of Kibogoye (50 persons) and Rukobe II (32 persons) where Batwa people communities are located. Manufacturing of bricks and trading are the first on Kibogoye colline with 415 persons and 80 persons respectively. Waving comes first on Macu with 200 people, repairing and maintaing home equipment, bicycle taxi and exploitation of house construction material are the first on Gihamagara colline with 50, 16 and 70 persons respectively. Food processing is the first at Mutanga colline with 160.

(2) Quality of Water

In Itaba Commune, number of household without supply of drinking water was 4,023, which has been decreased by 8.3% than those in 2008 described in PCDC (4,385). The maximum number of water sources managed operational and the number of households provided with drinking water amounted at Kibogoye with 48 and 1,300 household respectively. For sources of water managed non-operational, the large number was found at Gisikara (8) with 743 household without supply of drinking water through water network equivalents to 64.6% of all. Also, the largest number of households without potable water has been reported at Kanyonga with 1,007 household equivalents to 64.3%.



Community members who need special attention (%)



People who are engaged in non-agricultural sector (%)

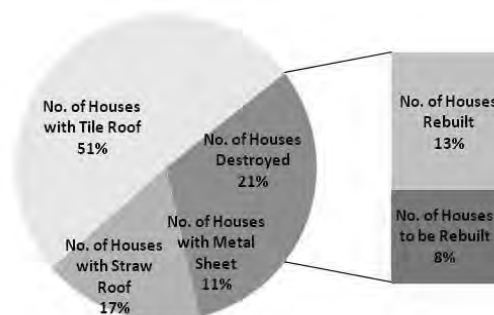


Household supplied without drinking water through water network (%)

(3) House Condition

The number of houses with metal sheets amount at Kibogoye (284) and the percentage of houses with metal sheet amounted at Gihamagara (29.5). Metal sheet is most expensive material for roof, however, most of metal sheets in Kibogoye and Gihamagara became old. Number of houses with straw roof and ratio were largest in Gisikara colline with 756, 62.7% respectively. Straw roof is most vulnerable for rain and wind, therefore, those houses are in need for replacement of roof. The houses with tiles roof are dominant at Kanyonga (987) and the highest percentage occurs in Mutanga (84.0). The houses which are

destroyed in large numbers are identified in Rukobe II (1,500) as well as the high rate of registered (60.9), however 1000 houses were already rebuilt. Metal roof is strongest. On the other hand, straw roof is weakest against rain.



House Condition in Itaba Commune



Number of Houses with Metal Roof (%)



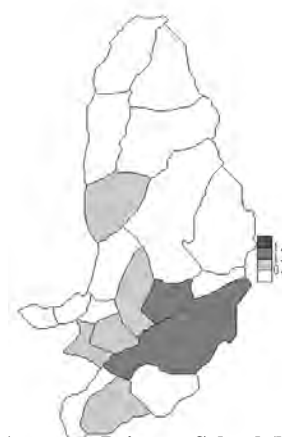
Number of Houses with Straw Roof (%)

3.3.3 Infrastructure

(1) Primary School

4 primary school were newly constructed under PCDC, and total 19 primary schools were for all 20 collines in Itaba commune. Therefore each colline has at least one primary school, and access to primary school is within 30 minutes from the center in most of the colline. The number of pupils per class is very high at Gihamagara primary school with 106.9 and the lowest at Butare primary school with 35.5. The number of students per teacher is maximal at Kagoma primary

school with 82.1 and minimal at Butare primary school with 35.5.



Access to Primary School (hour)

(2) Secondary School

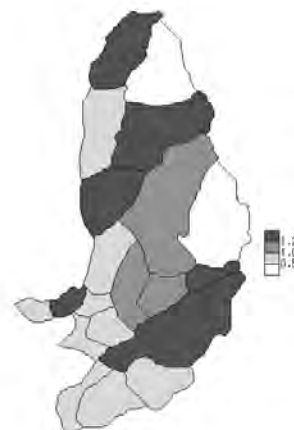
Number of secondary school in Itaba is 5, Gihamagara Communal High School, Buhoro, Buhinda, Kremba and Gisikara Communal College. Buhinda and Karemba communal college were constructed after PCDC. The number of students per class was very high at Gisikara communal college with 84.0 and the lowest at Buhoro communal college with 42.2 where additional classrooms were constructed under PCDC. The number of students per teacher is maximal at Buhinda communal college with 54.8 and minimal at Gihamagara Communal High School with 36.6.



Access to Secondary School (hour)

(3) Health Center

Number of Health Center in Itaba is 3, two health centers by government (CDS Gisikara, CDS Buhinda), one health center by ODAG (CDS Buhoro). People in Gihamagara colline go to CDS Makebukuro, and those in Buhanga and Mutanga colline which are located in boundary between Itaba and Bukirasazi commune go to Kibuye hospital. Kibuye Hospital has a lot of beds (104) and a high number of staff (42) followed by CDS Buhinda with 10 beds and 17 staff.



Access to Health Center (hour)

(4) Market

The distance and the time taken to reach the market are important for people who live at Buhinda to get to Gihamagara market and are forced to walk 1.75 hours. For the taxes imposed in the markets, the maximum is seen at Gihamagara market (19,440,000 FBU/ year) and the minimum at Buhoro market (4,860,000 FBU/year).



Access to Market (hour)

3.3.4 Agriculture

Cassava, banana and maize are three major crops produced in Itaba commune, and cassava and maize are processed into flour and banana is processed into banana wine.

(1) Environment Protection

The length of the contour and fixing herbs is largest at Ruhanza (22.8 km) and is small in Kanyonga (2.0 km). The area planted with forage grasses is extensive to Macu (19 ha). Private woodlots are found everywhere but are many at Gihamagara (25 ha) and there was no private afforestation in

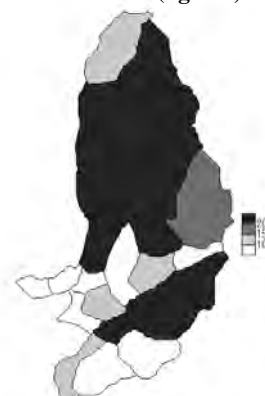


Distribution of Chemical Fertilizer from DPAA (kg/HH)

Macu, Public afforestation area is biggest in Kibogoye (19.9 ha), and there was no afforestation in Mugomera.

(2) Agricultural Input

The amount of chemical fertilizers distributed by the DPAA in 2011 is great for the season A at Buhinda with 65 sacks, for the season B it is great at Kibogoye with 150 sacks. DPAA distributed fertilizers and sell at reasonable price to people through commune and DPAA consider distributed amount by other actors such as donors, local NGO, etc. Therefore, possibly, colline with low distributed amount from DPAA got assistance from other organization in fertilizer. Distribution of pesticides is biggest at Mugomera (25 L).



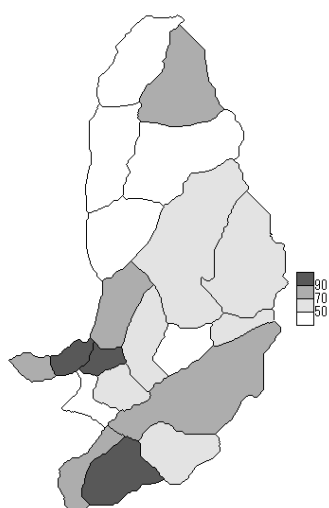
No of Cattle

(3) Livestock

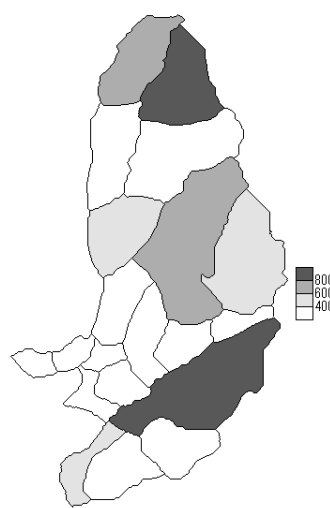
Itaba commune being agricultural and agropastoral, there are several types of farm animals including: cattle, pigs, sheep, goats, chickens, rabbits, guinea pigs and bees. They can generate money by selling them, contribute to improving food security and can also produce manure. Note that the distribution is not fair on all the collines. The collines that come to the list top are for cattle (Rukobe II with 535), pigs (Kibogoye 396), sheep (Rukobe II with 1,982), goats (Kibogoye 3,821), chickens and rabbits (Mutanga with 13,003 and 780 respectively), bee hives (Rukobe II with 508 hives). Those who own fewer animals are Kugitega for cattle (29), Nkima for pigs (22) and sheep (12) and chickens (256), Kanyinya for goats (247).

(4) Type of Farmers

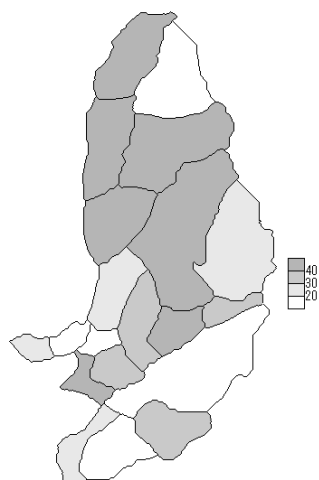
In this part of the commune where arable land is reduced, farmers are classified according to land ownership. Some have marshes and colline lands; others land without marshes but with collines on which they grow those with only marshes and finally those without land. Populations with marshes and land on colline at the same time are many on Rukobe II colline (1,200) and fewer on Mugomera colline (111) but the percentage is largest at Mutanga (99.4%) and the lowest in Rukobe I (31.6%). There are no people with marshes only. Those with lands only on collines are concentrated in Kanyonga (788) and very few at Mutanga (2). Landless people are few, but the high number and percentage are located at Kanyonga and Butare (86 and 5.5%, 34 and 10.5% respectively).



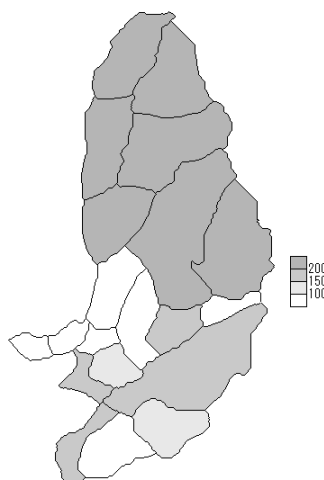
HH with marsh and hill land(%)



HH with marsh and hill land (No)



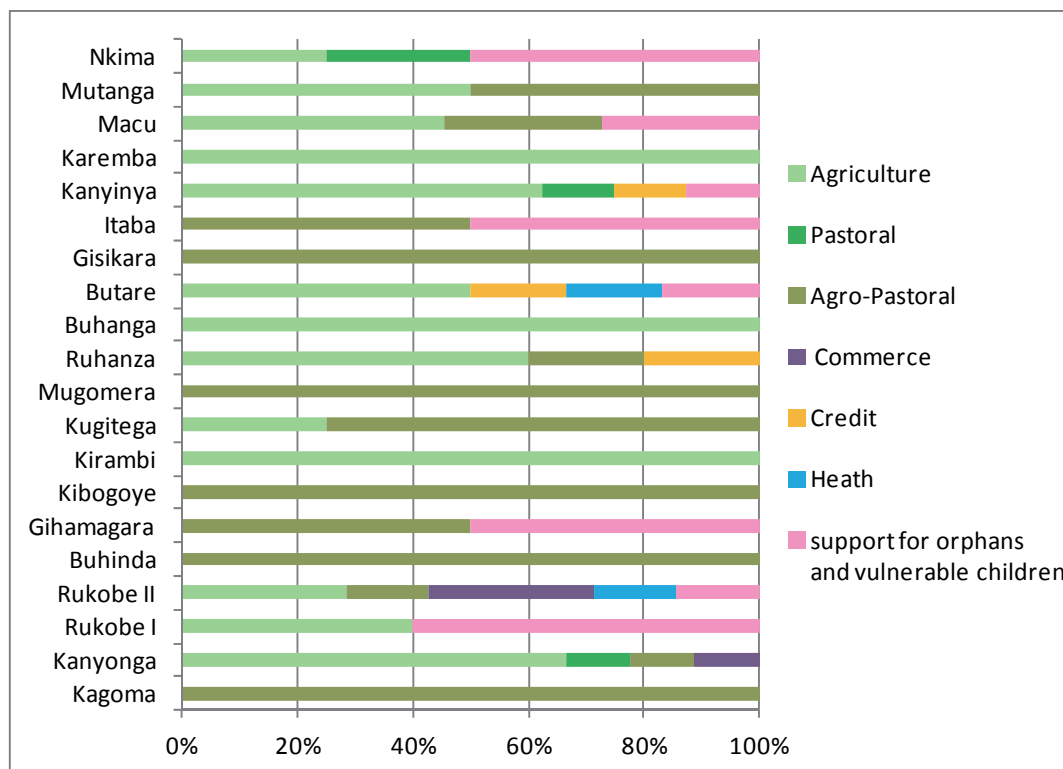
HH with hill land only (%)



HH with hill land only (No)

3.3.5 Association

There are 11 associations in Macu colline alone. This is followed by Gasagara, Mwaro-Mavuvu and Rwanda with total of 13, 12, 12 associations each. In most of collines, main activity was agriculture, pastoral, agro-pastoral and credit. In Rukobe I, Gihamagara, Itaba and Nkima colline, support for orphans and vulnerable children occupy much portions of association's activity.



3.3.6 Dispute

The main causes of dispute in Itaba Commune in 2011 were land conflict, robbery, alcoholic intoxication. In Kagoma colline, 55 cases of land conflict and 45 are solved so far. About land conflict, many cases are registered in Mwumba colline, 50 cases are registered and 48 are solved. In Rukobe I; 15 out of 50 cases are solved, that is why the rate of success in resolution of the land conflict was lowest. In Kanyonga, Mugomera, Buhanga, Gisikara, Macu, Nkima collines, the rate of success in resolution was 100% and it is good sign of conflict resolution. In Rukobe I, Ruhanza, Buhanga, Itaba, Kanyinya, land conflicts were resolved through communal court, and in other collines resolved through Bashingantahe, which means resolution of cases were comparatively difficult in former collines.

3.3.7 Promoting Factors and Challenges of Community Development

In Itaba communes, the diagnostics of the colline profiling results in following key promoting factors of community development;

- ✧ Not a few collines in Itaba commune are hilly, and these collines were selected as target area for establishment of solidarity chain of cattle supported by PARSE because criteria on selection of target colline for PARSE project are "hilly". Therefore, comparatively, the number of cattle is large in these collines.
- ✧ Itaba commune has big market in Gihamagara colline, which contributed to economical development in commune.

- ✧ Number of house with straw roof which is weakest against rain decreased by 20% from that in 2008 described in PCDC (37%).

On the other hand, challenges of community development were extracted as follows;

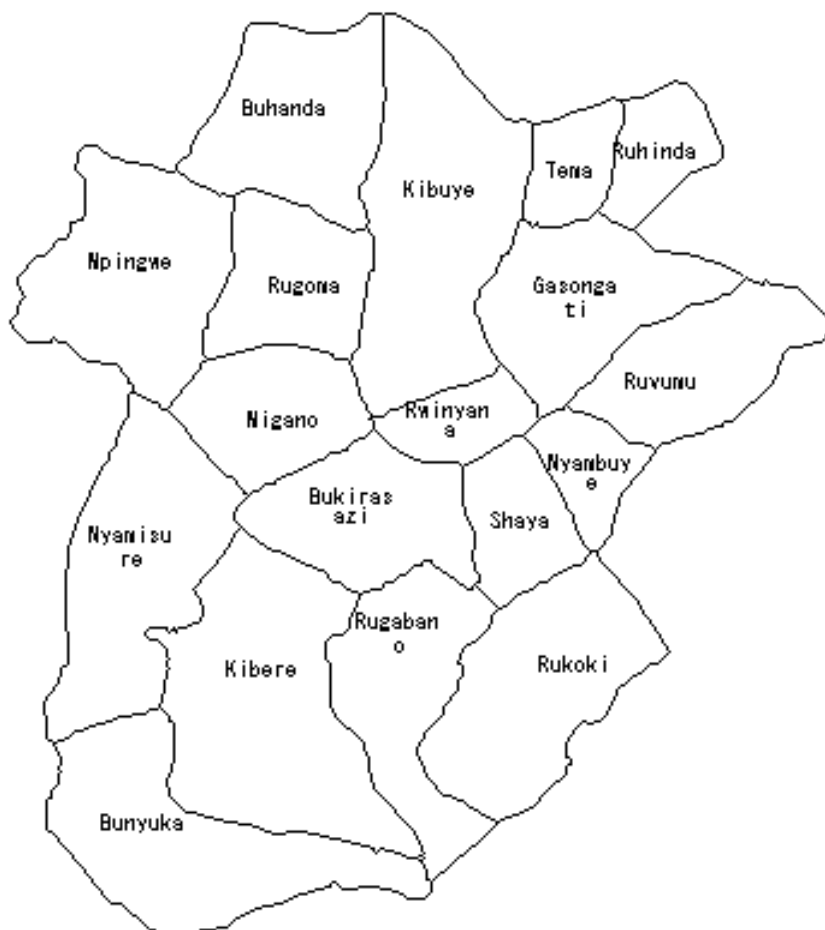
- ✧ As a result of high population density and less land for cultivating, there is a high demand for means of livelihood other than agriculture and livestock, especially in Kanyonga, Ruhanza Gihamagara colline with high population density. However, move toward establishment of manufacturing industry is slow and most of people have no means of livelihood other than agriculture and livestock.
- ✧ Not a few collines in Itaba commune are hilly, therefore access to infrastructure is comparatively bad in these collines.
- ✧ In primary school and secondary school, number of pupils/ students per teacher is high with 56.7 in average for primary school, 63.8 in average for secondary school. Also, number of pupils/ students per classroom is high with 74.9 in average for primary school, 60.2 in average for secondary school.
- ✧ Agricultural inputs (chemical fertilizer, pesticide, selected seed, etc) were provided over all collines through DPAE and developing partners, but still agricultural inputs are in shortage. However, considering overcultivation of arable land and necessity of urgent protection against soil degradation due to high population density, breakaway from input-dependent farming also should be considered.
- ✧ Land conflict and robbery is major and so complicated dispute in Itaba commune, it requires high level of consideration for developing actors to acquire land necessary for community development, also require high level of protection for materials used for community development projects.

3.3.8 Social Problems in Conflict Affected Commune

There are 2821 IDPs in Itaba communes, and it occupied 25.5% of social vulnerable people in Itaba commune. And, Itaba commune has three IDP camps, and significant number of people live there. 13.1% (369) of IDPs live in Gisikara IDP camp, 21.3% (600) live in Buhoro IDP camp and 61.0% (1720) live in Gihamagara camp. 21.3% (600) of them are IDPs (26.2%, 2623), widows (26.6%, 2661) and orphans (24.2%, 2423 pop). Main hindering factor of returning to original community for people living in Gisikara IDP camp is fear of security in original collines, fear of destruction of houses by someone during reconstruction in original collines in Buhoro IDP camp and Gihamagara IDP camp. Main promoting factor of returning to original community for people living in IDP camp is ensuring securities and strengthening security system such as arresting murders in Gisikara IDP camp, ensuring securities and strengthening social and economical structure in Buhoro IDP camp, and camp become one village in Gihamagara IDP camp.

3.4 Colline Profiling in Bukirasazi Commune

Administrations in Bukirasazi commune is shown below.

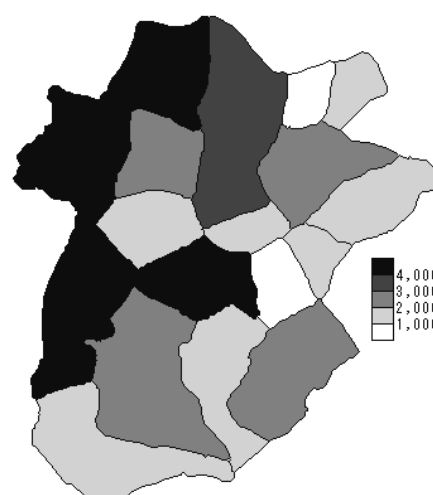


Zone	Colline
Bukirasazi	Bukirasazi
	Migano
	Shaya
	Gasongati
	Ruhinda
	Ruvumu
	Tema
	Kibuye
	Rwinyana
	Buhanda
	Mpingwe
Rugoma	
Kangozi	Bunyuka
	Kibere
	Nyamisure
	Nyambuye
	Rugabano
Rukoki	

3.4.1 Population

(1) Population and Household

The population of Bukirasazi commune was 43,793 and increased by 28.6% from that in 2007 (34,051) described in PCDC. The household of Bukirasazi commune was 7,216 and increased by 2.5% from that in 2007 (7,042), at least 6 persons per household, though average family size in Itaba and Makebuko commune was five (5). Fewer households and households engaged in agriculture in Shaya with 97 household and 58 farmhold. Nyamisure Colline has large population (5,223), and also has many people who engage in agriculture with 3,220 farmers. Also, in Nyamisure, there are many people who engage in agro-pastoral (1,040) and large number of agro-pastoral farmholds (309, 46.5% of total), which shows Nyamisure has comparatively big potential of agricultural production.

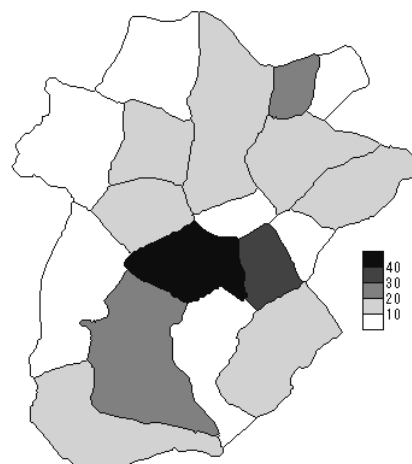


Population (No)

By analyzing the household of this commune, there are around 67.6% of households engaged in agriculture while the rest are engaged in agro-pastoral.

(2) Community Members Who Need Special Attention

Bukirasazi commune counts a significant number of vulnerable people including: IDPs, ex-IDPs, demobilized former child soldiers, widows, orphans, PWD, people living with HIV/AIDS and others. The most affected colline is Bukirasazi with the degree of vulnerability of 65.2%, which has Bukirasazi IDP Camp, with 2,215 displaced persons, 370 widows, 80 orphans and 30 with HIV/AIDS. There were few demobilized persons in Bukirasazi commune, maximum 6 persons in Rukoki colline. Also, there were 285 displaced persons in Kibuye colline where Kibuye IDP Camp is located.

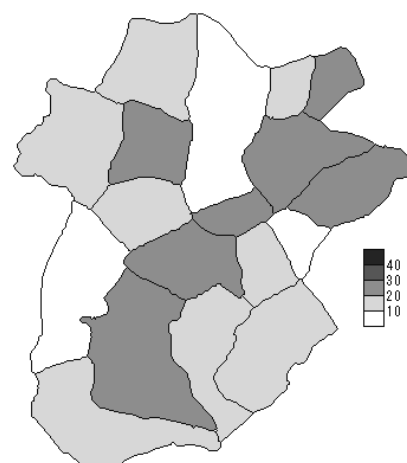


Community members who need special attention (%)

3.4.2 Livelihood and Living Condition

(1) Main Income Resource

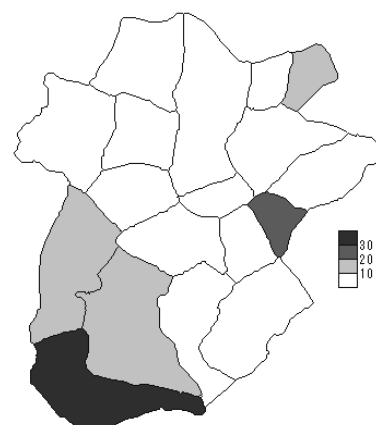
Number of People who engage in non-agricultural sector is 16.5% in Bukirasazi commune. The pottery is practiced on the colline of Buhanda (26 persons) and Kibere (15 persons) where Batwa peoples' communities are located. Manufacturing of bricks are the first on Kibere colline with 490 persons followed by Mpingwe (475), Buhanda (426) and Bukirasazi (400). Mpingwe also has largest number of people who engage in exploitation of house construction material (42), which means exploiting and manufacturing construction material for house is major income resource during dry season in Mpingwe, because people possessing land only in hill cannot cultivate during dry season. Waving comes first on Rukoki with 232 people, bicycle taxi and food processing are the first on Bukirasazi colline with 15 and 610 persons respectively.



People who engage in non-agricultural sector (%)

(2) Quality of Water

In Bukirasazi Commune, number of household without supply of drinking water was 405, which has been decreased by 50.1 % than those in 2008 described in PCDC (824). The maximum number of water sources managed operational were found in Nyamisure (27), and the number of households provided with drinking water were largest in Bukirasazi with 810 household (100% coverage), in contrast, lowest coverage in Bunyuka colline (68.3%) and 88 household were not supplied drinking water through water network. However, 100 % of household were supplied with drinking water through water network in 8 collines out of total (18), and by analyzing the this coverage all over this commune, there are around 94.4% of households supplied with water through water network.

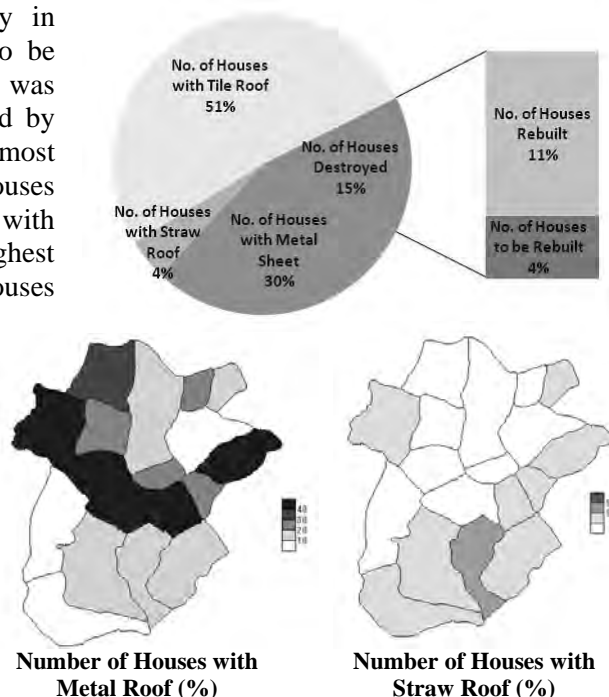


Household supplied without drinking water through water network (%)

(3) House Condition

The number of houses with metal sheets amount at Bukirasazi (625) and the percentage of houses with metal sheet amounted at Mpingwe (83.0). Metal sheet is most expensive material for roof, however,

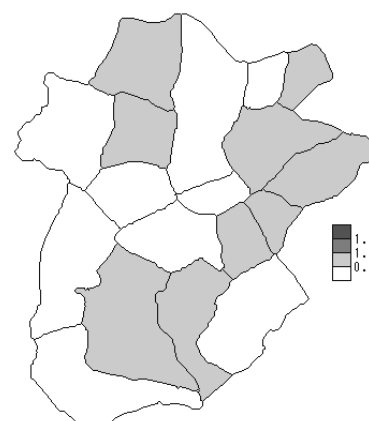
most of metal sheets in Bukirasazi, especially in Bukirasazi IDP camp became old, and needs to be renewed. Number of houses with straw roof was largest in Rukoki (58 with ratio 8.7%), followed by Rugabano (40 with ratio 10.8%). Straw roof is most vulnerable for rain and wind, therefore, those houses are in need for replacement of roof. The houses with tiles roof are dominant at Kibuye (656) and the highest percentage occurs in Nyamisure (84.0). The houses which are destroyed in large numbers were identified in Gasongati (320), however 250 houses were already rebuilt. Metal roof is strongest. On the other hand, straw roof is weakest against rain.



3.4.3 Infrastructure

(1) Primary School

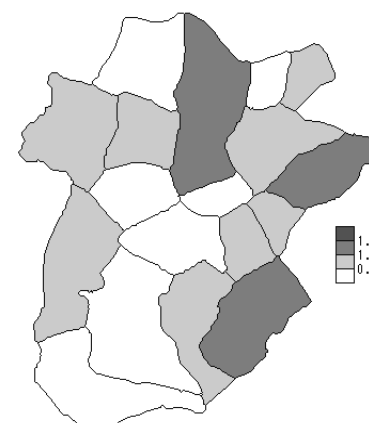
5 primary schools were newly constructed under PCDC, and total 15 primary schools were for all 18 collines in Bukirasazi commune. Therefore, most of collines have at least one primary school, and access to primary school is within 30 minutes from the center in most of the collines. The number of pupils per class was very high at Rugabano primary school with 96.3, which was increased by 21.9% from that described in PCDC in 2008 (79) due to increase of pupils and no extension of classrooms. The number of pupils per class was the lowest at Bunyuka primary school with 35.8, which were constructed under PCDC. The number of pupils per teacher is maximal at Bunyuka primary school with 71.7 and minimal at Buhanda primary school with 41.3, however, ratio pupils / teacher in Buhanda primary school increased by 11.7% from that described in PCDC in 2008 (37) due to increase of pupils and still same number of teachers.



Access to Primary School (hour)

(2) Secondary School

4 secondary schools were newly constructed under PCDC, and total 8 secondary schools were in Bukirasazi commune, among them, Bukirasazi Communal High School, Bukirasazi communal college, Buhanda communal college and Kibere communal college exists before PCDC. The number of students per class was very high at Buhanda communal college with 89.8, which was increased by 19.9% from that described in PCDC in 2008 (75) though 3 additional classrooms were constructed under PCDC. Ratio students / classrooms were the lowest at Bukirasazi communal college with 43.6 where additional classrooms were constructed under PCDC. The number of students per teacher is maximal at Kiziguro communal college, which was constructed

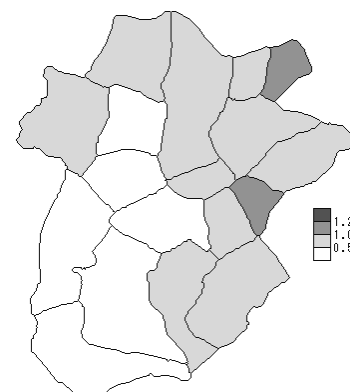


Access to Secondary School (hour)

under PCDC, with 74.0 now under recruiting additional teachers. Bukirasazi communal college has the lowest ratio of students per teacher with 32.7

(3) Health Center

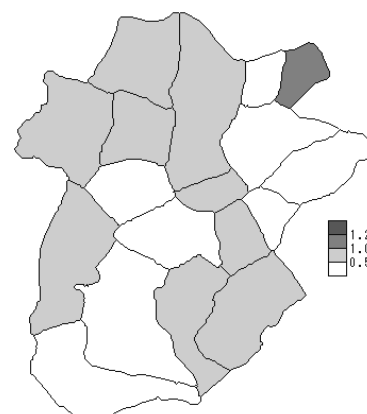
There are Bukirasazi Health center and Kibuye Hospital in Bukirasazi commune. Kibuye Hospital has a lot of beds (104) and a high number of staff (42). Bukirasazi health center has 12 beds and 5 staff.



Access to Health Center (hour)

(4) Market

Bukirasazi commune has 4 markets namely Bukirasazi which is the biggest, Tema, Kiziguro and Gasongati. And, new modern market was constructed in Bukirasazi colline under PCDC, but not yet opened. The distance and the time taken to reach the market are important for people who live at Ruhinda colline to get to Bukirasazi market and are forced to walk 1.0 hours. in contrast to those of Gihamagara. Taxes imposed in these markets are not equal. The maximum is seen at Bukirasazi market (6,032,400 FBU/ year), and the minimum at Gasongati market (1,728,000 FBU/year). However, people living in Ruvumu and Nyambuye, which, went to Kivoga market in Itaba commune, and this market revenue of tax was bigger than that of Bukirasazi market.



Access to Market (hour)

3.4.4 Agriculture

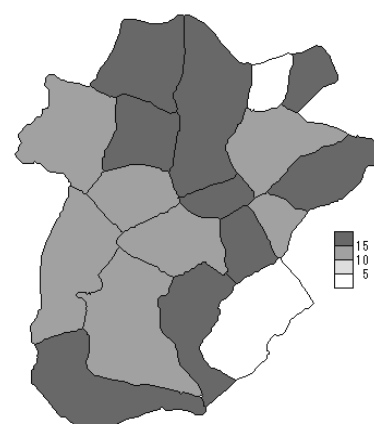
Cassava, banana and maize are three major crops produced in Bukirasazi commune, and cassava and maize are processed into flour and banana is processed into banana wine.

(1) Environment Protection

The length of the contour and fixing herbs is largest at Kibuye (18.0 km) and followed by Bukirasazi (17.8 km) and Ruvumu (17.4 km). There was no counter planting in Ruhinda. The area planted with forage grasses is extensive to Kibuye (20 ha). Private woodlots are found everywhere but are many at Gihamagara (25 ha) and there was no private afforestation in Macu, Public afforestation area is biggest in Nyamisure and Rukoki (25 ha), and in Nyamisure, public afforestation area is also biggest (18ha).

(2) Agricultural Input

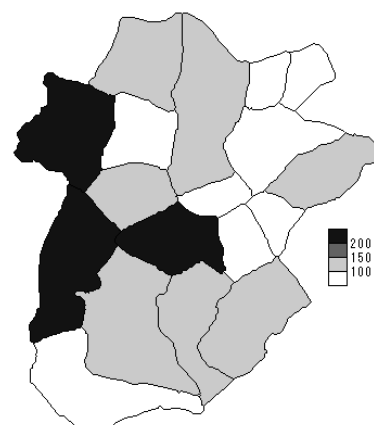
The amount of chemical fertilizers distributed by the DPAAE in 2011 is great for the season A at Rugoma with 144 sacks, for the season B it is great at Buhanda with 187 sacks. DPAAE distributed fertilizers and sell at reasonable price to people through commune and DPAAE consider distributed amount by other actors such as donors, local NGO, etc. Therefore, possibly, colline with low distributed amount from DPAAE got assistance from other organization in fertilizer. Distribution of pesticides is biggest at Kibuye and Rukoki (12.5 L).



Distribution of Chemical Fertilizer from DPAAE (kg/HH)

(3) Livestock

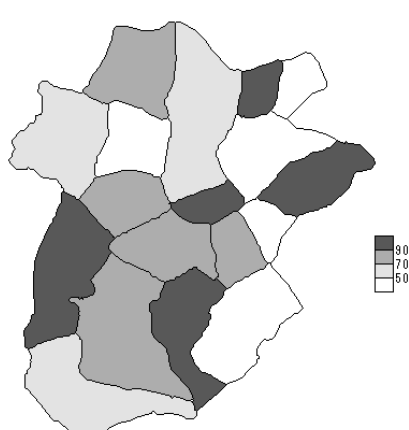
Bukirasazi commune being agricultural and agropastoral, there are several types of farm animals including: cattle, pigs, sheep, goats, chickens, rabbits and bees. They can generate money by selling them, contribute to improving food security and can also produce manure. Note that the distribution is not fair on all the collines. The collines that come to the list top are for cattle (Bukirasazi with 611), pigs (Ruvumu 234), sheep (Mpingwe with 372), goats (Rukoki 1,241), chickens (Mpingwe with 1,602) and rabbits (Ruhinda with 142), bee hives (Nyamisure with 305 hives). Those who own fewer animals are Shaya for cattle (9) and chicken (177), Tema for pigs (32) and sheep (5), Buhanda for goats (200).



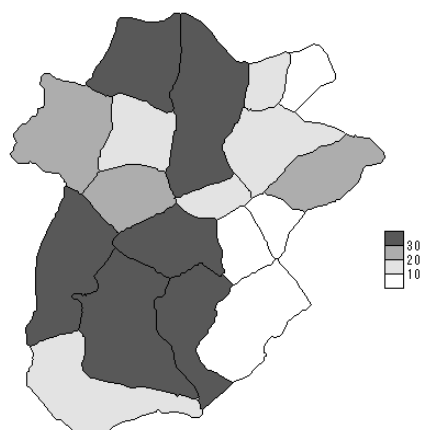
No of Cattle

(4) Type of Farmers

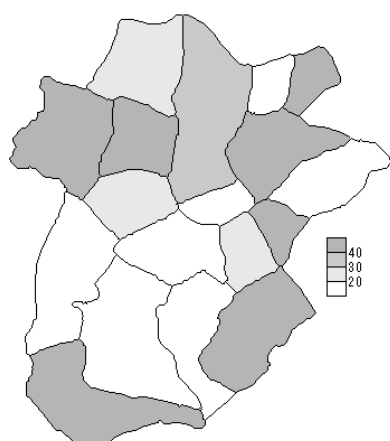
In this part of the commune where arable land is reduced, farmers are classified according to land ownership. Some have marshes and colline lands; others land without marshes but with collines on which they grow those with only marshes and finally those without land. Populations with marshes and land on colline at the same time are many on Bukirasazi colline (678 HH) and fewer on Rukoki colline (31 HH) but the percentage is largest at Rwinyana (96.6%) and the lowest in Rukoki (4.7%). There are no people with marshes only. Those with lands only on collines are concentrated in Gasongati (788 HH) and very few at Ruvumu (3 HH) and Rwinyana (4 HH). Landless people are few, but the high number and percentage are located at Kibere (25 HH and 5.1%, respectively).



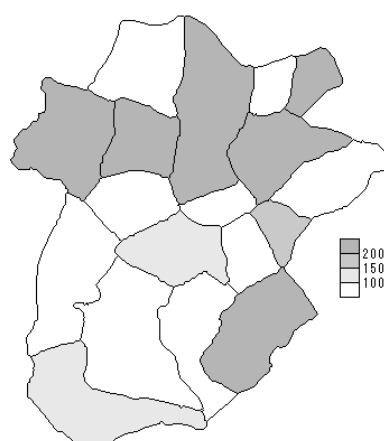
HH with marsh and hill land(%)



HH with marsh and hill land (No)



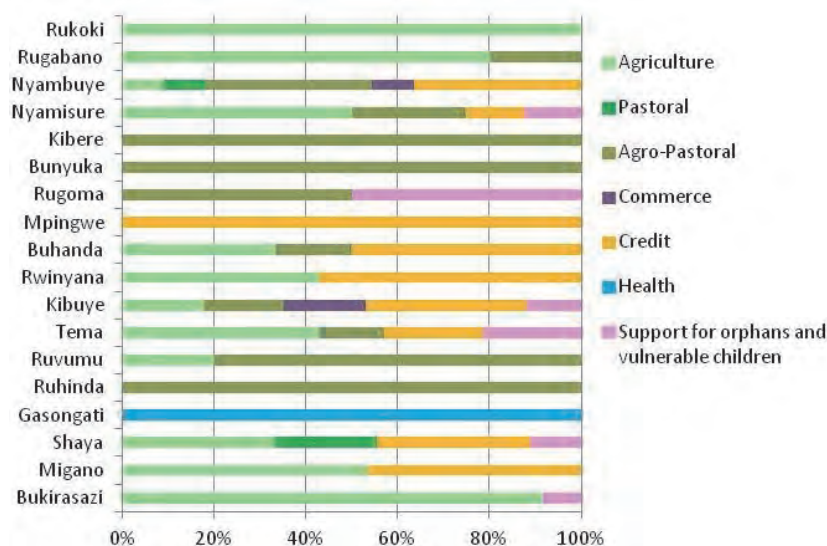
HH with hill land only(%)



HH with hill land only(No)

3.4.5 Association

There are 11 associations in Bukirasazi colline alone. This is followed by Migano and Rugabano with total of 10 associations each. In most of collines, main activity was agriculture, agro-pastoral and credit. In Rugoma, support for orphans and vulnerable children occupy much portions of association's activity.



3.4.6 Dispute

The main causes of dispute in Bukirasazi Commune in 2011 were land conflict and drunkenness, robbery and adultery, and land conflict occupy around 90% of all cases. In Bukirasazi commune, total number of cases was 166, and resolved cases were 58, therefore, the rate of success in resolution was 34.9.

3.4.7 Promoting Factors and Challenges of Community Development

In Bukirasazi commune, the diagnostics of the colline profiling results in following key promoting factors of community development;

- ✧ As a result of high population density and less land for cultivating, means of livelihood other than agriculture and livestock was developed in some collines through only gradually, which contributed to labor absorption as follows; manufacturing of bricks in Kibere, Mpingwe, Buhanda and Bukirasazi, waving in Rukoki, food processing in Bukirasazi.
- ✧ It takes less than 30 minutes in average to go to primary school, which contributed to improvement of access to education.
- ✧ Bukirasazi commune has Kibuye hospital in Kibuye colline, which contributed to improvement of access to health care service.
- ✧ Number of house with straw roof which is weakest against rain decreased by 12% from that in 2008 described in PCDC (16%).
- ✧ In most of collines in Bukirasazi commune, large number of household was supplied with clean water.
- ✧ More than 50% of collines have associations which have access to credit which is informal but under mutual surveillance among members of association, it contributed to self-active economical development of those associations through cooperative purchase of agricultural inputs and necessary material for small business.

On the other hand, challenges of community development were extracted as follows;

- ✧ Population density is comparatively high in Bukirasazi commune. As a result of high population density and less land for cultivating, there is a high demand for means of livelihood other than agriculture and livestock, especially in Bukirasazi, Nyamisure Buhanda colline with high population density.
- ✧ In primary school and secondary school, number of pupils/ students per teacher is high with 49.8 in average for primary school, 61.0 in average for secondary school. Also, number of pupils/ students per classroom is high with 66.2 in average for primary school, 46.1 in average for secondary school.
- ✧ Agricultural inputs (chemical fertilizer, pesticide, selected seed, etc) were provided over all collines through DPAE and developing partners, but still agricultural inputs are in shortage. However, considering overcultivation of arable land and necessity of urgent protection against soil degradation due to high population density, breakaway from input-dependent agriculture should be considered.
- ✧ Land conflict is major and so complicated dispute in Bukirasazi commune, it requires high level of consideration for developing actors to acquire land necessary for community development.

3.4.8 Social Problems in Conflict Affected Commune

There are 3213 IDPs in Bukirasazi communes, and it occupied 48.2% of social vulnerable people in Bukirasazi commune. And, Bukirasazi commune has two IDP camps, and significant number of people live there. 68.9% (2215) of IDPs live in Bukirasazi IDP camp, 8.9% (285) live in Kibuye camp. Main hindering factor of returning to original community for people living in Bukirasazi IDP camp is strengthening security system such as arresting murders, fear of securities in Kibuye IDP camp. Main promoting factor of returning to original community for people living in Bukirasazi IDP camp is ensuring securities in original communities, association activities promoting cooperation among people living in IDP camp and people living in original community.

3.5 Summary of Colline Profiling

As a result of colline profiling of three target communes of the Project, characteristic of each commune are summarized as shown in the table below;

Table 3.2 Summary of Colline Profiling by Commune

Item	Makebuko	Itaba	Bukirasazi
Population	Population density is 428/km ² , people living in IDP camp occupy 3.6% (2623) of all.	Population density is relatively low (315/km ²) due to hilly land. People living in IDP camp occupy 4.1% (2821) of all.	Population density is relatively high (503/km ²). People living in IDP camp occupy 7.3% (3213)
Livelihood and Living condition	Number of houses with straw roof occupy 6.5% (950) of all houses and number of houses with metal sheet occupy 15.5% (2252), it means housing condition is in middle level among three communes.	Number of houses with straw roof occupy 17.2% (2716) of all houses and number of houses with metal sheet occupy 10.9% (1720), it means housing condition is relatively bad.	Number of houses with straw roof occupy 4.2% (361) of all houses and number of houses with metal sheet occupy 29.2% (2390), it means housing condition is relatively good.
Infrastructure	Access to infrastructure relatively good, less than 45 minutes in average to go to school, health center and market from the center of the colline.	Not a few collines are hilly, and access to infrastructure is comparatively bad. There is a big market (Gihamagara market)	Access to infrastructure relatively good, less than 30 minutes in average to go to school, health center and market from the center of the colline.
Agriculture	Cassava, banana and maize	Cassava, banana and maize	Production and

Item	Makebuko	Itaba	Bukirasazi
	are major crops. Also, sweet potato and beans are major crops, and sweet potato is processed into beignet.	are three major crops, and cassava and maize are processed into flour and banana is processed into banana wine.	productivity is biggest among three communes. Cassava, banana and maize are three major crops, and cassava and maize are processed into flour and banana is processed into banana wine. Also, fruit production is relatively big.
Association	Number of Association is 148, and cooperative is 13. More than 90% of associations' activities are agriculture, pastoral and agro-pastoral.	Number of Association is 87, cooperative is 4. 65% of associations' activities are agriculture, pastoral and agro-pastoral. Credit activities occupy with 20% of associations' activities.	Number of Association is 98, cooperative is 5. 65% of associations' activities are agriculture, pastoral and agro-pastoral. Credit activities occupy with 25% of associations' activities.
Dispute	Number of land cases in 2011 was 424 and 80% of them was resolved.	Number of land cases in 2011 was 315 and 74% of them was resolved.	Number of land cases in 2011 was 166 and 35% of them was resolved.
Social Problems in Conflict Affected Commune	There are significant number of social vulnerable people, most of them are IDPs (26.2%), widows (26.6%) and orphans (24.2%). There is one IDP camp, Mwaro-Ngundu IDP camp, in the commune and people living there hope building peace villages accompanying necessary infrastructures and live together with people living in colline.	There are significant number of IDPs in the commune which occupied 25.5% of social vulnerable people. There are three IDP camps in the commune, 13.1% of IDPs live in Gisikara IDP camp, 21.3% live in Buhoro IDP camp and 61.0% live in Gihamagara camp. Main hindering factor of returning to original community for people living in camp is security problem, and they hope strengthening security system.	There are significant number of IDPs in the commune which occupied 48.2% of social vulnerable people. There are two IDP camps in the commune, 68.9% of IDPs live in Bukirasazi IDP camp, 8.9% live in Kibuye IDP camp. People living in IDP camp hope association activities promoting cooperation among people living in IDP camp and people living in colline.

Also, situation of people in need of special attention was clarified as follows;

Table 3.3 Summary of People in Need of Special Attention

Community Members Who Need Special Attention	Situation	Difficulty they face	Support from outside	Participation in Association	Means of Living	Land Holding
Ex-Combatant	Some success in integration and the others are living in IDP Camp	Food Security	social rehabilitation kit	Yes	Agriculture, Non-agricultural industry	Most of them sold out their land at the time of leaving for war
Ex-Child Soldier	Good relationship with people	Food Security	Land / Cattle	Yes	Agriculture, Non-agricultural industry	It depends on each person
Widow	They have no means to send their children to the school	Food security, lack of clothes	No support	Yes	Agriculture	Very small or having difficulty to possess land
Orphan	They cannot go to school and do not have money for stationary.	Food security, lack of clothes, no money for medical supports	There are some Associations supporting them	—	—	Some' lands are taken by their relatives
PWD	They cannot go to school and able to work, therefore, they are so poor.	Food Security, no money for medical support	There are some Associations supporting them	Yes	Some cannot move and work	Depends on kind of disabilities
Batwa	They are poor living on self-sufficient agriculture and pottery	Food Security, they don' t know how to cultivate	There are some Associations supporting them	No, they don't have any association	Pottery, Agriculture	Very small land
HIV/AIDS	They do not have travel fee to go and take ARVs	Lack of agricultural input, Food Security	There are some Associations supporting them	Yes	Agriculture, Non-agricultural industry	Same land holdings as other people
IDP	It is too far to go to their original colline to cultivate	Some difficulties in crop cultivation in original colline	There are some Associations supporting them	Yes	Agriculture, Non-agricultural industry	They have land in their original colline, sometime take long time to go there

Chapter 4 PCDC Analysis

4.1 Context of PCDC Development

The Government of Burundi has adopted a communal law No 01/016 20 April 2005 which regards communes as decentralized entities with a legal recognition and an organizational and financial autonomy. Within this framework, local communities guided by locally elected officials must promote the development of their commune based on a document called “Communal Plan for Community Development” (Plan communal de développement communautaire, hereafter PCDC). PCDC is developed in a participatory and inclusive way in accordance with the orientations of a Practical National Guide of Communal Planning of the Ministry of Planning for Development and National Reconstruction, adopted in 2008 as a 5-year development plan. The aim is therefore to equip communes with an adapted and adequate working tool which integrates the aspirations, assets, potentialities and the main prioritized actions to carry out for the development of communes. As the term of PCDC 1st was over in 2012, the draft of PCDC 2nd was developed in August 2013.

The decentralization mentioned above means empowering citizens in management and decision making. It indicates ownership of actions by local communities with a view to consistent with local priorities. By decentralization, there is a movement from development policies, initially induced by the central power to a consultation and partnership system, equipped with skills legally and lawfully recognized among the many actors.

On the other hand, limitation of budget is a big obstacle for promoting PCDC projects. There is limited budget allocation from the State / province for PCDC projects, and only some projects of PCDC receive funds through the provincial offices of Ministries. Therefore, communes have to wait for the support from donors, and start from small-scale projects. Though PCDC sets a priority on the projects, the big projects have not yet been conducted such as construction of road and facilities. The communes start from the projects with allocated budget.

4.2 Outline of the Practical National Guide of Communal Planning

Although one of the main tasks assigned to local officials in the framework of decentralization is to promote development in their community, it lacks an adequate and suitable tool for this mission. As planning methods differ depending on development actors, it is essential to harmonize concepts, procedures, principles, methods and tools for communal development planning. Therefore, the national guide for commune planning was prepared to meet the need of government and its development partners to improve and rationalize the national planning system designed for beneficiaries for a participatory and sustainable development.

The multiple purposes of the guide are shown as follows

- a) Serve as a unique and standardized reference to the actors involved in commune planning,
- b) Significantly strengthen the bottom-up participatory planning approach, which will allow authority and its partners to take into account the actual needs of grassroots communities while programming investments,
- c) Ensure consistency/coherence between development actions started on the ground and the national guidelines and/or international concerns from reference documents drawing national policy such as PRSP and MDGs,
- d) Endow the country a vision of a true land use pattern that result in a set of expected positive changes at all levels (collines, communes, provinces, and nation) materialized by setting implementation of development plan.

Along with purposes above, there are 5 principles of the communal planning set by the national guide,

and its guide defines 5 phases with 15 steps from preparation up to management of the PCDC.

5 principles of the commune planning

- a) Promotion of responsible citizenship,
- b) Integration of the land dimension,
- c) Participation of grassroots communities, and collaboration with services and external partners,
- d) The consistency of programs at the local level with national policies,
- e) Accountability and transparency at all levels and among all stakeholders.

Table 4.1 5 Phases and 15 Steps of Communal Planning

Phases	Steps	Duration
I. Preparation	1. Decision making by concerned authorities	1 day
	2. Information campaign	5 days
	3. Establishment and training of facilitators' team	3 days
II. Participatory diagnosis	4. Data collection of secondary data	7 days
	5. Collection of primary data level of collines	21 days
III. Development of PCDC	6. Discussion and thematic reflections	20 days
	7. Pooling and arbitration of priority selection	7 days
	8. Editing the first draft of the PCDC	15 days
	9. Feedback on draft of project of PCDC	6 days
IV. Validation	10. Editing proposed PCDC	3 days
	11. Validation by commune council	7 days
	12. Presentation of the proposed PCDC to provincial authorities	14 days
	13. Submission of PCDC at the national level	30 days
	Total duration up to the validation	139 days
V. Management of PCDC	14. Implementation of PCDC	Variable
	15. Updating of the PCDC	15 days

4.3 Moves toward Elaboration of Second Generation PCDC

Now elaboration and monitoring of PCDC has been administered by Ministry of Community Development.

As a result of revision of “Decree on Missions, Organization and Functioning of Ministry of Community Development (Decree n°100 / 125 of April 19th, 2012)”, Ministry of Community Development (hereinafter called “MDC”) became single ministry in charge of decentralization. Prior to this, MDC, the Ministry of Interior had prepared regulations governing decentralization in cooperation with the association of locally elected officials (ABELO) and the Civil Society Organizations supported by GIZ.

Responding to revision of decree, “Thematic Group for Decentralization and Community Development”(hereinafter called GTDDC; Group Thematic Decentralization) has restarted led by MDC which was composed by various stakeholders engaging in decentralization and community development like MDC and FONIC in Burundian side and developing partners; GIZ, CTB, WB (PRADECS; Projet D'appui au Developpement Communautaire et Social), EU (Gutwara Neza), UNICEF, TWITEZIMBERE, etc.

Based on the review of the implementation of “National Policy for Decentralization 2009-2011”, GTDDC formulated three year action plan for decentralization (Plan d'Action Triennial Decentralisation 2012-2014). This plan set five strategic axes as follows.

Table 4.2 Five Strategic Axis

Strategic Axis	Objective	Indicator	Activity
1. Strengthening the legal framework of the decentralization	The actors involved in the Implementation of the National Decentralization Policy arrange and apply adapted legal and statutory texts.	-At least 80 % of texts registered in the plan are promulgated and -At least 70 % of the municipalities use them.	i) Set up a legal and statutory frame for the implementation of the decentralization ii) Disseminate these texts
2. Strengthening the institutional framework	-The communes and the provinces arrange adequate and sufficient human resources for the fulfillment of the missions - The plan of various administrative levels (local, sectoral and central) has coherence.	-At least 50 % of the communal and provincial technical frames are necessary to assure the transferred operational skills. - At least 70 % of the actors involved in the planning at various administrative levels recognize the coherence between the national and local programs.	- Elaborate a plan of devolution - Revise the Practical National Guide of Communal Planning (Guideline of Elaboration of PCDC) by strengthening its aspect of consideration of the national sectorial priorities - Re-revitalize the structures of community development.
3. Strengthening capacities of the actors of the decentralization and the overall policy of communication	-The actors of the decentralization play completely their role in the fulfillment of their missions - The decentralization stakeholders at all levels are aware of and take ownership of the process of decentralization	-At least 60 % of the municipalities reach 70 % of the evaluation of the performances before 2014. -Existence of a frame of learning, dialogue and harmonization of the tools of RC. -50% of interviewees at all levels, say they know the decentralization process and take major role in this process.	-Strengthen the technical and organizational capacities through elaboration and implementation of the PNRC, as the implementation of a plan. -Coordinate the trainings regarding decentralization -Develop a training curriculum regarding decentralization -Improve communication mechanism among various level administration
4. Efficiency of local collectives in the promotion of local economic development, reduction of the poverty and supply of the services	-People are provided good quality services from municipalities. -Develop local economy	-50% of respondents reported being satisfied with the services provided by the municipalities. -At least 30% of group members or Production Unit interviewed said they had increased their income through the facilitation services by the administration	- Effectively transfer technique to municipalities on the project management -Implementation of national strategy for local economic development
5. Fiscal and financial decentralization	-The municipalities increase their financial autonomy and operate seamlessly endogenous resources	-Projects in the PCDC funded by commune increase at least 30% -Own tax revenues increase by at least 30% -All municipalities perform compulsory expenditure	-At least 15 % of the national budget is to be transferred to the communes -Make FONIC function to transfer resources to communes

What is notable in the three-year plan above mentioned is that GTDDC focused on the implementation of projects described in PCDC and the effective service delivery by commune administration through capacity building of local officers, transferring the financial resources from nation to commune, strengthening legal and institutional framework.

Based on the three-year action plan, developing partner participating in GTDDC announced their

supports. GIZ announced supporting MDC through elaboration of legal documents on decentralization, capacity development plan for local officers and PCDC. PRADECS (project supported by World Bank), which had supported review and elaboration of Practical National Guide of Communal Planning (manual of elaboration of PCDC), finished in December in 2012, therefore, GTDDC was in need of contribution to finalization of national guideline from developing partners. For elaboration and implementation of second generation PCDC, Ruyigi, Karusi, Rutana and Bururi province don't have developing partners, thus, GTDDC required contribution to these province from developing partners.

The Project aimed at contribution to promotion of PCDC through formulation of the Action Plan and the Manual to facilitate implementation of PCDC projects. The Action Plan and the Manual focus on agricultural sector, as agriculture is main source of livelihood for people of communities and MINAGRIE has staffs from national level to the extent of colline level, hence assistance focusing on agricultural sector is effective. On the other hand, not a few people have very small land to live on, therefore, other income generation activities also need to be included in the Action Plan and the Manual for such people from perspective of improving livelihood of people living rural area.

4.4 Effectiveness of Current PCDC Projects

PCDC was formulated through a bottom up approach, so that stakeholders appreciate PCDC, which are also recognized as an important tool for providing information on community development to the developing partners. Now, a number of developing partners support projects stipulated in current PCDC in collaboration with local government and contribute to increase in the progress rate of the PCDC.

For coordination of interventions by developing partners for implementation of PCDC, commune administrations develop annual investment plan (called "PAI") at the beginning of the fiscal year, monitor progress of the project, conduct interim evaluation and final evaluation at the mid and end of the fiscal year respectively, supported by GIZ/ADLP project. Such implementation, monitoring and evaluation of PCDC contribute to capacity building of commune administration and relative local service providers.

System for mobilization and transparent management of communal resources was also well established through implementation of PCDC. Inhabitants in commune provide physical labor for construction of school, health center through community work in the context of projects in PCDC, which contribute increase in progress rate of the PCDC. Also, CCDC (Commune Development Committee), collectivity of CDC (Colline Development Committee) members in each colline, take major roles in monitoring and the implementation of PCDC, which contribute to community empowerment.

In addition, PCDC is a sort of the open menu of projects, so projects not originally planned are also included in it according to intensions and availabilities of donors, as long as the projects aligned with the framework of PCDC and CCDC approve them.

4.5 Obstacles for Promoting PCDC Projects

(1) Description of Desirable Future Direction of Community Development

PCDC was elaborated based on the needs of population in commune. Also, vision of PCDC was set through bottom up approach. However, it is necessary for commune administration to give an overall picture and direction of community development through setting clear vision considering the characteristics of community. MINAGRIE/DPAE having staffs from provincial level to the extent of colline level, thus, can support commune administration to take characteristics of community into account for setting a vision based on the diagnostic.

(2) No Financial Resources

The decentralization process did not start when PCDC was formulated in 2008, so no budget from the central government was allocated and a commune administration did not have any sources of revenue for implementation of PCDC. That is, PCDC does not have effective financial resources in principle.

(3) Insufficient Coordination between Commune Administration and DPAE

Some agricultural activities described in PCDC were in lack of coordination between the policy / activities decided in DPAE structure and activities stipulated in PCDC. For example, it is not clear that correspondence of strategic channel in “Increase Agricultural Production” in PCDC to strategic axis of SAN (Strategie Agricole Nationale) and to program / sub-program in PNIA (Plan National D’investissement Agricole), which made it difficult for both commune side and DPAE side to grasp all agricultural activities conducted in commune.

(4) Unclear Implementation Structure and Unclear Procedure of Projects

Each activity described in PCDC didn’t mention the process of activity, role of each actor and implementation structure. This made it difficult for DPAE and communes to follow necessary procedures to start the activities.

(5) Insufficient Consideration about Feasibility of Implementation of Projects

There are many activities described in PCDC and they have room for improvement of design, since some projects were beyond budget allocation and capacity of local officers due to insufficient consideration of feasibility of implementation.

(6) Conducting Monitoring and Evaluation Based on the Amount of Input, Not on Outcome

Activities stipulated in PCDC are evaluated by input, but not by outcome. In such cases, stakeholders sometimes misunderstood the progress of the activities due to the discrepancy between the planned and actual input. For example, we cannot declare that distribution of planned amount of seeds surely bring promising dissemination of selected seeds to farmers.

4.6 PCDC in Target Communes

In the 2nd generation of PCDC in 3 targeted communes, achievement of PCDC 1st was evaluated as the table below. Figures in it seem fair in consideration of the characteristic of PCDC without financial background but these achievements are actual annual input against planned annual input designated by PAI, thus they are not the rate against the initial plan of PCDC.

Table 4.3 Evaluation of PCDC 1st

Makebuko		Itaba		Bukirasazi	
Strategic Axis	Achieve-ment(%)	Strategic Axis	Achieve-ment(%)	Strategic Axis	Achieve-ment(%)
Overall	67	Overall	Below 50	Overall	70
Education	108	Education	22	Agriculture	55
Agriculture	77	Water/Sani.	50	Water/Sani.	71
Water/Sani.	51	Agriculture	47	Education	49
Governance	59	Non-agri, Infrastructure	25	Non-agri, Infrastructure	88
Non-agri, Infrastructure	41	Governance	45	Governance	85

As for the strategic axes, “Control of Rapid Population Growth” was added for all communes in PCDC 2nd and orders of some axes are changed in Makebuko and Itaba, while Bukirasazi has the same order as 1st (refer to the table below).

Table 4.4 Comparison of Strategic Axis

Commune	1 st	2 nd
Makebukoko	1. Education	1. Agriculture
	2. Agriculture	2. Education
	3. Sanitation	3. Sanitation
	4. Off-farm	4. Governance
	5. Governance	5. Off-farm
	-	6. Population growth
Itaba	1. Education	1. Education
	2. Sanitation	2. Agriculture
	3. Agriculture	3. Sanitation
	4. Off-farm	4. Off-farm
	5. Governance	5. Governance
	-	6. Population growth
Bukirasazi	1. Agriculture	1. Agriculture
	2. Sanitation	2. Sanitation
	3. Education	3. Education
	4. Off-farm	4. Off-farm
	5. Governance	5. Governance
	-	6. Population growth

The objectives in the axis of agriculture are tabulated as below. In Itaba, some objectives of PCDC 1st are summarized in “Restoration of soil fertility” and “Production increase of agriculture”, while some of Bukirasazi are subdivided.

Table 4.5 Objectives in Strategic Axis of Agriculture

	1 st	2 nd
Makebukoko	Axis 2. Improvement of agricultural productivity Obj.1: Watershed development Obj.2: Capacity building of producers Obj.3: Restoration of soil fertility Obj.4: Restocking livestock	Axis 1. Improvement of agricultural productivity Obj.1: Restoration of soil fertility Obj.2: Capacity building of producers Obj.3: Agricultural intensification Obj.4: Restocking livestock Obj.5: Promotion of beekeeping Obj.6: Processing of agricultural products Obj.7: Increase of coffee production Obj.8: Increase and protection of arable land
Itaba	Axis 3. Production increase (agriculture, livestock) Obj.1: Colline reforestation Obj.2: Management of watershed and marsh Obj.3: Capacity building of technical staff Obj.4: Capacity building of producers Obj.5: Restoration of soil fertility Obj.6: Increase and diffusion of improved seed Obj.7: Access improvement of phytosanitary and veterinary products	Axis 2. Durable market promotion of agriculture and livestock and environment protection Obj. 1: Restoration of soil fertility Obj.2: Production increase of agriculture Obj.3: Production increase of livestock
Bukirasazi	Axis 1. Production increase (agriculture, livestock) Obj.1: Production increase of livestock Obj.2: Production increase of agriculture Obj.3: Environmental protection	Axis 1. Promotion of agriculture and livestock Obj.1: Restoration of soil fertility Obj.2: Production increase of agriculture Obj.3: Marsh management Obj.4: Improvement of vegetable and fruit production Obj.5: Production increase of livestock Obj.6: Aquaculture development Obj.7: Apiculture development Obj.8: Environnemental protection

On the other hand, project costs in agriculture sector are summarized in Table 4.6. The table shows; 1. Planned cost of PCDC 1st, 2. Estimated cost of PCDC 1st from actually inputted quantity, 3. Rate of 2. to 1., and 4. Planned cost of PCDC 2nd. Figures in Makebuko and Itaba are similar namely, 1. = about 3.5 million USD, 2. = 0.8 to 0.9 million USD, 3.= 22 to 24%, 4.= about 6 million USD. Bukirasazi scores high rate of achievement due to small budget of the initial plan and ambitious amount of over 10 million USD in PCDC 2nd.

Table 4.7 and Figure 4.1 show planned cost sharing rate among population, commune and partners (donors). It is clear that shares of population increase and shares of partners decrease in PCDC 2nd, as they were substituted especially in Makebuko and Bukirasazi.

Table 4.6 PCDC Project Cost in Agriculture

1USD = 1,530.72BIF

Item	Makebuko		Itaba		Bukirasazi	
	Million BIF	'000 USD	Million BIF	'000 USD	Million BIF	'000 USD
1. PCDC1 Plan	5,271	3,443	5,863	3,830	2,432	1,589
2. PCDC1 Input	1,154	754	1,387	906	1,253	819
3. 2./1.	22%		24%		52%	
4. PCDC2 Plan	10,086	6,589	9,016	5,890	15,799	10,321

Table 4.7 Sharing Rate of Project Cost in Agriculture

Item	Makebuko		Itaba		Bukirasazi	
	PCDC1	PCDC2	PCDC1	PCDC2	PCDC1	PCDC2
Population	16%	62%	8%	31%	13%	67%
Commune	4%	13%	0%	7%	4%	11%
Partner	79%	25%	92%	62%	83%	22%

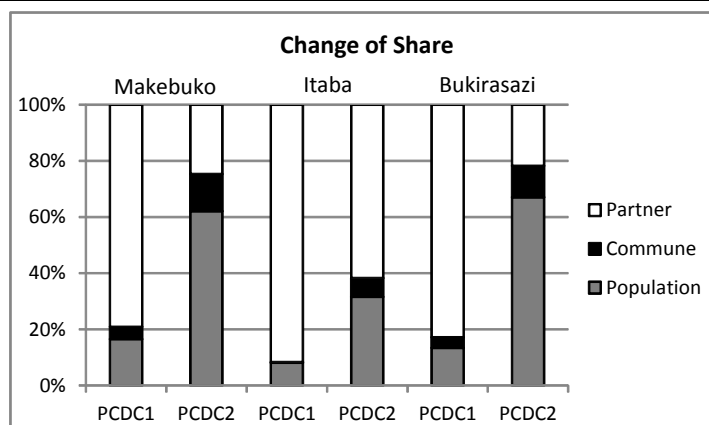


Figure 4.1 Sharing Rate of Project Cost in Agriculture

4.7 Financial Resources of PCDC

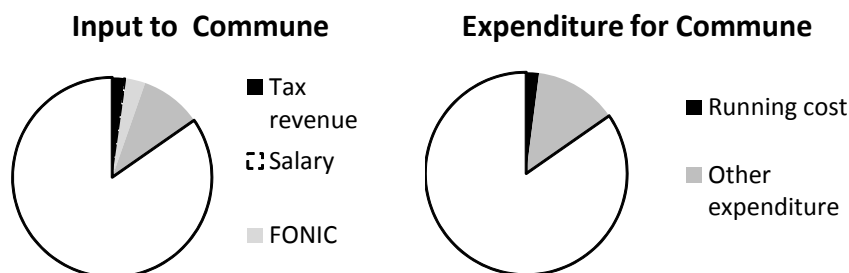
4.7.1 Financial Situation of Commune

According to “The Report of Field Survey of Burundi; Study for how to facilitate community development in conflict affected countries, JICA August 2011”, very roughly speaking, financial resources for community development in a commune per year is about 2 million US\$ in total and 1.7 million US\$ comes from donors. On the other hand, revenue of a commune is about 40,000 US\$ from various taxes, while its 90 % is spent for running cost of the commune administration. So activities carried out in a commune mostly depend on donor funds (85%). Refer to the table and the figure.

Table 4.8 Input and Expenditure of Commune

Item	Amount \$
Input to Commune	2,008,000
Tax revenue	40,000
Salary	5,000
FONIC	63,000
Other fund	200,000
Donor fund	1,700,000
Expenditure for Commune	2,008,000
Running cost	41,000
Other expenditure	267,000
Donor expenditure	1,700,000

Source: Made by the Study Team based on
The Report of Field Survey of Burundi



Source: Made by the Study Team based on The Report of Field Survey of Burundi

Figure 4.2 Input and Expenditure of Commune

4.7.2 Financial Resources of PCDC

PCDC is planned based on not the budget but the needs of people and PCDC is a sort of projects menu to show people's demands to interveners and for them to select among those. Therefore, basically each project of PCDC does not have corresponding financial resources, and in fact a commune government, the primary implementer of PCDC, has quite limited budget so far. However, there are possible financial resources, such as FONIC, line ministries and donors.

(1) FONIC

Although allocation from FONIC is quite small against demands at present and the revenue share plan of MDC seems difficult to realize in the near future, there is a possibility for amount increase. GIZ has sent an advisor to FONIC and allocated 1 million Euro for a technical cooperation project for FONIC. An audit for FONIC will be conducted in September 2014 and KfW (Kreditanstalt für Wiederaufbau, German Development Bank) will provide loans if the audit proves that FONIC has enough capacity to handle larger amount.

(2) Line Ministries

Various ministries are implementing projects by their own budget and management. In case of MINAGRIE, financial planning of PPIA is not progressing at provincial level but cost estimate for available resources at national level is made in PNIA. Although the use of budget is decided by the ministry at the central level, inputs are provided to communes for agriculture and rural development. Therefore, aligning input provision of DPAE with PCDC is very important. Close coordination between DPAE and commune administrations for annual budget making is expected.

(3) Donors

Since donors have their own theory and target, it is difficult for commune administration to designate sectors and areas, and manage donor projects. However, all stakeholders these days recognize that PCDC is the sole plan to follow or refer for community development and appropriate selection can be done through dialogue between donors and administrations. Among donors supporting in the field of decentralization, UNDP has a plan to extend cooperation, so it is planning to establish one million US\$ fund, to assign an advisor to link MDC and MINAGRIE and to expand coverage to the west, while it is supporting making of PCDC 2nd generation in 4 communes in the east.

Chapter 5 Action Plan for Promoting PCDC

While each commune’s Action Plan for promoting PCDC is explained in this chapter, the procedure to formulate them should be reaffirmed beforehand. The Draft Action Plan was formulated based on the results of surveys (colline profiling survey, social survey and agricultural survey), and then, analysis of challenges and review of countermeasures for promoting PCDC were carried out to make project designs. Pilot projects were planned and implemented based on those studies and the lessons from pilot projects were reflected to the Draft Action Plan and Draft Manual to finalize them. The flow of finalizing the Action plan and Manual is shown below. The Action Plans formulated after these processes are explained hereinafter for each commune and the Manual for promoting PCDC is filed in Annex.



Figure 5.1 Flow up to Finalization of Action Plan and Manual

A. Makebukko Commune Action Plan for Promoting PCDC

1. Introduction

PCDC is a valid tool for community development; however, it is not implemented in the most effective way. On the other hand, agriculture is the main source of livelihood for people of communities and MINAGRIE has staffs up to colline level, hence support focusing on the agricultural sector is effective. Therefore, this Action Plan aims to facilitate implementation of agricultural projects of PCDC.

Combining those views together, with the Action Plan as a practical tool, it was assumed that supporting MINAGRIE, DPAE and commune officials is necessary to facilitate implementation of PCDC.

2. Features of Makebuko Commune

2.1 General Features of Governorate

As of 2012, there are 29 collines in Makebuko commune and the collines are classified into three zones: Makebuko, Maramvya, and Murenda zone.

2.2 Natural Conditions

This commune is completely located in Kirimiro, the famous region for its wide agricultural variety, and it is surrounded by four communes. It is limited in the north by Gitega commune, in the west by Gishubi commune bounded by Ruvyironza River, in the south by the Commune of Bukirasazi and in the east by the commune of Itaba separated from the latter by the massif named CENE. Makebuko commune is located in the central highlands with the altitude between 1,600 and 2,000m. The average annual rainfall is 1457 mm/year (should confirm in Department of IGEBU, or GIZ PCDC 2nd Generation Team). The annual average temperature is 18.5°C and varies from 17.8 °C to 18.9 °C.

2.3 Socio-Economic Condition

The total population in Makebuko commune, which can be divided into several colonies, was estimated to be 65,220. The smallest collonie engaged in agriculture is Kagege with 584 inhabitants. The largest colline engaged in agriculture is Rutanganika with 4,708 inhabitants. Population density is 432/km², people living in IDP camp occupy 4.0% (2623) of all. The number of houses with straw roof occupies 6.5% (950) of all houses and the number of houses with metal sheet occupies 15.5% (2252), it means the housing condition of Makebuko commune is in middle level among three communes. Access to infrastructure is relatively good: less than 45 minutes in average to go to school, health center and market from the center of the colline.

2.4 Environmental and Social Consideration

2.4.1 Environmental Consideration

Table 5.1 Summary of Social and Environmental Consideration in Makebuko Commune

Environment	Environment Consideration/ Evaluation in Existing Condition (before project)
General overview of Climate	The climate of the Makebuko is also corresponding to the zone of Kirimiro. The average temperatures of the zone are between 17.8°C and 18.9°C with an average of 18.5°C. The registered average rain fall is reported as 1457 mm/year i.e. above to the national average. The rainy seasons begins in September and continue until mid-May, whereas, the dry seasons lasts for three months i.e. from June to August.
Agriculture based on Climate condition.	Majority of the total population of the Makebuko commune is dependent on agriculture. In the absence of proper irrigation facility, the agriculture in the commune heavily dependent on the variability and instability of the climatic conditions. Instable climatic conditions cause a flood to occur and thus substantially decrease in the farming activity, which results in agriculture loss as one of the factors for the poverty among farmers.
Soil & its Productivity	In geological terms, the peaks of the hills are composed of the quatzitic harder rocks while the soils of the valley and swamp are composed of softer rocks such as granite especially along the RN8. The soil of marshes in the commune is not organic because of the long time exploitation and the use of chemical fertilizers for the production of various crops. The soil in the flat & marsh region is characterized as clay or sandy clay and the conditions are deteriorating due to erosion. However, the soils will be fertile and can provide higher agricultural

	production if the irrigation system is developed and managed properly. The soil fertility of marsh has been decreasing because of undeveloped condition of marsh and lack of irrigation facility.
Water Availability	The Nyamusawaga , Nyakigezi and Nyakararo rivers are the main water streams of the Makebuko commune apart from some small rivers such as Kibenga, Kajenda and Rumbumba which merge to the Nyamusawaga river. During the rainy season, floods occur frequently and a lot of fertile and cultivated land submerge into the water and thus results in production loss. Furthermore, because of uneven terrain of the marshes, the water cannot reach at each corner of the marsh and hence it restricts the farmers to choose the right food crop to grow and productivity.
Flora	The dominant crops of Makebuko commune are rice, maize, beans and sweet potato. The choice of the crops to cultivate depends on the season and reach of water to the land. Vegetation on the slope of the hills surrounding the marshes is not in systematic pattern and not fully developed. However, the trees of Eucalyptus are abundant on the slopes. Some wild grass also can be seen at the slopes as natural vegetation.
Fauna(Livestock)	Almost all marshes of the Makebuko commune are under cultivation and there is no wild animal in existence in the marsh area. Presently, the fauna in the project zone is limited to comprise of reptiles, insects, termites and birds. The farmers of the marsh are also engaged in the breeding of livestock. The number of livestock is increasing after cessation of hostilities and due to efforts of different development partners. However, constraints like lack of grazing area due to intensive agriculture, inadequate availability of the veterinary services and lack of veterinary centers also exist.

2.4.2 Social Consideration

(1) Progress of Reconciliation

In Makebuko commune, there is one IDP camp, Mwaro-Ngundu IDP camp. In the past, few times IDPs were attacked when they went to attend their land in collines. Recently, however, some thefts of agricultural products occurred but no more cases are reported at targeting IDPs. It is owing to promotion of some social integration projects, and dialogs among people living in IDP camps and others. In addition, commune administration used to take steps to solve problems among IDPs and others whenever problems occurred, and it worked as deterrent to prevent the occurrence of similar problems again.

(2) Consideration for People in Need of Special Attention

1) Situation of People in Need of Special Attention

i) Status of People living in Mwaro-Ngundu IDP camp

People living in Mwaro-Ngundu IDP camp face bad residence environment due to high population density in camp. Some households share narrow residencial space in the same house and that causes a disease especially in rainy season.

There are also many children in IDP camp and many of them cannot go to school because of lack of money for uniform and textbook. Although FVS AMADE helped them with provision of school materials before, many children still face lack of access to education since termination of the support from FVS AMADE.

Most of adults living in camp commute to their land for cultivation, some to land in Mwaro-Ngundu colline, others to land in other collines. In most of cases, the cultivation is self-sufficient.

ii) Status of Widows and Orphans

Some widows have less land for cultivation and no means to send their children to school. Although there are some associations which aim to help widows for cultivation, many widows also need economic assistance because they lack food and clothing.

Orphans are suffering from lack of clothes, access to treatment and school materials. In that situation, they often have to abandon studies. Also, they face land use problem that sometime their land to be inherited was taken away by their relatives. There are not a few associations which help orphans especially for school materials. Even though considerable households care orphans, majority of such families which welcomed orphans to care are poor, therefore they are still in need of assistance.

iii) Status of Other People in Need of Special Attention

Ex-combatants have problems such as lack of housing. Some of them lost some parts of their body, and face inability to work and difficulty to eat regularly. When people are demobilized, they got demobilization fees on the condition that they organize association by themselves. However, for some ex-combatants, demobilization fees tend to be insufficient. It should be realized that only few ex-combatants can success in integration and find work (ex. driver) in IDP camps.

Person living with disabilities (PWD) face difficulty to move due to lack of facilities, inability to work, and psychological trauma related to their disability. Some are unable to seek medical care, and extremely poor. There are no special schools for PWD and they face lack of access to education.

Batwa people have a very low income from pottery production and some of them neglect agriculture due to lack of land and face food shortage. In the colline profiling survey, 80% of colline chiefs answered that they do not have Batwa ethnic group in their collines.

People struggling with HIV/AIDS find difficulties to have medication (anti retroviral), and face inability to eat properly. Their diet is poor and inadequate.

2) Inclusiveness of People in Need of Special Attention

Most of the projects support and target to association, not individuals, and thus, inclusiveness of social vulnerable people in associations' activities should be considered. Before considering inclusiveness of people in need of special attention in activities of associations, characteristics of associations and process on selection of beneficiaries should be clarified.

i) Inclusiveness of IDP people in Group Activities

Mwaro-Ngudu colline has 10 associations and 1 mutual group for widows having a female leader who is both IDP and CDC member.

IDPs participate in association activities in Mwaro-Ngudu colline. Some IDPs who came from another collines also participate in association activities in Mwaro-Ngudu colline.

ii) Inclusiveness of Widow and Orphan in Group Activities

All associations surveyed by the project team included widows as members. Furthermore, it was confirmed that mutual help groups for widows were active. However, few widows could participate in association due to lack of ability to pay for saving in the association. Some associations help such widows who cannot afford to participate in association activities through utilizing saved money for them.

Also, most of the associations surveyed by the project supported orphans. In Burundi, there is traditional custom to support orphans. In some association, each member has responsibility for one or two orphans and use saved money in association for their support.

From above, it is confirmed that level of inclusiveness of widows and orphans in association activities are relatively high. It is necessary to utilize and promote such helping system through the Project.

iii) Inclusiveness of Other People in Need of Special Attention

Ex-Combatant did not participate in associations' activities with other people in target collines of social survey (3 collines). However, there exist associations composed of only Ex-Combatants, because establishment of associations was the requisite to get money when demobilized. It is not sure whether these associations are functioning at present or not. For ex-combatant, catholic churches support through the means of labor absorption for marsh development.

Most of the disabled people are supported by their families or relatives and they are not organized. However, few people are supported by association activities though it is difficult for them to become members. Some catholic churches and local NGO which help association are supporting the disabled people.

Most of Batwa people did not participate in associations' activities, because it is more difficult for them to earn a living than others. Furthermore, it is difficult to enhance their participation in associations' activities because they cannot afford to pay money for saving to association periodically, though the pricing of fee is reasonable for others. Therefore, in most cases, they are not included in the beneficiaries of projects.

Some of the people struggling with HIV/AIDS are supported by associations and also some are organized in form of mutual-aid group, which usually includes others who are in good health.

(3) Land Dispute

Land dispute issues were surveyed under the categories of 1) in marsh, 2) in colline, 3) concerning returnees, and 4) concerning IDP camps.

1) Land Problems in Marsh

According to the commune courts in Makebuko, there are few cases in marsh.

2) Land Dispute in Collines

In the commune courts of Makebuko, following cases concerning land allocation to women and children in collines were confirmed.

Case 1 : Children try to get back land their farther sold in past.

Case 2 : Executive order issued in 1970s allocated savage lands in collines to those who were able to cultivate, and original owners of those savage lands filed complaints.

3) Land Dispute Concerning Returnee

It takes long time to solve land dispute concerning returnee, because it requires collection of a lot of

information to verify possession of land. There are few land disputes cases concerning returnees in Gitega province, which is not adjacent to the border, also there are few cases under control of CNTB in Gitega city. Mtabila camp in Tanzania closed at the end of 2012, and according to UNHCR data, 46 people returned in Makebuko commune till 31st December 2012. It is necessary to take into consideration possibility of land dispute cases and resolution system.

4) Land Dispute concerning IDP camp

Up to now, no disputes happened in Makebuko commune concerning IDP camp. Mwaro-Ngundu colline is selected as location of building peace villedge.

Land disputes like discussed above should be considered well among stakeholders before designing and implementing the projects.

2.4.3 Agricultural Condition

(1) Land Use

Farm land possession: Concerning to upland field, all farmers who were interviewed posses own farm land in living colline. Most of them live near their farm land and some of them posses it in the different colline. The range of land size is 0.5ha to 5ha per household. Concerning to the marsh, people who has farm land in the marsh is limited and they have only small pieces of lands which are scattered in the same marsh or different marsh. The average area is 3a to 5a per person. Their lands are located far from living places. In Makebuko Commune, there is higer ratio which farmers have marsh and coline than other communes.

(2) Crop Production

Major corp production in Makebuko are Beans, Sweet potato, Maize and Irish potato at the colline and marsh. At colline, Beans and Sweet potato are produced at twice in a year; season A and B. Cassava (bitter and sweet variety) and Banana (for cooking and fruits) are produced as popular crops. In marsh, sort of vegetables, sweet potato, and maize are produced during dryseason. And rice at certain areas is produced during rainy season (Present situation of average production is shown to the following table). In general, mixed cropping without using chemical fertilizer and pesticide is a popular method as traditional farming method at marsh and colline. On the other hand, some advanced farmers and farmers who purchase fertilizer and manure can use fertilizer, but the quantity is not enough to increase production. Some farmers adopted to use early mature varieties and late mature varieties considering the season. Cropping pattern in Makebuko Commune is shown below;

Month	1	2	3	4	5	6	7	8	9	10	11	12
(Makebuko)	Season B				Season C				Season A			
Season A	Sweet potato, Cassava, Banana								Cassava, Beans, Peas, Maize, Sweet potato, Banana			
Season B					Beans, Maize, Sweet potato							
Season C									Beans, Maize, Sweet potato, Irish potato, Cabbage, Lenga lenga, Vegetables			
	Rice											

Figure 5.2 Major Cropping Pattern in Makebuko Commune

Table 5.2 Average Crop Production in Makebuko Commune

Crops Production	Present Situation
Rice	3 tons/ha
Banana	20kg/banana stem
Cassava	2.9 tons/ha
Irish potatoes	2 tons/ha
Beans	500 kg/ha
Maize	1.5 tons/ha

(Source: PCDC II)

Table 5.3 Utilization of Manure, Chemical fertilizer and Pesticide by Crops

		Manure	Chemical	Pesticide
Colline	Beans	O	△	X
	Banana	O	X	X
	Cassava	X	X	X
	Sweet potato	X	X	X
	Irish potato	O	△	X
	Maize	O	△	X
	Sorghum	O	△	X
Marsh	Rice	X	X	X
	Vegetable	O	△	△
	Irish potato	O	△	X
	Sweet potato	X	X	X
	Beans	O	△	X

(O: applied, △: sometime applied, X: not applied)

(3) Livestock

Makebuko commune being agricultural and agropastoral, there are several types of farm animals including: cattle, pigs, sheep, goats, chickens, rabbits, guinea pigs and bees. They can generate money by selling them, contribute to improving food security and can also produce manure. Especially, cow is the highest demand livestock among farmers in order to get manure. Solidarity-chain system has been introduced through livestock project (PARSE). On the other hand, breeding and rearing management by farmers have not been adopted well, and cost of medicine is not affordable to farmers and accessibility to medicine is also not good. Note that the distribution is not fair on all the collines.

Table 5.4 Average Number of Livestock per Household

Livestock Species	Number of heads per household
Cattle	0.4
Goats	1.3
Hens	0.2
Pigs	0.4
Poultry	1.2
Rabbits	0.4
Bees (number of hives)	0.2

(Source: PCDC 2)

(4) Marsh Development

Marsh agriculture has a big potential of intensive crop production through a year in order to control water and introduce appropriate farming practices, if marsh will be developed. Most of the marshes are not developed at present, therefore water control is the biggest constrain caused by flooding in rain season and water shortage in dry season. On the other hand, some marshes, Mavuvu and Nyagihundo were developed by CISV under VIMASA and Nyamuswaga and Nyakigezi were developed by this project under JICA support.

Slope protection surrounding marsh is essential for marsh development, but it is not well developed at present.

(5) Forestry

In general, soil erosion by cutting trees and soil degradation in Colline is known as a major issue by most of people. However, afforestation area has not been much expanded, because farmers are not willing to be reduced their farm land by afforestation. In addition, it is not easy to get nursery to farmers near their place as long as any project is implemented. As for contour line digging, situation is same as afforestation; the contour line is not well expanded because of this activity is quite tough and it needs some materials. Varieties of trees which people prefer are Gravellea, Eucalyptus, and Cedres. As for agroforestry, many of people plant fruits trees such as Avocado, Orange, Japanese plum, etc. These fruits trees seedling are provided by the government in free of charge.

(6) Association

More than 50% of collines have associations which have informal access to credit under mutual surveillance among members of association. It contributed to self-active economical development of those associations through cooperative purchase of agricultural inputs and necessary material for small business. There are 148 associations in Makebuko commune.

(7) Agri-business/ Private Sector

Major processing activity in Makebuko is sweet potato processing into beignet. As for the other activities, some association and private person have milling machine for cassava, maize, and sorghum to flour making. Business scale of handicraft is still very small and not well developed with small and limited finance. Most of the association doesn't have enough skills and modern equipment for processing.

(8) Agricultural Infrastructure, Commercialization

There is no big market in Makebuko commune, most of people go to Gihamagara market and it takes long time to go to market for people in some colline. Generally, access road to the market is not improved.

3. Challenges for Promoting PCDC Projects in Agriculture, Livestock and Livelihood Improvement Sector

3.1 Challenges from Environmental Consideration

3.1.1 Challenges from Environmental Consideration

- Population Pressure on agricultural land—Agricultural land per person and per household is very small in the Makebuko Commune. Cultivated land size is approximately 10 to 15 square meters

as per rough observation (which might pose very low impact on the environment). Hence, consideration for environment in the eyes of farmers is very low in the priorities of the farmers. They mostly treat it as an productive work.

- Erosion of Soil—Soil erosion across the hills and collin side caused by cultivation without afforestation is an issue to address.
- Lacks of awareness—Farmers are not fully aware of the benefits from environment conservation.
- Fauna—There is no wild life in the area. Animal husbandry is not much popular in the commune due to sterile soil, lack of grazing area, and intensive agriculture. It should be noted that livestock plays important role in environment conservation and preservation.
- Flora—There is little wild plant and forest in the commune. Eucalyptus is the main trees which local population plants. Awareness to the benefits from forestation is still low in the commune.
- Water—The terrain in the commune is uneven, and floods is a normal occurrence in the agriculture lands during the rainy season.
- Unawareness of modern farming practice— Unawareness of modern farming practice leads to the high productivity loss and environment degradation.

3.1.2 Challenges from Social Consideration

- Obstacles to the promotion of the participation in group activities among people living in IDP camp; Most of them live on self-sufficient agriculture and take a lot of time to commute to land for cultivation and cannot afford to improve their residencial environment (high density causing disease) and access to education.
- Land Disputes; Due to high population density in Makebukoko commune (457 /km²), the area of land per person has been decreasing. Therefore, it is difficult to acquire private land for community development. It may cause diputes among people on claiming possession of land and compensation.
- Social situation in need of special attention; Widow and orphan tend to face land problems in comparison with others. They have less or no land and live in need of special assistance from association. There are also some people who cannot cultivate due to lack of power with serious disease, age, HIV/AIDS etc.

3.2 Challenges in Agriculture, Livestock and Livelihood Improvement Sector

(1) Environmental Protection

- Farmers do not have enough knowledge about techniques on environmental protection
- Farmers do not want to decrease their arable land by afforestation and agro-forestry
- Lack of proper management of seedlings by seedling producers
- Insufficient seedlings to farmers who want to adopt contour line planting and afforestation
- Lack of marketing network and information on seedling in the area

(2) Marsh Development

- Difficulty of water control without irrigation infrastructure
- Difficulty of operation and maintenance for irrigation facility by water users
- Lack of proper cultivation techniques on rice and vegetable without cropping calendar

(3) Soil Fertility

- Soil degradation at colline due to lack of improvement of manure application
- Most of farmers do not consider crop rotation well due to the limitation of farm land
- Chemical fertilizer is not affordable to farmers because of high cost
- Lack of domestic animals, especially cows which is very expensive for farmers, causes an obstacle to manure application to land among farmer.

(4) Selected Seed Solidarity Chain

- Low production of seed /seedlings available for producers; sometimes introduced varieties are unsuitable to the target area and proper cultivation technique for introduced varieties of seed/seedlings are not extended to farmers.
- Lack of seed storages makes difficult for farmers to keep seeds in good condition and sometimes causes lower quality of seeds
- Seed multiplication system is not established.

(5) Livestock Promotion

- Most of livestock was killed during the conflicts and people face lack of manure from feces of livestock and it cause less fertility of soil for cultivation.
- Production of forage grass is insufficient to feed livestock.
- Farmers do not have enough knowledge about animal health and it sometimes causes failure to take care of livestock..
- In some collines which were not target colline of PARSE, solidarity chain system was not established.
- Animal health service was not systematically conducted, and cost for treatment and applying medicine is high for farmers.

(6) Post-harvest, Processing

- Lack of knowledge about post-harvest technique (technologies on storage, drying, and so on); farmers donot have any opportunity to get training on post-harvest techniques.
- Farmers donot have enough knowledges about processing.

(7) Development of Industries and Agribusiness

- Lack of knowledges on accounting and business management and lack of opportunity for capacity building on these skills.
- Some association produced in primitive way and faces difficulty in control of quantity and quality.
- Microfinance system is not promoted and it makes difficult for them to start industries and agribusiness.

4. Analysis of PCDC

4.1 Objective and Vision of PCDC

PCDC 2nd generation in Makebuko commune have following vision; “MAKEBUKO, COMMUNE A TAMBOUR, ACCESSIBLE, CARACTERISEE PAR UN DEVELOPPEMENT INCLUSIF, DES INTELLECTUELS FERVENTS ET UNE PRODUCTION A SURPLUS, DANS UN ENVIRONNEMENT DURABLE.” “Makebuko, commune with drum, accesible, characterized by

inclusive development of intellectual enthusiasts and production surplus in a sustainable environment”

PCDC is the plan for next five years (2013-2017) for community development in the commune. Objective of PCDC is to provide the commune with an adequate and appropriate instrument which includes aspirations, assets, potentialities and the main priority actions for the communal development.

4.2 Achievement State of PCDC Projects

Achievement state of PCDC projects are surveyed focus on strategic axis in PCDC second generation, “No.1 promotion and reinforcement of production capacities of agricultural sector in sustainable environment” and “No.5 economic development through off-farm activities”.

4.2.1 “No.1 Promotion and Reinforcement of Production Capacities of Agricultural Sector in Sustainable Environment”

(1) Environmental Protection

For ensuring crop production, countermeasures against soil erosion such as contour digging, grass fixing, and agro-forestry have been conducted, however, many farmers still donot have enough knowledge about these techniques and number of seedlings for agro-forestry are not enough to cover arable land facing high risk of being damaged by soil erosion. According to PAI in 2012, 20 km contour line was dug for a year, and PCDC set 1000 km contour line digging as target value for 5 year, therefore, 200 km/year shall be dug.

According to PCDC, Makebuko commune has 1,119.123 ha of Eucalyptus afforestation area as total of national, communal and private afforestation area, communal afforestation area, private afforestation area. Also, PCDC set production of 2 000 000 seedlings of tree for afforestation, agro-forestry and fruit production as target value, and it will newly cover around 1,250 ha for 5 years, therefore, about 250 ha/year shall be covered to achieve target value set in PCDC.

(2) Marsh Development

For fiseability study for marsh development, PCDC set study for 75 ha in Nyakigezi (20ha), Nyagihundo II (20 ha), Nyamuswaga II (25 ha) and Nyakararo (10 ha). Marsh Development in Nyamuswaga I (57 ha) and Nyakigezi (25 ha) were completed.

(3) Soil Fertility

PCDC promotes three (3) compost pits for all household in Makebuko commune, however still many people need sensitization on compost making, because some people yet did not understand worth to make compost and consider compost making as waste of time and labor.

About efficient application of fertilizer, though some sensitization and training was conducted, not a few farmers donot underdtand and practice efficient way for application of chemical fertilizer, and donot know correct utilization of manure for soil fertility.

(4) Selected Seed Solidarity Chain

Acording to PCDC, Makebuko commune set target value for multiplication of selected seed as follows;

17,000 seedlings of banana, 150 tonnes of maize, 1,500,000 bouchers of cassava with resistance to

mosaic disease, 45 tonnes of bean, 90 tonnes of soy bean

According to PAI in 2012, 2 tonnes of bean and soy bean are provided to farmers, and this realized figure is far from necessary amount to achieve the goal: 9 tonnes of bean per year and 18 tonnes of soy bean per year.

Also, PCDC set target yield in 2017 as follows.

Table 5.5 PCDC Target Yields in 2017

Crop	Current Yield	Target Yield in 2017
Rice	3 tons/ha	3.8~6.0 tons/ha
Banana	20Kg/plant	30Kg/plant
Cassava	2.9 tons/ha	25 tons/ha
Potato	6.0 tons/ha	9.0~15 tons/ha
Sweet potato	15 tons /ha	25 tons /ha
Bean	0.8 tons /ha	2.0 tons /ha
Maize	1.5 tons/ha	3.0 tons/ha

For rice, 26.7~100% increase in yield is required for achieving target yield, 50% increase for banana, 760% for cassava, 50% for potato, 66.7% for sweet potato, 150% for bean and 100 % for maize.

(5) Livestock Promotion

According to PCDC, number of cattle shall increase to 2 heads per household for 50% of household in Makebuko commune in 2017. It means more than 10,000 heads increase in cattle is required for this five (5) years. PCDC sets target values as follows.

Table 5.6 PCDC Target in Livestock Numbers

Item	Current No.	Target No. in 2017
Cattle	0.4/HH	2/HH
Goat	1.3/HH	6/HH
Sheep	0.2/HH	6/HH
Pig	0.4/HH	6/HH
Chicken	1.2/HH	6/HH
Rabbit	0.4/HH	6/HH

4.2.2 “No.4 Economic development through off-farm activities”

(1) Post-harvest, Processing

Processing and preservation of agricultural products are planned by reinforcement of technical capacities of concerned people through management trainings. But most plans to promote agricultural product processing in PCDC 1st were not really realized, while some trainings were conducted for food processing.

(2) Development of Industries and Agribusiness

Makebuko Commune is aiming to make handcraft sectors economically viable through technological promotion. But most plans to promote handcraft in PCDC 1st were not realized, while some trainings were conducted for business running and others.

5. Analysis of PPIA

5.1 Objective and Vision of PPIA

PPIA follows vision of PNIA (Programme National d'Investissement Agricole);

“The Burundian agriculture's fundamental mission is to ensure food security in quantity and quality for all Burundians. To achieve the mission, it is necessary to shift from subsistence agriculture to commercial agriculture and family-run agriculture, also it is necessary to ensure a decent household income and good natural resource management in environmentally friendly way. This agriculture is practiced on farms with an average size will reach 1 ha against 0.5 ha per farm whose soil fertility regain sufficient to allow returns that are comparable to the best African performance. Also, for achievement of the mission, it is necessary to organize farmers and train them to acquire necessary technical skills.”

5.2 Progress of PPIA Projects

Preparation of PPIA started 2012 and it was formulated in December 2012 in Gitega Province. Afterwards, the committee, mainly consisted from DPAE staff which elaborated PPIA, started elaborating the action plan in July 2013 by collecting plans from partners. However most partners have not given plans, so the action plan making stalls at present.

6. Countermeasure for Promoting PCDC Projects in Agricultural Sector

6.1 Focusing on Main Livelihood and Targeting of Areas

The Action Plan is aiming at livelihood improvement of people in the target communes of the Project through promoting PCDC projects. The Action Plan should present various alternative projects to solve obstacles for livelihood improvement. And moreover, presenting project menu focusing on main livelihood of target area will lead to efficient and effective livelihood improvement.

Here, we focused on colline, which is the smallest administrative unit, and the Action Plan present suitable project menu for livelihood improvement for each colline.

People's main livelihood can be classified into three categories; i) Agriculture in Marsh, ii) Agriculture in Colline, iii) Off-farm Activities. Therefore, suitable projects menu for livelihood improvement would be provided based on this classification. Also, collines in Makebuko commune were classified into these three types by main livelihood.

The Action Plan provide i) Marsh Agriculture project menu, ii) Colline Agriculture project menu, iii) Non-Agriculture project menu and then applied the project menu to each type colline i.e.; i) Marsh Agricultural type, ii) Colline Agricultural type and iii) Off-farm type.

(1) Projects Focusing on Livelihood Improvement through Marsh Agriculture

Increase in productivity of agriculture in marsh contributes to livelihood improvement of people. Development of production base, technical transfer on agriculture in marsh and improvement of agricultural input are necessary projects for people living on agriculture in marsh. Generally, people owning land in marsh also possessed own lands in colline. Regarding this point, the result of colline profiling survey shows recognition among some farmers as follows “people having land in marsh are relatively rich, because they can cultivate in marsh during dry season”.

(2) Projects Focusing on Livelihood Improvement through Colline Agriculture

There are many households which donot have land in marsh, but have land only in collines, therefore, efforts to increase in productivity in colline is inevitable for livelihood improvement for such people.

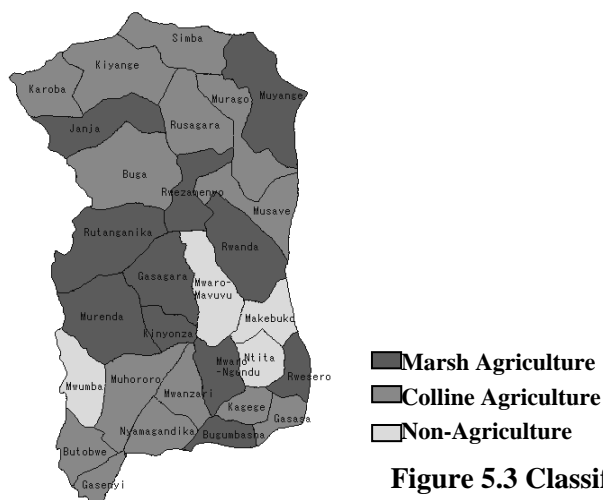
Colline lands have been heavily damaged by soil erosion arising from heavy rain and lack of covering plant to land. Steep and narrow colline land also causes inefficient farming system. In parallel with preservation of land including fight against soil erosion, productivity improvement in colline land is quite important projects for people living on agriculture in colline.

(3) Projects Focusing on Livelihood Improvement through Off-Farm Activities

There are not a few households which have so small or no land. Also, not a few people are under situation in need of special attention. Some IDPs have to commute to collines far from camp for cultivation, some widows cannot cultivate due to lack of farming utensils and ethnic minority like Batwa originally lived on non-agricultural means. Therefore, it is necessary to set projects supporting activities except cultivation, which include agricultural products processing, trading and handicraft industries for people who cannot live on cultivation. Livelihood improvement project menu focusing on activities except cultivation is called “Off-farm” projects hereinafter.

(4) Classification of Collines based on Suitable Livelihood Improvement Menu

Based on the direction of livelihood improvement project set up above, collines were classified into 1) Marsh Agricultural Type, 2) Colline Agricultural Type and 3) Off-Farm Type on the basis of people’s land ownership and engagement in non-agricultural industry. The collines with high household percentage owning land both in collines and marshes were classified as 1) Marsh Agricultural Type; the collines with high household percentage owning land only in collines were as 2) Colline Agricultural Type; and the collines with high percentage of people engaging in non-agricultural industry as 3) Off-Farm Type. The results of classification are presented in the figure as below. The Action Plan set three type project menus and applied them to corresponding type of collines.



Note) Classification basis; 1) The marsh agricultural type and 2) the colline agricultural type are classified by the average percentage of corresponding household, and 3) the non-agriculture type is classified by upper quartile point, 75% of population engaging in non-agricultural industry.

Figure 5.3 Classification of the Collines

The Action Plan set three type project menus and applied them to corresponding type of collines.

6.2 Consideration for People in Need of Special Attention

(1) Setting Project Menu for People in Need of Special Attention (Off-Farm type Project)

As described in “6.1 Focusing on Main Livelihood and Targeting of Areas”, project menu focusing on livelihood except cultivation (“off-farm type” project menu) is set for people having so small land or no land, especially for people in need of special attention.

“Off-farm” projects are applied to collines with high percentage of people engaging in non-agriculture industries. The Action Plan required affirmative selection of people in need of special attention as beneficiaries of “Off-farm type” projects.

Some IDPs have to commute to collines far from camp for cultivation, some widows cannot cultivate due to lack of farming utensils and ethnic minority like Batwa who basically lived on non-agricultural means. Therefore, it is necessary to set projects for supporting activities as means of livelihood except from cultivation, like agricultural products processing, trading and handicraft industries for people who cannot live on cultivation.

(2) Policy of Support for People in Need of Special Attention

When projects are designed and implemented, inclusiveness of social vulnerable people like Ex-Combatant, Ex-Child Soldier, Widow, Orphan, Disabled, Batwa people, people struggling with HIV/AIDS and IDPs, should be considered.

According to the colline profiling survey, situation of people in need of special attention was clarified as follows;

Table 5.7 Summary of People in Need of Special Attention Based on the Colline Profiling

Community Members Who Need Special Attention	Situation	Difficulty They Face	Support from Outside	Participation in Association	Means of Living	Land Holding
Ex-Combatant	Some success in integration and the others are living in IDP Camp	Food security	Social rehabilitation kit	Yes	Agriculture, Non-agricultural industry	Most of them sold out their land at the time of leaving for war
Ex-Child Soldier	Good relationship with people	Food Security	Land / Cattle	Yes	Agriculture, Non-agricultural industry	It depends on each person
Widow	They have no means to send their children to the school	Food security, lack of clothes	No support	Yes	Agriculture	Very small or having difficulty to possess land
Orphan	They cannot go to school and do not have money for stationary.	Food security, lack of clothes, no money for medical supports	There are some Associations supporting them	—	—	Some' lands are taken by their relatives
PWD	They cannot go to school and able to work, therefore, they are so poor.	Food security, no money for medical support	There are some Associations supporting them	Yes	Some cannot move and work	Depends on kind of disabilities
Batwa	They are poor living on self-sufficient agriculture and pottery	Food security, they donot know how to cultivate	There are some Associations supporting them	No, they donot have any association	Pottery, Agriculture	Very small land
HIV/AIDS	They do not have travel fee to go and take ARVs	Lack of agricultural input, Food Security	There are some Associations supporting them	Yes	Agriculture, Non-agricultural industry	Same land holdings as other people
IDP	It is too far to go to their original colline to cultivate	Some difficulties in crop cultivation in original colline	There are some Associations supporting them	Yes	Agriculture, Non-agricultural industry	They have land in their original colline, sometime take long time to go there

In the Project, it is necessary to be careful not to exclude social vulnerable people from the beneficiaries of the projects / activities.

The Draft Action Plan set policy of support for people in need of special attention as follows:

In “Marsh Agricultural Type” collines and “Colline Agricultural Type” collines, it is necessary to take into consideration member compositions of associations and it should be scrutinize that whether support for people in need of special attention are included in association activities or not at the stage of listing candidate target association (beneficiaries). In “Off-farm Type” collines, it is necessary to take into consideration member compositions of associations at the stage of selection of target associations to apply “Non-Agriculture” project menu to people in need of special attention.

However, for IDPs, Batwa people and Ex-Combatants, different approaches are required to benefit them as described below;

➤ **IDPs**

IDPs usually live in camp and some have land to cultivate in collines where IDP camp is located and others have to commute to the other collines. IDPs occupies majority of the people in need of special attention. In all collines having a camp in the target communes of the Projects, existence of associations including IDPs as members is confirmed. For IDPs having land near the camp, some took major roles in association, as a leader or vice leader. As for the IDPs having land far from the camp, some participated in the association activities and the other did not. But, for the latter, mutual aid system among IDPs was confirmed. For example, IDPs having land near camp went to the other collines and helped other IDPs with cultivation.

In the collines having IDP camps, to some extent, inclusiveness of IDPs in associations’ activities was confirmed. Therefore, in the selection of target association (beneficiaries) after selection of target collines, especially in collines having IDP camps, it is necessary to take into consideration member compositions of associations, whether associations include IDPs or not. In the collines far from camps, due to unsure inclusiveness of IDPs in associations’ activities, there is possibility that they are excluded from benefit of projects. Therefore, it is necessary to avoid possibility of exclusion of IDPs at the stage of listing candidate beneficiaries through strengthening information sharing in the collines.

➤ **Batwa People**

Batwa people are ethnic minorities and live in the place far from other tribes. Their major means of living is pottery and self-sufficient agriculture. However, some do not know a way of farming because originally they are hunting people. Most of Batwa people did not participate in associations’ activities, because it is more difficult for them to earn a living than others. Also, it is difficult to enhance their participation in associations’ activities because they cannot afford to pay money for saving in association periodically, though it is reasonable fee for others. Therefore, in most cases, they are not included in the beneficiaries of projects.

Therefore, it is difficult to benefit Batwa people through association activities and it is necessary to apply “Off-farm” project menu specifically to Batwa people through respecting their own cooperation system.

➤ **Ex-Combatants**

Most of ex-Combatants sold their land before going to wars, therefore, they do not have land for cultivation when they came back and face difficulty to survive. For the inclusiveness in associations’ activities, ex-Combatants did not participate in associations’ activities with other people in colline in the target collines of social survey (3 collines per commune, total 9 collines). Also, it was not confirmed the existence of associations supporting ex-combatants. There are associations composed of Ex-Combatants only, because establishment of associations is the condition to get money when demobilized, though it is not sure whether these associations function at present or not. Therefore, it is difficult to support ex-combatants through association activities. However, some catholic churches supported them through job creation in marsh development, and through helping associations which are supporting ex-combatants. The Project should consider collaboration with such support organization aiming at expansion of benefit to ex-combatants in the future.

7. PCDC Projects in Agricultural Sector

7.1 Project Design

PCDC has many activities concerning Agriculture, Livestock and Livelihood Improvement Sector. In this action plan, following projects were wet to cover activities described in PCDC concerning Agriculture, Livestock and Livelihood Improvement Sector.

1. Environment Protection
2. Soil Fertility Protection
3. Marsh Development
4. Seed Solidarity Chain
5. Livestock Promotion
6. Capacity Building for Farmers Organization (Association)
7. Fish Culture Promotion
8. Improvement of Access to Microfinance
9. Agricultural Products Processing
10. Marketing Promotion
11. Handicraft Industry Promotion
12. Capacity Building for Local Officers and Technicians

The project menus were set based on the countermeasures as described in previous section. Project menu were presented by three main livelihood type, Marsh Agricultural type, Colline Agricultural type, Off-Farm type. Therefore, above projects shall be classified by the type of main livelihood.

Also, in this Action Plan, Projects in PCDC are re-arranged along with PPIA structure to ensure harmonization with Provincial investment plan of DPAAE.

The following table shows the Project Menu in the Action Plan. “Type of Livelihood” shows corresponding sub-programs of PPIA and projects to types of livelihood of people, because project implementation and target colline selection should be carried out based on major livelihood of people in the colline for better effectiveness of projects. As described in “6. Countermeasure for Promoting PCDC Projects in Agricultural Sector”, people’s main livelihood can be classified into i) agriculture in marsh, ii) agriculture in colline and iii) off-farm activities. Therefore, suitable projects menu for livelihood improvement would be provided based on this classification.

Table 5.8 Project Menu in the Action Plan of Itaba Commune

Strategic Axe in PCDC	Program (PPIA)	Sub-Program (PPIA)	Type of Livelihood			Project
			Marsh	Colline	Off- farm	
No.1 Promotion and Strengthening capacity of production in agricultural sector in sustainable environment	Program 1: Production and Sustainable Food Security	Sub-Program 1: Productive Capital Protection	O	O		1.Environment Protection
			O	O		2. Soil Fertility Protection
		Sub-Program 2: Upgrade and Rehabilitation of Irrigation Schemes	O			3.Marsh Development
		Sub-Program 3: Intensification of Agricultural Production (plants and animals)	O	O		4. Seed Solidarity Chain
				O		5. Livestock Promotion
		Sub-Program 4: Development of Fishing and Fish Farming	O			6. Fish culture Promotion
		Sub-Program 5: Food Security, Nutrition and Vulnerability Management				
	Program 2: Professionalizatio n of Producers and Promoting Innovation	Sub Program 6: Organization of Producers and their Capacity Building	O	O		7. Capacity Building for Farmers Organization
		Sub Program 7: Development of Local Services and Innovation Project				
		Sub Program 8: Rural Finance Project	O	O		8. Improvement of Access to Microfinance
		Sub Program 9: Research / Development				
	Program 3: Development of industries and agribusiness	Sub Program 10: Export Sectors				
		Sub Program 11: Cash Crops and Animals			O	9.Agricultural Products Processing
		Sub Program 12: Rural Infrastructure			O	10.Marketing Promotion
				O	11.Handicraft Industry Promotion	
	Sub Program 13: Reform of DPAE					
Program 4: Improvement of the institution frame	Sub-Program 14: Improvement of the frame and labor condition	O	O	O	12. Capacity Building for Local Officers and Technicians	

7.2 Project Menu

Program 1: Increase in Production and Sustainable Food Security	
Sub-Program 1: Productive Capital Protection	
Project 1. Environmental Protection	
<u>Marsh Agricultural Type, Colline Agricultural Type Project</u>	
<p>For Colline farming, farmers possess only small piece of land and they cultivate more than twice in a year, therefore, it is said “over cultivation”. Generally, chemical fertilizer and organic manure are not affordable for farmers, because of the high cost of chemical fertilizer and lack of domestic animals for making compost. Therefore, farmers try mixed cropping and continuous cropping instead of applying chemical fertilizer and manure. For these reasons, degradation of soil became remarkable problem.</p> <p>On the other hand, government promotes the extension activities on environment conservation. Seedlings for afforestation are not sufficient to supply to farmers due to the lack of supplying system of materials. For that reason, afforestation areas in colline haven’t been expanded since donors’ support had been started.</p> <p>This Project will contribute to expand the afforestation areas and contour line planting to adapt these techniques beneficiaries through the activities. Also, this project contributes to expand agro-forestry and fruit production techniques and preserve land against soil erosion.</p>	
Expected Outcome	<ul style="list-style-type: none"> ✓ Beneficiaries understand importance of contour digging and practice digging contour and fix grasses in contour in their farm. ✓ Beneficiaries understand and introduce agro-forestry in their farm. ✓ Grass for fixing in contour and tree for agro-forestry are produced and supplied within colline. ✓ Frequency of soil degradation reduces considerably.
Main Activities	<p>Contour Digging and Grass Fixing</p> <ul style="list-style-type: none"> ➤ Digging contour line ➤ Multiplication of grass for fixing in contour line ➤ Maintenance of contour line dug <p>Afforestation, Agro-Forestry and Fruit Production</p> <ul style="list-style-type: none"> ➤ Planting afforestation tree, agro-forest try and fruit tree ➤ Producing seedlings of tree for afforestation, agro-forestry and fruit
Target Area	<p>Contour Digging and Grass Fixing All collines</p> <p>Afforestation, Agro-Forestry and Fruit Production Simba, Makebuko, Rwesero, Musave, Muhororo, Mwanzari, Karoba</p>
Target Value	<p>Contour Digging and Grass Fixing</p> <ul style="list-style-type: none"> ➤ Digging contour line in length with 1000 km ➤ Fixing grass in contour line; 4,000,000 plants (banagrass, tripsacum) ➤ Maintenance of contour line dug in length with 1000 km <p>Afforestation, Agro-Forestry and Fruit Production</p> <ul style="list-style-type: none"> ➤ Planting afforestation tree, agro-forest try and fruit tree (120,000 plants) ➤ Producing seedlings of tree for afforestation, agro-forestry and fruit (grevillea; 104,000, cedrella; 20,000, calliandra/leaceuna 2440,000, Eucalyptus; 94,000, Passion Fruit; 80,000, Avocado; 20,000, Japanese Pruine; 4,000)
Project 2. Soil Fertility Improvement	
<u>Marsh Agricultural Type, Colline Agricultural Type Project</u>	
<p>Generally, small scale farmers cultivate more than twice a year, it is over cultivation. Chemical fertilizer and organic manure are not affordable for farmers, because of high cost and shortage of compost materials. Therefore, farmers try to save dosage of chemical fertilizer and manure by mixing cropping and continuous cropping. It causes the expansion of soil degradation around colline included in marsh area. On the other hand, government has been promoting the extension</p>	

activities on soil conservation and farmers came to understand the importance of soil conservation. Meanwhile, stable fertilizer supply system has not been established and suitable rotation cropping system and effective fertilizer application rate have not been decided so that soil conservation activities are stagnated.

This Project will contribute to promote and expand the compost making technique, suitable application rate of fertilizers, and suitable cropping pattern to beneficiaries.

This Project is composed by following two (2) sub-projects.

Sub-Project 2.1; Strengthening Compost Production

This sub-project aims at promotion of manure production in compost pit with and without feces of livestock in correct way for efficient soil fertilization of farmers' fields.

Expected Outcome;	<ul style="list-style-type: none"> ✓ Technique on production of manure in compost without livestock is improved and quantity and quality of manure increase ✓ Technique on production of manure with livestock is improved and quantity and quality of manure increase. ✓ Availability of manure with livestock is improved for farmers who donot possess livestock.
Main Activities	<ul style="list-style-type: none"> ➤ Sensitization on compost making ➤ Transfer technique on compost making and promote compost production
Target Area	All collines
Target Value	<ul style="list-style-type: none"> ➤ Organizing sensitization seminar once a year ➤ Production of 42,657 composts (3 compost pits per household)

Sub-Project 2.2; Strengthening the Effectiveness of Fertilizer

This sub-project aims at promotion of increase effectiveness of fertilizer by mixing with manure and prevail efficient application way of chemical fertilizer to fertile soil effectively in crop land.

Expected Outcome;	<ul style="list-style-type: none"> ✓ Technique on improvement of effect of fertilizer is introduced. ✓ Yield of crop increases with limited farming input.
Main Activities	<ul style="list-style-type: none"> ➤ Distribution of Chemical fertilizer ➤ Transfer technique on application of chemical fertilizer mixing with manure
Target Area	All collines
Target Value	<ul style="list-style-type: none"> ➤ 10 % of all farmholds (5,600 farmholds) introduces effective application of fertilizer mixing with manure

Sub-Program 2 Upgrading and Rehabilitation of Irrigation Schemes

Project 3. Marsh Development

Marsh Agricultural Type Project

Marshes have high potential as farmland, so marsh development will contribute to regional food security and livelihood improvement of the people through production increase with appropriate farming practices on rice and vegetable. On the other hand, from a viewpoint of community regeneration which the Project is aiming, maintenance of irrigation facilities and water management will facilitate community activities and contribute to community regeneration through arising people's sense of togetherness.

This pilot project will be contributed to increase the rice and vegetable production by adapting improved farming practices. Additionally, it will be contributed to strengthen implementation capacity and technical skills of Commune Agronomists and Colline agricultural monitors.

Sub-project 3.1; Feasibility Study of Marsh Development

This sub-project aims at clarifying the technical information of selected marsh.

Expected Outcome;	<ul style="list-style-type: none"> ✓ Compling feasibility studies on socio-economy, topographic data, geographic data.
Main Activities	<ul style="list-style-type: none"> ➤ To implement feasibility study of marsh development by selected contractors
Target Area	Nyakigezi, Nyagihundo 2, Nyamuswaga 2, Nyakararo (Total 150ha) 7marshes
Target	575ha of marsh will be developed

Value	
Sub-project 3.2; Environmental Impact Assessment	
This sub-project aims at study of the natural condition of selected marsh at present.	
Expected Outcome;	✓ Compiling environmental impact assessment
Main Activities	➤ To implement environmental impact assessment of marsh development
Target Area	Nyakigezi, Nyagihundo 2, Nyamuswaga 2, Nyakararo , and 7marshes
Target Value	150ha of marsh will be developed
Sub-project 3.3; Marsh Development	
This sub-project aims at construction of irrigation facilities by selected contractors and creation of job opportunity for local people.	
Expected Outcome;	✓ Completin of construction of irrigation facility
Main Activities	➤ To select contractor by bidding ➤ To implement construction work and to supervise the work
Target Area	Nyakigezi, Nyagihundo 2, Nyamuswaga 2, Nyakararo ,and 7marshes
Target Value	150ha of marsh will be developed
Sub-project 3.4; Establising and Strengthening Water Mangagement Unit	
This sub-project aims at establishment of water user association to strengthen thire capacity through the training and meeting.	
Expected Outcome;	✓ Formulation of Water Users Assocaiton ✓ Formulation annual activity plan
Main Activities	➤ To organize Water users Association ➤ To formulate Regulation ➤ To formulate Annual activity plan
Target Area	Makebukko and Maramvya
Target Value	2 cooperatives
Sub-project 3.5; Promotion of Rice Production during Rainy Season in Marsh	
This sub-project aims at introduction of sutiable rice varieties and appropriate farming techniques through some training and field practices at demonstarion farm	
Expected Outcome;	✓ Capacity and technical skill development of Commune Agnonmoist and Colline agricultural monitores ✓ Increasing rice production by introducing suitable farming practices to beneficiaries through the project ✓ Extending the improved farming practices on rice and expanding production areas
Main Activities	➤ To conduct technical guidance on trial implementation and rice cultivation ➤ To prepar cropping calendar ➤ To do monitoring of the activities
Target Area	Nyakigezi, Nyagihundo 2, Nyamuswaga 2, Nyakararo (Total 150ha) 7marshes
Target Value	Yield will be increased from 3.8tons/ha to 6 tons/ha
Sub-project3.6; Promotion of Vegetable Production during Dry Season in Marsh	
This sub-project aims at introduction of sutiable vegetable varieties and appropriate farming techniques through some training and field practices at demonstarion farm.	
Expected Outcome;	✓ Capacity and technical skill development of Commune Agnonmoist and Colline agricultural monitores ✓ Increasing vegetable production by introducing suitable farming practices to beneficiaries through the project

	✓ Extending the improved farming practices on vegetable and expanding production areas
Main Activities	<ul style="list-style-type: none"> ➤ To conduct technical guidance on trial implementation and vegetable cultivation ➤ To prepare cropping calendar ➤ To do monitoring of the activities
Target Area	Nyakigezi, Nyagihundo 2, Nyamuswaga 2, Nyakararo
Target Value	Vegetable seeds (1500 plastic bags of tomatoes, 1500 plastics of aubergine, 4500 plastics of cabbage and 1500 plastics of onions)
Sub-Program 3 Intensification of Agricultural Production (Plants and Animals)	
Project 4. Seed Solidarity Chain	
<u>Marsh Agricultural Type, Colline Agricultural Type Project</u>	
<p>In the target area, farmers keep production as a seed for next cropping season's. These seeds are not produced in the procedure of home seed-raising method, so that quality control of seed is quite difficult and quantity of seed is not stable because of depending on the production in the year. In addition, farmers are not able to keep seeds in good condition for the next season due to deteriorating seed quality by insect damage, lack of suitable storage technique, and lack of knowledge on storage. On the other hand, good quality seeds and improved seeds are distributed by DPAE through donor's support. However, target areas and providing rate are limited and extension of multiplication technique has not been applicable for farmers. Seed distribution system also has not been established. For these reasons, qualified seeds are insufficient to distribute to farmers who want to.</p> <p>Through the project, cultivation techniques of selected seed will be improved and increase the yield of seed. Also, seed solidarity chain system will be established and operated by beneficiaries. This Project will contribute to improve and expand the techniques for selected seed production and to increase the production. And then, seed solidarity chain system will be established and operated by beneficiaries.</p>	
Sub-Project 4.1; Dissemination of Selected Seed	
This sub-project aims at strengthening and prevailing technique on selection and cultivation of quality seed of improved variety.	
Expected Outcome;	<ul style="list-style-type: none"> ✓ Improved variety suitable for soil and environment is selected. ✓ Necessary and appropriate technique for cultivating seed of selected variety is introduced and practiced
Main Activities	<ul style="list-style-type: none"> ➤ Distribution of selected seed ➤ Transfer technique on cultivation of seed of selected variety
Target Area	All Collines
Target Value	➤ 30 % of all farmholds (16,800 farmholds) buy and cultivate selected seed
Sub-Project 4.2; Seed Storage Construction	
This sub-project aims at strengthening and prevailing preservation technique of selected seed. Also, this aims at promoting construction of seed storage, and establishment of seed solidarity chain system centered at seed storage in the community.	
Expected Outcome;	<ul style="list-style-type: none"> ✓ Preservation technique suitable for seed of selected variety is introduced and practiced. ✓ Production, storage, distribution and return of improved seed are strengthened systematically.
Main Activities	<ul style="list-style-type: none"> ➤ Construction of seed storage ➤ Transfer technique on selected seed preservation technique ➤ Establishment of management system of seed storage
Target Area	All Collines

Target Value	➤ 30 % of all farmholds (16,800 farmholds) buy and cultivate selected seed
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Project 5. Livestock Promotion

Colline Agricultural Type Project

In the target area, solidarity chain system of livestock has not been established, because it was not target area of PARSE project, which established “solidarity chain committee” and systemized monitoring, breeding and provision of livestock in target area. Now PARSE project had stopped distribution of livestock, and now concentrate on capacity building of ACSA, and agro-pastoral farmers in collaboration with FFS (Farmers Field School) by FAO for strengthening existing solidarity chain system. Thus, it is necessary to provide technical support for establishment of solidarity chain in the target colline.

Although enough amount of forage is necessary to keep livestock, it is difficult for most agro-pastoral farmers to plant necessary amount of forage grass in the limited size of land. Therefore, technical transfer on improvement of yield of forage grass is strongly required.

Also, animal health service providing system is important to make “solidarity chain” function. ACSA take major role in providing animal health service to population, however, procurement of medicine, diagnostic of livestock are conducted partly in inefficient way, because the number of agro-pastoral farmers per ACSA is more than 300. Therefore, it is necessary to systemize animal health service providing system through improvement of current system and transfer technique to agro-pastoral farmers to make them capable for health care of their livestock. In the near future, animal health service providing system centered in veterinary pharmacy center shall be established. Though there is still no veterinary pharmacy in target three communes, this project focus on strengthening and improving existing service provision by ACSA.

Sub-Project 5.1; Increase of Livestock

This sub-project aims at providing technical support for establishment of solidarity chain in the colline where PARSE project has not been conducted for establishment of livestock solidarity-chain.

Expected Outcome;	✓ Colline which was not target area of PARSE project also introduced Solidarity Chain of livestock.
Main Activities	➤ Increase of Livestock ➤ Transfer technique on maintenance of Livestock ➤ Establishment of Livestock management system ➤ Establishment of livestock solidarity-chain system
Target Area	Gasasa, Karoba, Rusagara, Kiyange, Buga, Gasenyi, Muhororo, Mwanzari, Butobwe (Collines without establishment of livestock solidarity-chain)
Target Value	➤ Restocking Dairy cows: 100 heads, Pig : 8,500 heads, Goat: 2,500 heads

Sub-Project 5.2; Strengthening Forage Production

Although enough amount of forage is necessary to keep livestock, it is difficult for most agro-pastoral farmers to plant necessary amount of forage grass in the limited size of land. Therefore, technical transfer on improvement of yield of forage grass is strongly required. This sub-project aims at providing technical support to increase yield of forage grass in the colline where PARSE project has not been conducted for establishment of livestock solidarity-chain.

Expected Outcome;	✓ Yield of forage grass increase.
Main Activities	➤ Distribution of seedlings of forage grass ➤ Transfer technique on cultivation and maintenance of forage grass
Target Area	Gasasa, Karoba, Rusagara, Kiyange, Buga, Gasenyi, Muhororo, Mwanzari, Butobwe (Collines without establishment of livestock solidarity-chain)
Target Value	➤ 145ha (*20a X 100 heads of daily cow + 5 a X 2,500 heads of goat)

Sub-Project 5.3; Strengthening Animal Health System

Animal health service providing system is important to make “solidarity chain” function. ACSA take major role in providing animal health service to population. Animal health service providing system centered in places equipped with veterinary pharmacies shall be established.

This sub-project aims at strengthening and improving existing service provision by ACSA in the colline where PARSE project has not been conducted for establishment of livestock solidarity-chain.

Expected Outcome;	✓ Animal Health system for livestock solidarity-chain is strengthened.
Main Activities	➤ Training ACSA on animal health system including artificial insemination ➤ Provision of materials for animal health to ACSA
Target Area	Gasasa, Karoba, Rusagara, Kiyange, Buga, Gasenyi, Muhororo, Mwanzari, Butobwe (Collines without establishment of livestock solidarity-chain)
Target Value	➤ Training ACSA on animal health system including artificial insemination in the commune once a year ➤ Establish commune level animal health center equipped with veterinary pharmacies, concentrates, etc.

Sub-Program 4 Development of Fishing and Fish Farming

Project 6. Pisculture Promotion

Marsh Agricultural Type Project

Gitega province has no access to Lake Tanganyika which is the main source of fish consumed in Burundi where no fishing activity is registered into its active. However, fish farming which is the breeding fish is promising in the province especially as it meets the three required criteria for the success of the activity which are: a favorable topography, availability of water in sufficient quantity and quality as well as socio-economic factors.

Fish farming shall be developed as income resource for livelihood improvement of farmers facing low crop production due to limitation of cultivation land in the commune.

Expected Outcome;	✓ Household income increases through selling fish.
Main Activities	✓ Organizing training on management of fish ponds ✓ Developing fish ponds ✓ Rehabilitating fish ponds ✓ Planting grass in banks of fish ponds ✓ Feeding fish with fry
Target Area	Developing fish ponds Gasasa, Mwaro-Mavuvu colline Rehabilitating fish ponds Muyange, Janja colline, Nyagihundo marsh, Nyakigezi marsh
Target Value	➤ Organizing eight (8) trainings on management of fish ponds ➤ Developing four (4) fish ponds ➤ Rehabilitating two (2) fish ponds ➤ Planting grass in banks of fish ponds (6 ponds) ➤ Feeding fish with fry (5 kg / pond for all 6 ponds; 30kgs of fry)

Program 2: Professionalization of Producers and Promoting Innovation

SP 6 Organization of Producers and their Capacity Building

Project 7. Capacity Buildings for Farmers

Marsh Agricultural Type, Colline Agricultural Type Project

Producers must be organized and their capacity shall be reinforced. Actually, agricultural producers are in a weak position, especially in the price negotiation for marketing of their products. Individual producers cannot sell their products at good prices. Organized in strong associations or cooperatives, they get much strength to develop themselves and become vital partners in the development of the agriculture and livestock sector as service delivers.

Expected Outcome;	✓ The Organizations of Agricultural Producers (OAP) are established in strong
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	<ul style="list-style-type: none"> organizations ✓ The profits of producers are protected ✓ Promotion of establishment of cooperatives
Main Activities	<ul style="list-style-type: none"> ✓ Organizing potato producers into cooperative ✓ Organizing rice producers into cooperative ✓ Training for seed producers on modern farming practices and method ✓ Organizing exchange visits for producers ✓ Organizing FFS training
Target Area	<p>Organization of Potato producing cooperative One cooperative per zone; Maramvya, Murenda, Makebukko zone</p> <p>Organization of Potato producing cooperative One cooperative for each Makebukko and Maramvya zone</p> <p>Training, FFS , exchange visit All colline</p>
Target Value	<ul style="list-style-type: none"> ✓ Organizing potato producers into three (3) cooperatives, one cooperative per zone ✓ Organizing rice producers into two (2) cooperatives ✓ Organizing 10 trainings for seed producers on modern farming practices and method per year ✓ Organizing six (6) exchange visits for producers (2 times per zone) ✓ Organizing six (6) FFS trainings (2 times per zone)
Sub-Program 8 Rural Finance	
Project 8. Improvement of Access to Rural Finance	
<u>Marsh Agricultural Type, Colline Agricultural Typ, Off-farm Type Project</u>	
<p>Bukirasazi commune has micro-finance institutions such as COOPEC. The credit system suitable for the agriculture is necessary in order to improve production of rural area. The increase of production will allow the producer to reimburse the credit but the supervision of that same credit remains vital.</p>	
Expected Outcome;	<ul style="list-style-type: none"> ✓ Improve access of agricultural producers to financing for their activities ✓ Increase the investment capacities of private sector and OPA
Main Activities	<ul style="list-style-type: none"> ✓ Promotion of access to credit for agricultural activities of producers organizations
Target Area	All collines
Target Value	<ul style="list-style-type: none"> ✓ 20% of agricultural activities are financed by micro finance
Program 3: Development of industries and agribusiness	
<u>Off-Farm Type Project</u>	
Sub Program 11: Cash Crops and Animals	
Projects 9. Agricultural Products Processing	
<p>There have been many socially vulnerable people in the commune. Among them, there are many people who do not or almost not have arable lands for crop production in the area. Therefore, promotion of activities has been necessary for such kind of people in order to increase their livelihood.</p> <p>In addition, supports to them may be possible through associations' activities which do not utilize fields, because there are many associations that support socially vulnerable people such as orphans and widows through their activities.</p> <p>Agricultural products processing association shall be established and strengthened as independent organization, training on agro-alimentary processing will be provided to the association and also session on operation and maintenance of processing machine shall be conducted with the necessary materials.</p>	
Expected Outcome;	<ul style="list-style-type: none"> ✓ Value-adding technique through agro-alimentary processing will be introduced and practiced. ✓ Agricultural products processing, preservation, marketing and selling system

		will be established.
Main Activities	✓	Establish and Strengthening association on agro-alimentary processing (pineapple juice, jam, wine, beignets, banana wine)
	✓	Training of techniques on agro-alimentary processing (pineapple juice, jam, wine, beignets, banana wine)
	✓	Provision of necessary materials for agro-alimentary processing (pineapple juice, jam, wine, beignets, banana wine)
Target Area		Mwaro-Mavuvu, Makebuko, Ntita, Mwumba colline (Off-farm type colline)
Target Value	✓	8 associations
Sub Program 12: Rural Infrastructure		
Projects 10. Marketing Promotion		
<p>There are many people who do not or almost not have arable lands for crop production. Therefore, promotion of activities has been necessary for these people in order to increase their livelihood.</p> <p>It is necessary to establish strategic marketing and distribution system.</p> <p>Also, it is necessary to activate commercial activities near central market in commune.</p> <p>This project aims to i) improve bargaining power of producers in market, ii) increase efficiency of distribution of agricultural products to market, iii) creation of income resource through strengthening distribution by bicycle system to be operated by association.</p> <p>It is necessary to establish market information providing system and improve accessibility to market with small input.</p>		
Expected Outcome;	✓	Amount of agricultural products delivered to market will increase.
	✓	Access to the commune center market from each colline will improved.
Main Activities	✓	Establishment of market price information sharing system
	✓	Promoting business dealing agricultural products
	✓	Rehabilitation and maintenance of access footpath to the market
Target Area		All collines
Target Value	✓	Establishment of market price information sharing system
	✓	Promoting business dealing agricultural products
Projects 11. Handicraft Industry Promotion		
<p>There have been many socially vulnerable people in the commune. Among them, there are many people who do not or almost not have arable lands for crop production. Therefore, promotion of activities has been necessary for these people in order to increase their livelihood.</p> <p>In addition, supports to them may be possible through associations' activities which do not utilize fields, because there are many associations that support socially vulnerable people such as orphans and widows through their activities.</p> <p>PCDC aimed at strengthening handicraft activities in commune, however, these projects has not yet been conducted.</p> <p>In this project, handicraft industry association will be established and strengthened as independent organization, training on handicraft industry will be provided to the association and also session on operation and maintenance of machine will be conducted with the machine installment.</p> <p>This project aims to establish and strengthen handicraft industry association, transfer technique, install machine and establish operation and management system.</p>		
Expected Outcome;	✓	Technique on handicraft industry will be introduced and practiced.
	✓	Production of handicraft industry products, marketing and selling system will be established.
Main Activities	✓	Establish and Strengthening association on handicraft industry
	✓	Training of techniques on handicraft industry
	✓	Provision of necessary materials for handicraft industry
Target Area		Mwaro-Mavuvu, Makebuko, Ntita, Mwumba colline (Off-farm type colline)
Target	✓	Organizing 8 associations on handicraft industry

	Value	✓ Organizing training on technique on handicraft industry for 8 associations ✓ Provision of necessary materials for handicraft industry for 8 associations
Program 4: Improvement of the Institution Frame		
Sub-Project 14 Improvement of the Frame and Condition of Labor		
Project 12. Capacity Building for Local Officers and Technicians		
<u>Marsh Agricultural Type, Colline Agricultural Type Project</u>		
This project aims to provide technicians training with well-prepared contents module and enable them to learn and get skill effectively.		
Capacity development for technicians is composed of i) elaboration of capacity development program, ii) conduct training based on the capacity development program, iii) follow-up after training.		
Expected Outcome;	✓	Technicians concerning service delivering on agriculture, livestock and livelihood improvement obtain necessary knowledges and skills for promoting PCDC projects in agriculture, livestock and livelihood improvement sector.
Main Activities	✓	Organize training on necessary knowledges and skills for promoting PCDC projects in agriculture, livestock and livelihood improvement sector based on capacity development program.
Target Area		All collines
Target Value	✓	Based on the Capacity Development Program

8. Implementation Structure of Action Plan for Promoting PCDC Projects in Agriculture and Livestock and Livelihood Improvement Sector

Project implementation system differs by each project, however, most of the projects have following procedures;

1. Holding sensitization meeting
2. Selection of beneficiaries
3. Technical transfer to beneficiaries (training)
4. Acquisition of land for project
5. Procurement of materials
6. Distribution of materials
7. Demonstration of utilization and maintenance of materials
8. Establish project management system
9. Monitoring and evaluation

Holding Sensitization Meeting

Commune administration and DPAE staff decide criteria on selection of beneficiaries. Commune administration sensitizes colline chief and CDC members in weekly security meeting to make beneficiaries list of their colline.

Selection of Beneficiaries

Chiefs of collines prepare list of candidate beneficiaries and get permission from commune administration through zone chief. After permission from commune administration, chiefs of collines and CDC members hold meeting and select beneficiaries based on the criteria set under witness of Colline agricultural monitor and ACSA.

Technical transfer to Beneficiaries (Training)

Commune agronomist/ veterinaries become trainer. They sensitizes Colline agricultural monitor and Colline agricultural monitor arranges training for target beneficiaries. commune agronomist reviews module of training prepared in capacity building program, and prepares agenda of training. Colline agricultural monitor will inform agenda of training to target beneficiaries beforehand.

Procurement of Materials

DPAE staff decide procurement place for materials to be provided to target beneficiaries and control quality in procurement.

Distribution of Materials

Commune administration, commune agronomist, colline chief, Colline agricultural monitor and CDC members supervise distribution of materials to target beneficiaries.

Demonstration of Utilization and Maintenance of Materials

Colline agricultural monitor demonstrates necessary techniques for utilization and maintenance of materials provided to target beneficiaries.

Establishment of Project Management System

Commune agronomist, colline chief, Colline agricultural monitor and CDC support establishment of operation and management system of projects by target beneficiaries.

Monitoring and Evaluation

Government officials from MINAGRIE establish their monitoring structure; Zone Agronomist is in charge of collecting monitoring reports from each of the collines every week. Receiving the reports from zone agronomist, the commune agronomist submits monthly monitoring report to the Chief of DPAE in the monthly meeting convened at the MINAGRIE. Colline chief and CDC, on the administrative side, regularly monitor activities of target associations. They are responsible for reporting to the commune administration through zone chief. Collecting information, government officials from the both lines ideally hold information sharing sessions in weekly security meeting.

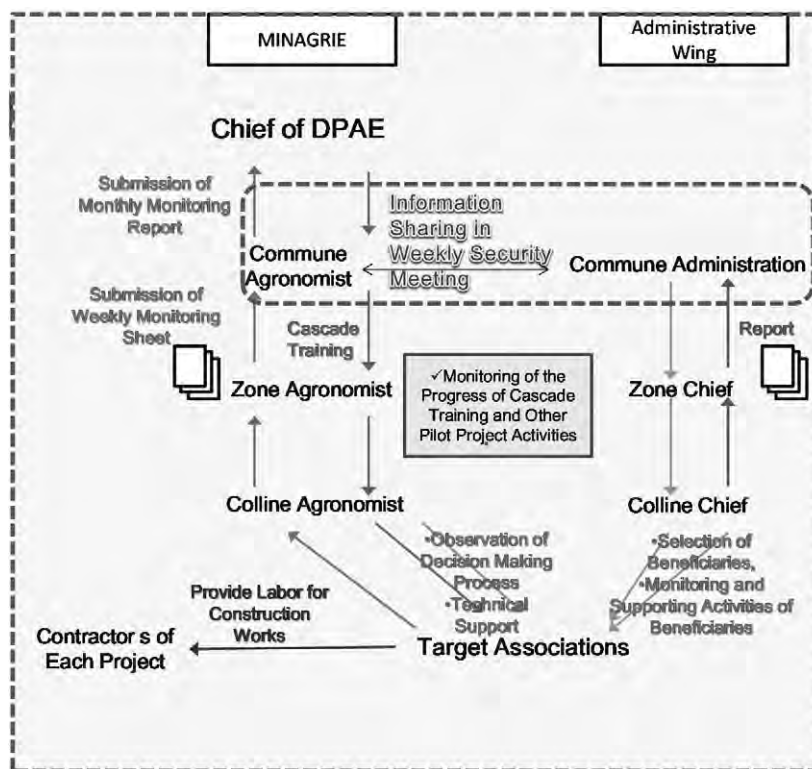


Figure 5.4 Monitoring Structure of the Projects

9. Project Sheet of Makebuko Commune

Table 5.9 Project Sheet of Makebuko Commune

Action Plan Project Sheet: Makebuko Commune

A.	B.	C.	D.	Activities	Item	Project Area	Q'ty	Unit	UC '000	Amount Million	Schedule (amount in million)							
											2013	2014	2015	2016	2017			
Program 1: Production and Sustainable Food Security																		
Sub-Program 1: Productive Capital Protection																		
1.Environment Protection																		
				Contourline		all collines												
				Contourline digging			1,000	km	350	350.0	70	70	70	70	70			
				Grass fixing	Banagrass		2,000,000	pc	0.005	10.0	2	2	2	2	2			
					Tripsacum		2,000,000	pc	0.005	10.0	2	2	2	2	2			
				Maintenance of contourline			1,000	km	40	40.0	8	8	8	8	8			
Afforestation, Agro-Forestry and Fruit Production																		
				Producing and planting	Grevillea	Simba, Makebuko, Rwesero, M usave,	104,000	pc	0.02	2.1	0.416	0.416	0.416	0.416	0.416			
					Cedrella	Muhororo, M wanzari,	20,000	pc	0.02	0.4	0.08	0.08	0.08	0.08	0.08			
					Calliandra	Karoba	1,220,000	pc	0.02	24.4	4.88	4.88	4.88	4.88	4.88			
					Leucaena		1,220,000	pc	0.02	24.4	4.88	4.88	4.88	4.88				
					Eucalyptus		94,000	pc	0.02	1.9	0.376	0.376	0.376	0.376				
					Passion fruit		80,000	pc	0.02	1.6	0.32	0.32	0.32	0.32				
					Avocado		20,000	pc	0.02	0.4	0.08	0.08	0.08	0.08				
					J. Prune		4,000	pc	0.02	0.1	0.016	0.016	0.016	0.016				
				Total						465.2								
2.Soil Fertility Improvement																		
2.1 Strengthening Compost Production																		
				Organizing sensitization seminar		all collines	145	time	50	7.3	1.45	1.45	1.45	1.45	1.45			
2.2 Strengthening Effectiveness of Fertilizer																		
				Organizing technical transfer seminar		all collines	145	time	50	7.3	1.45	1.45	1.45	1.45	1.45			
				Total						14.5								
Sub-Program 2: Upgrade and Rehabilitation of Irrigation Schemes																		
3. Marsh Development																		
				3.1 Feasibility Study of Marsh Development		Nyaghundo 2,												
				Conducting feasibility study		Nyamuswaga 2,	55.0	ha	300	16.5		7.5	6	3				
				3.3 Marsh Development		Nyakararo (Total 150ha, 7 marshes)												
				Constructing irrigation facility			55.0	ha	4,000	220.0		100	80	40				
3.4 Establishing and Strengthening Water Management Unit																		
				Organization meeting			25	time	50	1.3	0.25	0.25	0.25	0.25				
				Organizing operation and management seminar			15	time	50	0.8	0.15	0.15	0.15	0.15				
				Organizing maintenance seminar			15	time	50	0.8	0.15	0.15	0.15	0.15				
3.5 Promotion of Rice Production in Rainy Season																		
				Providing technical training			25	time	50	1.3	0.25	0.25	0.25	0.25				
3.6 Promotio of Vegetable Production in Dry Season																		
				Providing technical training			25	time	50	1.3	0.25	0.25	0.25	0.25				
				Total						241.8								
Sub-Program 3: Intensification of Agricultural Production (plants and animals)																		
4. Seed Solidarity Chain																		
4.1 Dissemination of Selected Seed																		
				Distribution of selected seed/plant	Banana	all collines	17,000	pc	1	17.0	3.4	3.4	3.4	3.4	3.4			
					Maize		150	ton	800	120.0	24	24	24	24				
					Cassava		1,500,000	pc	0.01	15.0	3	3	3	3				
					Beans		45	ton	1,200	54.0	10.8	10.8	10.8	10.8				
					Soy beans		90	ton	1,500	135.0	27	27	27	27				
					Tomato		1,500	bag	2.5	3.8	0.75	0.75	0.75	0.75				
					Egg plant		1,500	bag	2.5	3.8	0.75	0.75	0.75	0.75				
					Cabbage		4,500	bag	2.5	11.3	2.25	2.25	2.25	2.25				
					Onion		1,500	bag	2.5	3.8	0.75	0.75	0.75	0.75				
					Avocado		100,000	pc	0.1	10.0	2	2	2	2				
					Passion		400,000	pc	0.1	40.0	8	8	8	8				
					J. prune		150,000	pc	0.1	15.0	3	3	3	3				
				Organizing technical transfer seminar			145	time	50	7.3	1.45	1.45	1.45	1.45				
4.2 Seed Storage Construction																		
				Storage construction			2	pc	20,000	40.0		20	20					
				Organizing sensitization seminar			45	time	50	2.3	0.45	0.45	0.45	0.45				
				Total						478.0								
5. Livestock Promotion																		
5.1 Increase of Livestock																		
				Restocking livestock	Cow	Gasasa, Karoba, Rusagara, Kiyange, Buga, Gasenyi,	100	head	1,200	120.0		30	30	30	30			
					Goat	Muhororo, M wanzari,	2,500	head	80	200.0		50	50	50	50			
					Pig	Butobwe (collines without commune)	8,500	head	45	382.5		95.63	95.63	95.625	95.63			
				Organizing technical transfer seminar			10	time	1,000	10.0	2	2	2	2				
5.2 Strengthening Forage Production																		
				Distribution of forage grass seedlings		*1	145	ha	30	4.4	0.87	0.87	0.87	0.87				
				Organizing technical transfer seminar		all collines	45	time	50	2.3	0.45	0.45	0.45	0.45				
5.3 Strengthening Animal Health System																		
				Training ACSA on animal health system		commune	5	time	1,000	5.0	1	1	1	1				
				Provision of materials for animal health		all collines	29	set	141	4.1		1.41	1.41	1.269				
				Total						728.2								
Sub-Program 4: Development of Fishing and Fish Farming																		
6. Fish Farming Promotion																		
				Organizing fish pond management training		New installation;	8	time	1,000	8.0		1	1	4	2			
				Developing fish ponds		Gasasa, Mwaro-Mavuvu,	4	site	1,000	4.0		1	1	2				
				Rehabilitating fish ponds		Rehabilitating fish ponds;	2	site	200	0.4		0.4						
				Grass planting at fish pond bank		Muyange, Janji colline,	6	site	240	1.4		0.72	0.24	0.48				
				Feeding fish with fry		Nyaghundo marsh, Nyakigezi marsh	30	kg	26	0.8		0.39	0.13	0.26				
				Total						14.6								

Action Plan Project Sheet: Makebuko Commune

A.	B.	C.	D.	Activities	Item	Project Area	Qty	Unit	UC '000	Amount Million	Schedule (amount in million)				
											2013	2014	2015	2016	2017
				Sub-Program 5: Food Security, Nutrition and Vulnerability Management											
				Program 2: Professionalization of Producers and Promoting Innovation											
				Sub Program 6: Organization of Producers and their Capacity Building											
				7. Capacity Building for Farmers											
				Organization of Potato producing cooperative		3 zones	45	time	1,000	45.0	45.0				
				Organization of Rice producing cooperative		Makebuko, Maram-ya zone	30	time	1,000	30.0	30.0				
				Training for seed producers		commune	50	time	1,000	50.0		12.5	12.5	12.5	12.5
				Organizing exchange visits for producers		3 zones	30	time	1,000	30.0		7.5	7.5	7.5	7.5
				Organizing FFS training		3 zones	30	time	1,000	30.0		7.5	7.5	7.5	7.5
				Total						185.0					
				Sub Program 7: Development of Local Services and Innovation Project											
				Sub Program 8: Rural Finance Project											
				8. Improvement of Access to Microfinance											
				Organizing sensitization seminar on rural credit		all collines	145	time	50	7.3	1.45	1.45	1.45	1.45	1.45
				Total						7.3					
				Sub Program 9: Research / Development											
				Program 3: Development of industries and agribusiness											
				Sub Program 10: Export Sectors											
				Sub Program 11: Cash Crops and Animals											
				9. Agricultural Products Processing											
				Establish and Strengthening association on agro-processing											
				Formulation meeting of association		Mwaro-Mavuvu,	80	time	100	8.0	1.6	1.6	1.6	1.6	1.6
				Training of techniques		Makebuko, Ntita,	40	time	100	4.0	0.8	0.8	0.8	0.8	0.8
				Provision of necessary materials		Mwumba	8	set	2,000	16.0	6	6	4		
				Total						28.0					
				Sub Program 12: Rural Infrastructure											
				10. Marketing Promotion		all collines									
				Establishment of market price information sharing system											
				Sensitization meeting			58	time	50	2.9	1.45	1.45			
				Training to info collectors			5	time	100	0.5	0.1	0.1	0.1	0.1	0.1
				Promoting business dealing agricultural products											
				Sensitization meeting			10	time	50	0.5	0.1	0.1	0.1	0.1	0.1
				Training on business			10	time	100	1.0	0.2	0.2	0.2	0.2	0.2
				Total						4.9					
				11. Handicraft Industry Promotion											
				Establish and strengthening association on handicraft industry											
				Formulation meeting of association		Mwaro-Mavuvu,	80	time	100	8.0	1.6	1.6	1.6	1.6	1.6
				Training of techniques		Makebuko, Ntita,	40	time	100	4.0	0.8	0.8	0.8	0.8	0.8
				Provision of necessary materials		Mwumba	8	set	2,000	16.0	6	6	4		
				Total						28.0					
				Sub Program 13: Reform of DPAAE											
				Program 4: Improvement of the institution frame											
				Sub-Program 14: Improvement of the frame and labor condition											
				12. Capacity Building for Technician											
				Refer to the Capacity Development Program											
				Gtand Total						2,195.4					

- A. Program (PPIA)
- B. Sub-Program (PPIA)
- C. Project
- D. Sub-Project

B. Itaba Commune Action Plan for Promoting PCDC

1. Introduction

PCDC is a valid tool for community development but it is not implemented in the most effective way. On the other hand, agriculture is the main source of livelihood for people of communities and MINAGRIE has staffs up to colline level, hence support focusing on the agricultural sector is effective. Therefore this Action Plan aims to facilitate implementation of agricultural projects of PCDC.

Combining those views, it was assumed that support to MINAGRIE, DPAE and commune officials is necessary to facilitate implementation of PCDC and this Action Plan is practical tools to facilitate implementation of PCDC.

2. Features of Itaba Commune

2.1 General Features of Governorate

As of 2012, there are 20 collines in Itaba commune and these collines are classified into three (3) zones: Buhevyi, Gihamagara, Itaba.

2.2 Natural Conditions

This commune is located in tropical climate, and it is surrounded by four communes. The average annual rainfall is 400 mm/year. The annual average temperature is 19.5 °C.

2.3 Socio-Economic Condition

The total population in Itaba commune was estimated at 57,577 (2013). The colline with fewer population, fewer households, and households engaged in agriculture is Nkima with 153 households and 928 inhabitants. The Colline which has more people, more households engaged in agriculture is Rukobe II with 7,000 inhabitants and 1,469 households (2012).

Population density is estimated at 259/km² (2013), people living in IDP camp occupy 3.6% (2,058) of all.

In 2012, Number of houses with straw roof occupies 17.2% (2,716) of all houses and number of houses with metal sheet occupies 10.9% (1,720).

For infrastructure, there is four (4) market in the commune and Gihamagara market is the biggest in the region. Not a few collines are hilly, and it takes more than 30 minutes from the center of some collines to school, health center and market.

2.4 Environmental and Social Consideration

2.4.1 Environmental Consideration

Current situation of environmental issue in Itaba commune is summarized in the table below.

Table 5.10 Current Environmental Issues of Bukirasazi Commune

Environment	Environment Consideration/ Evaluation in Existing Condition (Before Project)
General overview of Climate	The climate of the project region of the study is also corresponding to the zone of Kirimiro. The average temperatures of the zone are of 19.5°C. The registered average rain fall is reported as 1400 mm/year i.e. above to the national average. The rainy seasons begins in September and continue until mid-May, whereas, the dry seasons lasts for three months i.e. from June to August.
Agriculture based on Climate condition.	In the absence of proper irrigation facility, the agriculture in the commune heavily dependent on the variability and instability of the climatic conditions. Majority of the total population of the Itaba commune is dependent on agriculture. Instable climatic conditions led to situation of flood and thus substantially decrease the farming activity and result in agriculture loss. Such loss adds the one factor for the poverty to the farmers.
Soil & its Productivity	In geological terms, the peaks of the hills are composed of the quartzitic rocks and harder while the soils of the valley / swamp are composed of softer rocks such as granite balls. As of Marshes of the commune is concerned, the soil is not the organic one as the marsh is being exploited since long and farmers are using chemical fertilizers for the production of various crops. The soil in the flat & marsh region is characterized as clay or sandy clay and due to erosion the conditions are deteriorating. However, the soils are fertile and can provide higher agriculture production if the irrigation system is developed and managed properly. The fertility of soil of marsh is on decreasing trend because of undeveloped condition of marshes and lack of irrigation facility.
Water Availability	The Rurembara , Riba, Mutukara-Kamirange and Gihehea rivers are the main rivers of the Itaba commune . During the rainy season the occurrence of flood is frequent and a lot of fertile and cultivated land submerge in to the water and thus results in production loss. Further, because of uneven terrain of the marshes of the commune, the water cannot reach at each corner of the marsh and hence it restricts the farmers to choose the right food crop to grow and productivity suffers too.
Flora	The dominant crops of Itaba commune are green peas, cabbage, lenga-lenga, maize, egg plant, beans and sweet potato. Rice has never been cultivated in the marsh. The choice of the crops to cultivate depends on the season and reach of water to the land. Vegetation at the slopes of the hills surrounding to marsh exist and it is being well exploited. The crops of maize, banana, sorghum, coffee and beans are being cultivated at the slopes. Some wild grass also can be seen at the slopes as natural vegetation. Farmers have undertaken the contour work at the slopes with the hedging of grass.
Fauna(Livestock)	Almost all the marshes of the Itaba is under cultivation and there is no wild animal in existence in the marsh area. So, now, the zone of the project does not have any animal species those are classified in the appendices of the International Trade of Wild Animals in Danger of Extinction (CITES). Presently, the fauna in the project zone is limited to comprise of reptiles, insects, termites and birds. The farmers of the marshes are also engaged in the breeding of livestock. The number of livestock is increasing after cessation of hostilities and due to efforts of different development partners. However, constraints like lack of grazing area due to intensive agriculture, inadequate availability of the veterinary services and lack of veterinary centers also exist.

2.4.2 Social Consideration

(1) Progress of Reconciliation

In Itaba commune, there are three (3) IDP camps, Gihamagara, Buhoro and Gisikara IDP camp. GIZ/APRS, MIRAPEC and other social integration projects (~2008) were promoted to boost reconciliation among people. There are no security concerns during the day times, however, there is still prevailing tension regarding land of people living in IDP camp in colline, and some people feel fear to go out IDP camp during night.

(2) Consideration for People in Need of Special Attention

1) Situation of People in Need of Special Attention

i) Status of People living in IDP camp

People living in IDP camp face bad residence environment due to high population density in camp. In all three IDP camps in Itaba commune, there is lack and aging of houses. In some houses, metal sheet roofs are broken due to heavy rain and face difficulty of procurement of strong roof which endure during rainy season.

Also, there are many children in IDP camp and many of them cannot go to school because of lack of money for uniform and textbook.

Most of adults living in camp commute to their land for cultivation, some people living in IDP camp commute to the land located at the same colline as that of IDP camp, other people commute to land in other collines. In most of cases, these cultivations are self-sufficient and people are in high needs of other income generation.

ii) Status of Widows and Orphans

Some widows have less land for cultivation and no means to send their children to School. There are some associations which help widows for cultivation, however, still many widows need help, especially economic assistance because they lack food and clothing.

Orphans face lack of clothes, lack of access to treatment and school materials. Due to such situation, they often drop out the schools. Also, they face difficulty to use their land, sometime their land to be inherited was taken away by their relatives. There are not a few associations which help orphans especially for school materials. Also, not a few households care orphans, however, majority of families which welcomed orphans are poor, therefore they are still in need of assistance.

iii) Status of Other People in Need of Special Attention

Ex-combatants have problems such as lack of housing. Some of them lost some parts of their body and face inability to work and difficulty to eat daily. When demobilization, they got demobilization fees on the condition that they organize association by themselves. However, for some ex-combatants, demobilization fees were insufficient. A few ex-combatants show successes in integration and find work (ex. driver). Some ex-combatants live in IDP camps.

PWD face difficulty to move due to lack of facilities, inability to work, psychological trauma related to their disability. Some are unable to seek medical care, and extremely poor. There are no special schools for PWD, therefore they face lack of access to education.

Batwa people have a very low income from pottery and some of them abandon agriculture due to lack of land and face food shortage. In the colline profiling survey, 80% of colline chiefs answered that they do not have Batwa ethnic group in their collines, which shows lack of interactions between

Batwa people and other people.

People struggling with HIV/AIDS find it difficult to have medication (anti retroviral), and face inability to eat properly. Their diet is poor and inadequate.

2) Inclusiveness of People in Need of Special Attention

Most of projects support and target to association, not individuals, and thus, inclusiveness of social vulnerable people in associations' activities should be considered. Before considering inclusiveness of people in need of special attention in activities of associations, characteristics of associations and process on selection of beneficiaries should be clarified.

i) Inclusiveness of IDPs in Group Activities

In Gihamagara IDP camp, IDPs participate in association activities led by people living in collines supported by MIRAPEC. Also, there are mutual helping groups and saving groups composed of people living in IDP camp and people living in colline.

In Buhoro IDP camp, there is association including 20 IDPs as members led by people living in collines supported by local NGO.

In Gisikara IDP camp, most of IDPs are so busy for cultivation and most of their lands located far from camp, therefore, they cannot afford to participate in association activities, however, some IDPs participate in association activities supporting orphans helped by FVS AMADE.

ii) Inclusiveness of Widow and Orphan in Group Activities

All associations surveyed by the Project team included widows as members. Further, it was confirmed that mutual help groups for widows were active. However, few widows couldn't participate in association due to lack of ability to pay for saving in the association. Some associations help such widows who cannot afford to participate in association activities through utilizing saved money for them.

Also, most of associations surveyed by the Project supported orphans. In Burundi, it is traditional custom to support orphans. In some association, each member has responsibility for one or two orphans and use saved money in association for their support.

From above, it is confirmed that level of inclusiveness of widows and orphans in association activities are relatively high. It is necessary to utilize and promote such helping system through the Project.

iii) Inclusiveness of Other People in Need of Special Attention

Ex-Combatant did not participate in associations' activities with other people in target collines of social survey (3 collines). However, there exist associations composed of Ex-Combatants only, because establishment of associations was the requisite to get money when demobilized. It is not sure whether these associations function at present or not. For ex-combatant, catholic churches support through the means of labor absorption for marsh development.

Most of the disabled people are supported by their families or relatives and they are not organized. However, few are supported through association activities though it is difficult for them to become members. Some catholic churches and local NGO help association are supporting the disabled.

Most of Batwa people did not participate in associations' activities, because it is more difficult for them to earn a living than others. Further, it is difficult to enhance their participation in associations' activities because they cannot afford to pay money for saving to association periodically, though fee

is reasonable for others. Therefore, in most cases, they are not included in the beneficiaries of projects.

Some of the people struggling with HIV/AIDS are supported by associations and also some are organized in form of mutual-aid group, which usually includes others who are in good health

(3) Land Dispute

Land dispute issues were surveyed under the categories of 1) in marsh, 2) in colline, 3) concerning returnees, and 4) concerning IDP camps.

1) Land Problems in Marsh

According to the commune courts in Itaba, there are few cases in marsh.

2) Land Dispute in Collines

According to the commune courts of Itaba, following cases were confirmed.

Case 1 : In principle, father allocate his land to his sons, not to his daughters. Women who are married cultivate their husbands' land, single women are not allocated land and as a result, they file complaints. Also, when women divorced, they are not allocated land from their brothers and hence sometimes they appeal to court.

Case 2 : Single mothers claim right to succeed land of farther of their children for their children.

Case 3 : In rare cases, men live in women's families, and farther of women allocate land to husband and it make brother of women file complaints.

Case 4 : Big land holder sold remaining land after allocation to children. However, the bigger number of families become, the smaller size of land is allocated for each family member. As a result, children/ grand children of big land holder try to get back the land once their farther / grand farther sold.

Case 5 : Conventionally, women are allocated with harvested crops from their mother even though after marriage. After their mother passed away, sometimes women claimed land allocation instead of harvested crops and bring land dispute.

3) Land Dispute Concerning Returnee

It takes long time to solve land dispute concerning returnee, because it requires collection of a lot of information to verify possession of land.

There are few land disputes cases concerning returnees in Gitega province, which is not adjacent to the border, also there are few cases under control of CNTB in Gitega city.

Mtabila camp in Tanzania closed at the end of 2012, and according to UNHCR data, 136 people returned in Itaba commune till 31st December 2012. It is necessary to take into consideration possibility of land dispute cases and resolution system.

4) Land Dispute concerning IDP camp

According to the commune courts of Itaba, following cases were confirmed.

Case 1 : In Buhoro IDP camp, there are two land owners, however, only one land owner got another land as compensation and the other were in prison on a charge of murder and did not get compensation. Now that land owner who had been released from prison, filed complaints and try to force IDPs out of land.

Also, Gihamagara colline is selected as location of building peace villedge.

Land disputes discussed above should be considered well among stakeholders before designing and implementing the projects.

2.4.3 Agricultural Condition

(1) Land Use

Farm land possession: all farmers who were interviewed possess own farm land in living colline. Most of them live near their farm land and some of them possess it in the different colline. Concerning to the marsh, people who has farm land in the marsh is limited and they have only small pieces of lands which are scattered in the same marsh or different marsh. The average area is 3a to 5a per person. Their lands are located far from living places. In Itaba Commune, there is lower ratio which farmers have marsh and colline.

(2) Crop Production (including cropping pattern and crop calendar)

Major crop productions in Itaba are Cassava, Banana and Maize at the colline and marsh. At colline, Beans and Sweet potato are produced through a year, Maize are produced at twice in a year; season A and B. Cassava (bitter variety and sweet variety) and Banana (for cooking and fruits) are produced as popular crops. In marsh in Itaba, vegetable producing area is wider than other two communes, and rice at certain areas are produced during rainy season (Present situation of average production is shown to the following table). In general, mixed cropping without using chemical fertilizer and pesticide is a popular method as traditional farming method at marsh and colline. On the other hand, some advanced farmers and farmers who purchase fertilizer and manure can use fertilizer, but the quantity is not enough to increase production. Some farmers adopted to use early mature varieties and late mature varieties considering the season. Cropping pattern in Itaba Commune is shown below;

Month	1	2	3	4	5	6	7	8	9	10	11	12
(Itaba)	Season B				Season C				Season A			
Season A	Banana, Irish potato,								Cassava, Beans, Peas, Pigeon peas, Peanut, Maize, Sweet potato			
Season B		Beans, Peas, Peanut, Maize, Sweet potato, Cassava, Irish potato										
Season C					Beans, Maize, Sweet potato, Irish potato, Cabbage, Lenga lenga, Letuce							

Figure 5.5 Major Cropping Pattern in Itaba Commune

Table 5.11 Average Crop Production in Itaba Commune

Crop Production	Present Situation
Rice	1.1 tons/ha
Banana	3.6 tons/ha
Cassava	5.6 tons/ha
Irish potatoes	3.6 tons/ha
Beans	626 kg/ha
Maize	727 kg/ha
Sweet potato	5.3 tons/ha

(Source: PCDC II)

Table 5.12 Utilization of Manure, Chemical Fertilizer and Pesticide by Crops

		Manure	Chemical	Pesticide
Colline	Beans	O	△	X
	Banana	O	X	X
	Cassava	X	X	X
	Sweet potato	X	X	X
	Irish potato	O	△	X
	Maize	O	△	X
	Sorghum	O	△	X
Marsh	Rice	X	X	X
	Vegetable	O	△	△
	Irish potato	O	△	X
	Sweet potato	X	X	X
	Beans	O	△	X

(O: applied, △: sometime applied, X: not applied)

(3) Livestock

Itaba commune being agricultural and agropastoral, there are several types of farm animals including: cattle, pigs, sheep, goats, chickens, rabbits, and bees. Those livestock are tried to multiply by beneficiaries and area of forage crops are expanded to secure their food in the limited land. They can generate money by selling them, contribute to improve food security and can also produce manure. Specialy, cow is the highest demand from farmers in order to get manure. On the other hand, breeding and rearing management by farmers have not been adopted well, and cost of medicine is not affordable to farmers and accessibility to medicine is also not good. Note that the distribution is not fair on all the collines. Note that the distribution is not fair on all the collines..

Table 5.13 Average number of Livestock per Household

Livestock Species	Number of Heads per Household
Cattle	0.2
Goats	1.6
Hens/Poultry	2.3
Pigs	0.2
Rabbits	0.3
Bees (number of hives)	0.2

(Source: Colline profile)

(4) Marsh Development

Marsh agriculture has a big potential of intensive crop production through a year in order to control water, to introduce appropriate farming practices, if marsh will be developed. Most of marshes are not developed at present, therefore water control is the biggest constrain caused by flooding in rain season and water shortage in dry season. On the other hand, some marshes, Nyakidogo, Mwaba and Nyabuyumpu were developed by CISV, VIMASA and AGAKURA (47ha) and Rurembera and Mutukura- Kamirange were developed by this project under JICA support.

Slope protection surrounding marsh is essential for marsh development, but it is not well developed at present.

(5) Forestry

In general, soil erosion by cutting trees and soil degradation in Colline is known as a major issue by most of people. However, afforestation area has not been much expanded, because farmers are not willing to be reduced their farm land by afforestation. In addition, it is not easy to get nursery to farmers near their place as long as any project is implemented. As for contour line digging, situation is same as afforestation; the contour line is not well expanded because of this activity is quite tough and it needs some materials. Varieties of trees people prefer are Gravellea, Eucalyptus, and Cedres. As for agroforestry, many of people plant fruits trees, these are Avocado, Orange, Japanese plum, etc. These fruits trees seedling are provided by the government in free of charge

(6) Association

More than 50% of collines have associations which have access to credit which is informal but under mutual surveillance among members of association, it contributed to self-active economical development of those associations through cooperative purchase of agricultural inputs and necessary material for small business. There are 87 associations in Itaba commune.

(7) Agri-business/ Private Sector

Major processing activity in Itaba is to process cassava and maize into flour, and to process banana into wine. Other business is small trading of farm products such as beans, maize, coffee, etc and milling business by association or private person. For handicraft, business scale is very small and not developed because of small and limited finance. Most of association doesn't have enough skills for processing.

(8) Agricultural Infrastructure, Commercialization

There is a big market in Itaba commune; however access to the infrastructure is not good.

3. Challenges for Promoting PCDC Projects in Agriculture, Livestock and Livelihood Improvement Sector

3.1 Challenges from Environmental Consideration

3.1.1 Challenges from Environmental Consideration

- Population Pressure on agriculture land- Per person / household agriculture land is very small in the Itaba Commune. Per cultivated land size is approximately 10 to 15 square meters as per an rough observation. Hence, consideration for environment in the eyes of farmers is very low in the priorities of the farmers. They mostly treat it as un productive work.
- Erosion of Soil- Across the hills and collin side, the soil erosion is an issue to address due to cultivation and thus lesser numbers of trees.
- Lacks of awareness- Farmers are not aware about the benefits of environment conservation.
- Fauna- There is no wild life in the area. Livestock activities are not much popular in the commune mainly due to lack of grazing area due to thinning of land and intensive agriculture. It should be noted that livestock plays important role in environment conservation & preservation.
- Flora - There is little wild life or forest in the commune. Eucalyptus is the main trees which local population plants. However, awareness about the benefits forestation is low in the commune.

- Water- The terrain in the commune is uneven and during the rainy season , floods is a normal occurrence in the agriculture lands.
- Unawareness of modern farming practice- due to unawareness about modern farming practice the productivity loss is too much and in turns harms to the environment too.

3.1.2 Challenges from Social Consideration

- Obstacles for the promotion to participate in group activities of people living in IDP camp; Most of them live on self-sufficient agriculture and take a lot of time to commute to land for cultivation and cannot afford to improve their residencial environment (high density causing disease) and access to education.
- Land Disputes; Due to high population density in Itaba commune (259 /km2), Less and less land people have. Therefore, it is difficult to aquire private land for community development. It may cause diputes among people on claiming possession of land and compensation.
- Social situation in need of special attention; Some people, especially widow and orphan face land problems. They have less or no land and live in need of special assistance from association. Also, there are some people who cannot cultivate due to lack of power with serious desease, age, HIV/AIDS etc.

3.2 Challenges in Agriculture, Livestock and Livelihood Improvement Sector

(1) Environmental Protection

- Farmers do not have enough knowledge about techniques on environmental protection
- Farmers do not want to decrease their arable land by afforestation and agro-forestry
- Lack of proper management of seedlings by seedling producers
- Insufficient seedlings to farmers who want to adopa contour line planting and afforestation
- Lack of marketing network and information on seedling production in the area

(2) Marsh Development

- Difficulty of water control without irrigation infrastructure
- Difficulty of operation and maintenance for irrigation facility by water users
- Lack of proper cultivation techniques on rice and vegetable without cropping calendar

(3) Soil Fertility

- Soil degradation at colline due to lack of improved manure application
- Most of farmers do not consider crop rotation well due to the limitation of farm land
- Chemical fertilizer is not affordable to farmers because of high cost
- Lack of domestic animals, especially cows is very expensive for farmers, so that they cannot get and use enough manure

(4) Selected Seed Solidarity Chain

- Low production of seed /seedlings available for producers; sometimes introduced varieties are unsuitable to the target area and proper cultivation technique for introduced varieties of seed/seedlings are not extended to farmers.
- Lack of seed storages makes difficult for farmers to keep seeds in good condition and sometimes cause lower quality of seeds
- Seed multiplication system is not established.

(5) Livestock Promotion

- Most of livestock was killed during the conflicts and people face lack of manure from fierce of livestock and it cause less fertility of soil for cultivation.
- Production of forage grass is insufficient to feed livestock.
- Farmers do not have enough knowleds about animal health and it sometimes causes failure to take care of livestock.
- In some collines which were not target colline of PARSE, solidarity chain system was not established.
- Animal health service was not systematically conducted, and cost of pharmacy is high for farmers.

(6) Post-harvest, Processing

- Lack of knowledge about post-harvest technique (technologies on storage, drying, and so on); farmers do not have any opportunity to get training on post-harvest techniques.
- Farmers do not have enough knowledges about processing.

(7) Development of Industries and Agribusiness

- Lack of knoledge on accounting and business management and lack of opportunity for capacity building on these skills.
- Some association produced in primitive way and faces difficulty in control of quantity and quality.
- Microfinance system is not promoted and it makes difficult for them to start industries and agribusiness.

4. Analysis of PCDC

4.1 Objective and Vision of PCDC

PCDC 2nd generation in Itaba commune have following vision; “D’ici 2017, la commune Itaba assure durablement une sécurité alimentaire ainsi que les services sociaux de base à sa population dans la paix, la sécurité, la bonne gouvernance et dans le respect de l’environnement” “From now to 2017, the commune of Itaba ensures sustainabl food security as well as basic social services towards its population in peace, security, good governance and in the respect of environment”

PCDC is the plan for next five years (2013-2017) for community development in the commune. Objective of PCDC is to provide the commune with an adequate and appropriate instrument which includes aspirations, assets, potentialities and the main priority actions for the communal development.

4.2 Achievement State of PCDC Projects

Achievement state of PCDC projects are surveyed focus on strategic axis in PCDC second generation, “No.2 agriculture and livestock of durable market promotion and environment protection” and “No.4 economic development through off-farm activities”.

4.2.1 “No.2 Agriculture and Livestock of Durable Market Promotion and Environment Protection”

(1) Environmental Protection

For ensuring crop production, countermeasures against soil erosion such as contour digging, grass fixing, agro-forestry are conducted, however, still many farmers donot have enough knowledge about

these technique and number of seedlings for agro-forestry are not enough to cover arable land facing high risk of being damaged by soil erosion. According to PCDC, current afforestation area in Itaba commune is;

National (Domanial) Afforestation area; 122 ha

Communal Afforestation area; 94 ha

Private Afforestation area; 600 ha

Also, PCDC set production of 350 000 seedlings of tree for afforestation as target value, and it will newly cover 219 ha for 5 years, therefore, about 44 ha/year shall be afforested.

Current length of contour digging commune is 62 km, and PCDC set 500km as target, meaning 100km contour digging per year.

(2) Marsh Development

For marsh development, PCDC sets the target of 210 ha for feasibility study and 260 ha for irrigation development. Also, PCDC set rice cultivation promotion projects starting from organizing OPA.

(3) Livestock Promotion

According to PCDC, number of cattle increases to 4059 (2012) from 2431 (2008) during PCDC 1st generation period, meaning 326 heads increase per year. PCDC set increase 400 heads with improved race as target value, it means 80 heads increase per year, and keep improved race require higher technique of numberseding.

4.2.2 “No.4 Economic Development through Off-farm Activities”

In Itaba Commune, there are more than 1,000 craftspeople for wickerwork, weaving, tile making, pottery, carpentry, sewing, etc. but they are not well organized, so PCDC is targeting organization and capacity building of them.

5. Analysis of PPIA

5.1 Objective and Vision of PPIA

PPIA follows vision of PNIA (Programme National d'Investissement Agricole);

“The Burundian agriculture's fundamental mission is to ensure food security in quantity and quality for all Burundians. To achieve the mission, it is necessary to shift from subsistence agriculture to commercial agriculture and family-run agriculture, also it is necessary to ensure a decent household income and good natural resource management in environmentally friendly way. This agriculture is practiced on farms with an average size of 1 ha by 0.5 ha per farm whose soil fertility regain sufficient to allow returns that are comparable to the best African performance. Also, for achievement of the mission, it is necessary to organize farmers and train them to acquire necessary technical skills.”

5.2 Progress of PPIA Projects

Preparation of PPIA started 2012 and it was formulated in December 2012 in Gitega Province. Afterwards, the committee, mainly consisted from DPAE staff which elaborated PPIA, started elaborating the action plan in July 2013 by collecting plans from partners. However most partners have not given plans, so the action plan making stalls at present.

6. Countermeasure for Promoting PCDC Projects in Agricultural Sector

6.1 Focusing on Main Livelihood and Targeting of Areas

The Action Plan is aiming at livelihood improvement of people in the target communes of the Project through promoting PCDC projects. The Action Plan should present various alternative projects to solve obstacles for livelihood improvement. And moreover, presenting project menu focusing on main livelihood of target area will lead to efficient and effective livelihood improvement.

Here, we focused on colline, which is the smallest administrative unit, and the Action Plan present suitable project menu for livelihood improvement for each colline.

People's main livelihood can be classified into three categories; i) Agriculture in Marsh, ii) Agriculture in Colline, iii) Off-farm Activities. Therefore, suitable projects menu for livelihood improvement would be provided based on this classification. Also, collines in Itaba commune were classified into these three types by main livelihood.

The Action Plan provide i) Marsh Agriculture project menu, ii) Colline Agriculture project menu, iii) Off-farm project menu and then applied the project menu to each type colline i.e.; i) Marsh Agricultural type, ii) Colline Agricultural type and iii) Off-farm type.

(1) Projects Focusing on Livelihood Improvement through Marsh Agriculture

Increase in productivity of agriculture in marsh contributes to livelihood improvement of people. Development of production base, technical transfer on agriculture in marsh and improvement of agricultural input are necessary projects for people living on agriculture in marsh. Generally, people owning land in marsh also possessed own lands in colline, therefore, some recognizes "people having land in marsh are relatively rich, because they can cultivate in marsh during dry season" according to the result of colline profiling survey.

(2) Projects Focusing on Livelihood Improvement through Colline Agriculture

There are many households which donot have land in marsh, but have land only in collines, therefore, efforts to increase in productivity in colline is inevitable for livelihood improvement for such people. Colline lands have been heavily damaged by soil erosion due to heavy rain. Also, steep and narrow colline land brings inefficient farming system. Increasing in productivity in colline land in parallel with preservation of land including fight against soil erosion is quite important projects for people living on agriculture in colline.

(3) Projects Focusing on Livelihood Improvement through Off-Farm Activities

There are not a few households which have so small or no land. Also, not a few people are under situation in need of special attention. Some IDPs have to commute to collines far from camp for cultivation, some widows cannot cultivate due to lack of farming utensils and ethnic minority like Batwa originally lived on non-agricultural means. Therefore, it is necessary to set projects supporting activities except farming, including agricultural products processing, trading and handicraft industries for people who cannot live on farming. Livelihood improvement project menu focusing on activities except farming is called "Off-farm" projects hereinafter.

(4) Classification of Collines based on Suitable Livelihood Improvement Menu

Based on the direction of livelihood improvement project set up above, collines were classified into 1) Marsh Agricultural Type, 2) Colline Agricultural Type and 3) Off-Farm Type on the basis of people's land ownership and engagement in non-agricultural industry. The collines with high household

percentage owning land both in collines and marshes were classified as 1) Marsh Agricultural Type; the collines with high household percentage owning land only in collines were as 2) Colline Agricultural Type; and the collines with high percentage of people engaging in non-agricultural industry as 3) Off-Farm Type. The results of classification are presented in the figure as below. The Action Plan set three type project menus and applied them to corresponding type of collines.

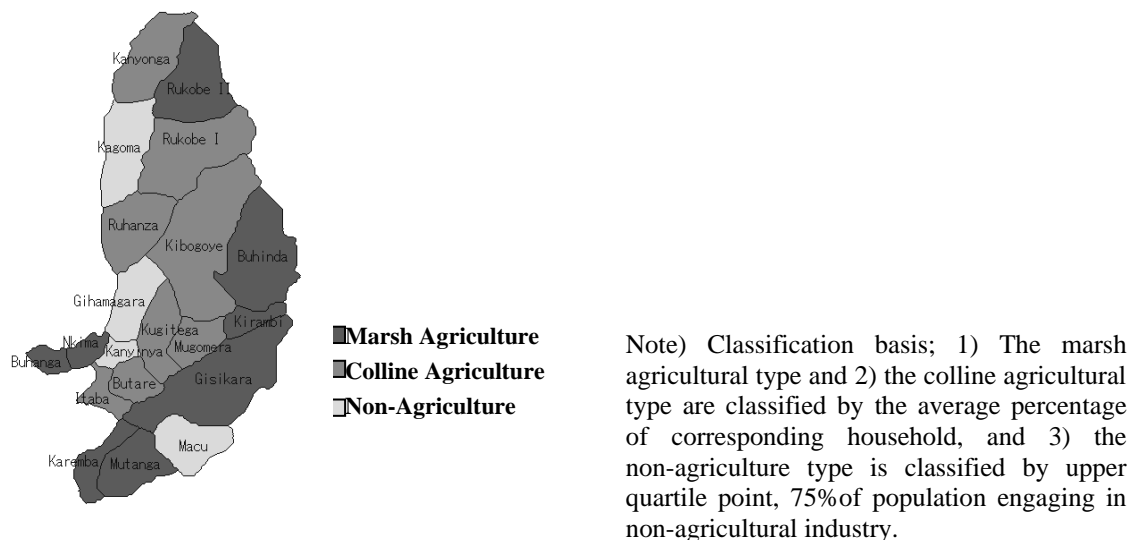


Figure 5.6 Classification of the Collines

The Action Plan set three type project menus and applied them to corresponding type of collines.

6.2 Consideration for People in Need of Special Attention

(1) Setting Project Menu for People in Need of Special Attention (Off-Farm type Project)

As described in “6.1 Focusing on Main Livelihood and Targeting of Areas”, project menu focusing on livelihood except cultivation (“off-farm type” project menu) is set for people having so small land or no land, especially for people in need of special attention.

“Off-farm” projects are applied to collines with high percentage of people engaging in non-agriculture industries. The Action Plan required affirmative selection of people in need of special attention as beneficiaries of “Off-farm type” projects.

Some IDPs have to commute to collines far from camp for cultivation, some widows cannot cultivate due to lack of farming utensils and ethnic minority like Batwa who basically lived on non-agricultural means. Therefore, it is necessary to set projects for supporting activities as means of livelihood except from cultivation, like agricultural products processing, trading and handicraft industries for people who cannot live on cultivation.

(2) Policy of Support for People in Need of Special Attention

When projects are designed and implemented, inclusiveness of social vulnerable people like Ex-Combatant, Ex-Child Soldier, Widow, Orphan, Disabled, Batwa people, people struggling with HIV/AIDS and IDPs, should be considered.

According to the colline profiling survey, situation of people in need of special attention was clarified as follows;

Table 5.14 Summary of People in Need of Special Attention Based on the Colline Profiling

Community Members Who Need Special Attention	Situation	Difficulty They Face	Support from Outside	Participation in Association	Means of Living	Land Holding
Ex-Combatant	Some success in integration and the others are living in IDP Camp	Food security	Social rehabilitation kit	Yes	Agriculture, Non-agricultural industry	Most of them sold out their land at the time of leaving for war
Ex-Child Soldier	Good relationship with people	Food Security	Land / Cattle	Yes	Agriculture, Non-agricultural industry	It depends on each person
Widow	They have no means to send their children to the school	Food security, lack of clothes	No support	Yes	Agriculture	Very small or having difficulty to possess land
Orphan	They cannot go to school and do not have money for stationary.	Food security, lack of clothes, no money for medical supports	There are some Associations supporting them	—	—	Some' lands are taken by their relatives
PWD	They cannot go to school and able to work, therefore, they are so poor.	Food security, no money for medical support	There are some Associations supporting them	Yes	Some cannot move and work	Depends on kind of disabilities
Batwa	They are poor living on self-sufficient agriculture and pottery	Food security, they donot know how to cultivate	There are some Associations supporting them	No, they donot have any association	Pottery, Agriculture	Very small land
HIV/AIDS	They do not have travel fee to go and take ARVs	Lack of agricultural input, Food Security	There are some Associations supporting them	Yes	Agriculture, Non-agricultural industry	Same land holdings as other people
IDP	It is too far to go to their original colline to cultivate	Some difficulties in crop cultivation in original colline	There are some Associations supporting them	Yes	Agriculture, Non-agricultural industry	They have land in their original colline, sometime take long time to go there

In the Project, it is necessary to be careful not to exclude social vulnerable people from the beneficiaries of the projects / activities.

The Draft Action Plan set policy of support for people in need of special attention as follows:

- In “Marsh Agricultural Type” collines and “Colline Agricultural Type” collines, it is necessary to take into consideration for member compositions of associations and it should be scrutinize that whether support for people in need of special attention are included in association activities or not at the stage of listing candidate target association (beneficiaries). In “Off-farm Type” collines, it is necessary to take into consideration for member compositions of associations at the stage of selection of target associations to apply “Off-farm” project menu to people in need of special attention.

However, for IDPs, Batwa people and Ex-Combatants, different approaches are required to benefit them as described below;

➤ **IDPs**

IDPs usually live in camp and some have land to cultivate in collines where IDP camp is located and others have to commute to the other collines. IDPs occupy majority of the people in need of special attention. In all collines having a camp in the target communes of the Projects, existence of associations including IDPs as members is confirmed. For IDPs having land near the camp, some took major roles in association, as a leader or vice leader. As for the IDPs having land far from the camp, some participated in the association activities and the other did not. But, for the latter, mutual aid system among IDPs was confirmed. For example, IDPs having land near camp went to the other collines and helped other IDPs with cultivation.

In the collines having IDP camps, to some extent, inclusiveness of IDPs in associations' activities was confirmed. Therefore, in the selection of target association (beneficiaries) after selection of target collines, especially in collines having IDP camps, it is necessary to take into consideration for member compositions of associations, whether associations include IDPs or not. In the collines far from camps, due to unsure inclusiveness of IDPs in associations' activities, there is possibility that they are excluded from benefit of projects. Therefore, it is necessary to avoid possibility of exclusion of IDPs at the stage of listing candidate beneficiaries through strengthening information sharing in the collines.

➤ **Batwa People**

Batwa people are ethnic minorities and live in the place far from other tribes. Their major means of living is pottery and self-sufficient agriculture. However, some do not know a way of farming because originally they are hunting people. Most of Batwa people did not participate in associations' activities, because it is more difficult for them to earn a living than others. Also, it is difficult to enhance their participation in associations' activities because they cannot afford to pay money for saving in association periodically, though it is reasonable fee for others. Therefore, in most cases, they are not included in the beneficiaries of projects.

Therefore, it is difficult to benefit Batwa people through association activities and it is necessary to apply "Off-farm" project menu specifically to Batwa people through respecting their own cooperation system.

➤ **Ex-Combatants**

Most of Ex-Combatants sold their land before going to wars, therefore, they do not have land for cultivation when they came back and face difficulty to survive. For the inclusiveness in associations' activities, Ex-Combatants did not participate in associations' activities with other people in colline in the target collines of social survey (3 collines per commune, total 9 collines). Also, it was not confirmed the existence of associations supporting ex-combatants. There are associations composed of Ex-Combatants only, because establishment of associations is the condition to get money when demobilized, though it is not sure whether these associations function at present or not. Therefore, it is difficult to support ex-combatants through association activities. However, some catholic churches supported them through job creation in marsh development, and through helping associations which are supporting ex-combatants. The Project should consider collaboration with such support organization aiming at expansion of benefit to ex-combatants in the future.

7. PCDC Projects in Agricultural Sector

7.1 Project Design

PCDC has many activities concerning Agriculture, Livestock and Livelihood Improvement Sector. In this action plan, following projects were set to cover activities described in PCDC concerning Agriculture, Livestock and Livelihood Improvement Sector.

1. Environment Protection
2. Marsh Development
3. Livestock Promotion
4. Soil Fertility Protection
5. Fish Culture Promotion
6. Capacity Building for Farmers Organization (Association)
7. Improvement of Access to Microfinance
8. Marketing Promotion
9. Handicraft Industry Promotion
10. Capacity Building for Technicians

The project menus were set based on the countermeasures as described in previous section. Project menu were presented by three main livelihood type, Marsh Agricultural type, Colline Agricultural type, Off-Farm type. Therefore, above projects shall be classified by the type of main livelihood.

Also, in this Action Plan, Projects in PCDC are re-arranged along with PPIA structure to ensure harmonization with Provincial investment plan of DPAAE.

The following table shows the Project Menu in the Action Plan. “Type of Livelihood” shows corresponding sub-programs of PPIA and projects to types of livelihood of people, because project implementation and target colline selection should be carried out based on major livelihood of people in the colline for better effectiveness of projects. As described in “6. Countermeasure for Promoting PCDC Projects in Agricultural Sector”, people’s main livelihood can be classified into i) agriculture in marsh, ii) agriculture in colline and iii) off-farm activities. Therefore, suitable projects menu for livelihood improvement would be provided based on this classification.

Table 5.15 Project Menu in the Action Plan of Itaba Commune

Strategic Axe in PCDC	Program (PPIA)	Sub-Program (PPIA)	Type of Livelihood			Project
			Marsh	Colline	Off- farm	
No.1 Promotion of Agriculture and Livestock, Sustainable Market, Environme ntal Protection	Program 1: Production and Sustainable Food Security	Sub-Program 1: Productive Capital Protection	O	O		1.Environment Protection
			O	O		2. Soil Fertility Protection
		Sub-Program 2: Upgrade and Rehabilitation of Irrigation Schemes	O			3. Marsh Development
		Sub-Program 3: Intensification of Agricultural Production (plants and animals)				
				O		4. Livestock Promotion
		Sub-Program 4: Development of Fishing and Fish Farming	O			5. Fish culture Promotion
	Sub-Program 5: Food Security, Nutrition and Vulnerability Management					
	Program 2: Professionalization of Producers and Promoting Innovation	Sub Program 6: Organization of Producers and their Capacity Building	O	O		6. Capacity Building for Farmers Organization
		Sub Program 7: Development of Local Services and Innovation Project				
		Sub Program 8: Rural Finance Project	O	O		7. Improvement of Access to Microfinance
		Sub Program 9: Research / Development				
Program 3: Development of industries and	Sub Program 10: Export Sectors					
	Sub Program 11:					

	agribusiness	Cash Crops and Animals				
		Sub Program 12: Rural Infrastructure			O	8. Marketing Promotion
		Sub Program 13: Reform of DPAE			O	9. Handicraft Industry Promotion
Program 4: Improvement of the institution frame	Sub-Program 14: Improvement of the frame and labor condition	O	O	O	10. Capacity Building for Local Officers and Technicians	

7.2 Project Menu

Program 1: Increase in Production and Sustainable Food Security

Sub-Program 1: Productive Capital Protection

Project 1. Environmental Protection

Marsh Agricultural Type, Colline Agricultural Type Project

For Colline farming, farmers possess only small piece of land and they cultivate more than twice in a year, therefore, it is said “over cultivation”. Generally, chemical fertilizer and organic manure are not affordable for farmers, because of the high cost of chemical fertilizer and lack of domestic animals for making compost. Therefore, farmers try mixed cropping and continuous cropping instead of chemical fertilizer and manure. For these reasons, degradation of soil became remarkable problem.

On the other hand, government promotes the extension activities on environment conservation. Seedlings for afforestation are not sufficient to supply to farmers due to the lack of supplying system of materials. For that reason, afforestation areas in colline haven't been expanded since donors' support had been started.

This Project will contribute to expand the afforestation areas and contour line planting to adapt these techniques beneficiaries through the activities. Also, this project contributes to expand agro-forestry and fruit production techniques and preserve land against soil erosion.

Expected Outcome	<ul style="list-style-type: none"> ✓ Beneficiaries understand importance of contour digging and practice it and fix grasses on the contour line in their farm. ✓ Beneficiaries understand and introduce agro-forestry in their farm. ✓ Grass for fixing in contour and tree for agro-forestry are produced and supplied within colline. ✓ Frequency of soil degradation reduces considerably.
Main Activities	<p><i>Contour Digging and Grass Fixing</i></p> <ul style="list-style-type: none"> ➤ Digging contour line ➤ Fixing grass (banagrass, tripsacum) in contour line ➤ Maintenance of contour line dug <p><i>Afforestation and Agro-Forestry</i></p> <ul style="list-style-type: none"> ➤ Producing and planting seedlings for afforestation and agro-forestry (grevillea, cedrella, calliandra, leucaena) <p><i>Awareness Seminar on Environmental Protection</i></p> <ul style="list-style-type: none"> ➤ Sensitization Seminar on environment protection
Target Area	Kanyonga, Rukobe I, Ruhanza, Kibogoye, Kugitega, Mugomera, Butare, Itaba colline
Target Value	<p><i>Contour Digging and Grass Fixing</i></p> <ul style="list-style-type: none"> ➤ Dig contour line 500 km and fix grass in that contour line <p><i>Afforestation and Agro-Forestry</i></p> <ul style="list-style-type: none"> ➤ Producing and planting 350 000 seedlings for afforestation and agro-forestry <p><i>Awareness Seminar on Environmental Protection</i></p> <ul style="list-style-type: none"> ➤ Organizing one (1) sensitization Seminar on environment protection per year

Project 2. Soil Fertility Improvement

Marsh Agricultural Type, Colline Agricultural Type Project

Generally, small scale farmers cultivate more than twice a year, it is over cultivation. Chemical fertilizer and organic manure are not affordable for farmers, because of high cost and shortage of compost materials. Therefore, farmers try to save dosage of chemical fertilizer and manure by mixing cropping and continuous cropping. It causes the expansion of soil degradation around colline included in marsh area. On the other hand, government has been promoting the extension activities on soil conservation and farmers become understanding the importance of soil conservation. Meanwhile, stable fertilizer supply system has not been established and suitable rotation cropping system and effective fertilizer application rate have not been decided so that soil conservation activities are stagnated.

This Project will contribute to promote and expand the compost making technique, suitable application rate of fertilizers, and suitable cropping pattern to beneficiaries.

Sub-Project 2.1; Strengthening Compost Production

This sub-project aims at promotion of manure production in compost pit with and without feces of livestock in correct way for efficient soil fertilization of farmers' fields.

Expected Outcome;	<ul style="list-style-type: none"> ✓ Technique on production of manure in compost without livestock is improved and quantity and quality of manure increase ✓ Technique on production of manure with livestock is improved and quantity and quality of manure increase. ✓ Availability of manure with livestock is improved for farmers who donot possess livestock.
Main Activities	<ul style="list-style-type: none"> ➤ Sensitization on compost making ➤ Transfer technique on compost making and promote compost production
Target Area	All collines
Target Value	<ul style="list-style-type: none"> ➤ Organizing 1 sensitization seminar per year ➤ Production of 37,500 composts (3 compost pits per household)

Sub-Program 2 Upgrading and Rehabilitation of Irrigation Schemes

Project 3. Marsh Development

Marsh Agricultural Type Project

Marshes have high potential as farmland, so marsh development will contribute to regional food security and livelihood improvement of the people through production increase with appropriate farming practices on rice and vegetable. On the other hand, from a viewpoint of community regeneration which the Project is aiming, maintenance of irrigation facilities and water management will facilitate community activities and contribute to community regeneration through arising people's sense of togetherness.

This pilot project will be contributed to increase the rice and vegetable production by adapting improved farming practices. Additionally, it will be contributed to strengthen implementation capacity and technical skills of Commune Agronomists and Colline agricultural monitors.

Sub-project 3.1; Feasibility Study of Marsh Development

This sub-project aims at clarifying the technical information of selected marsh.

Expected Outcome;	<ul style="list-style-type: none"> ✓ Compling feasibility studies on socio-economy, topographic data, geographic data.
Main Activities	<ul style="list-style-type: none"> ➤ To implement feasibility study of marsh development by selected contractors
Target Area	Nyabuyumpu, Kanywampene, Nyakibere, Gisuma, Nyamwijima, Rusamza, Jogo, Mutukura, Kamirange, Nyakijanda
Target Value	260 ha of marsh will be developed

Sub-project 3.2; Environmental Impact Assessment

This sub-project aims at study of the natural condition of selected marsh at present.

Expected Outcome;	<ul style="list-style-type: none"> ✓ Compiling environmental impact assessment
Main	<ul style="list-style-type: none"> ➤ To implement environmental impact assessment of marsh development

Activities	
Target Area	Nyabuyumpu, Kanywampene, Nyakibere, Gisuma, Nyamwijima, Rusamza, Jogo, Mutukura, Kamirange, Nyakijanda
Target Value	Surrunding 260 ha of marshes

Sub-project 3.3; Marsh Development

This sub-project aims at construcion of irrigation facilities by selected contractors and creation of job oppportunity for local people.

Expected Outcome;	✓ Completin of construction of irrigation facility
Main Activities	➤ To select contractor by bidding ➤ To implement construction work and to supervise the work
Target Area	Nyabuyumpu, Kanywampene, Nyakibere, Gisuma, Nyamwijima, Rusamza, Jogo, Mutukura, Kamirange, Nyakijanda
Target Value	260 ha of marsh will be developed

Sub-project 3.4; Establising and Strengthening Water Management Unit

This sub-project aims at establishing of water user association to strengthen thire capacity through the training and meeting.

Expected Outcome;	✓ Formulation Water Users Assocaiton ✓ Formulation annual activity plan
Main Activities	➤ To organize Water users Association ➤ To formulate Regulation ➤ To formulate Annual activity plan
Target Area	Nyabuyumpu, Kanywampene, Nyakibere, Gisuma, Nyamwijima, Rusamza, Jogo, Mutukura, Kamirange, Nyakijanda
Target Value	Water management unit will be established in Each target area

Sub-project 3.5; Promotion of Rice Production during Rainy Season in Marsh

This sub-project aims at introduction of sutiable rice varieties and appropriate farming techniques through some training and field practices at demonstarion farm

Expected Outcome;	✓ Capacity and technical skills development of Commune Agnonmoist and Colline agricultural monitores ✓ Increasing rice production by introducing suitable farming practices to beneficiaries through the project ✓ Extending the improved farming practices on rice and expanding production areas
Main Activities	➤ To conduct technical guidance on trial implementation and rice cultivation ➤ To prepar cropping calendar ➤ To do monitoring of the activities
Target Area	Nyabuyumpu, Kanywampene, Nyakibere, Gisuma, Nyamwijima, Rusamza, Jogo, Mutukura, Kamirange, Nyakijanda
Target Value	Yield will be increased from 3 tons/ha (ordinal area) and 6 to 7 tons/ha (kirimiro area)
Expected Outcome;	✓ Capacity and technical skills development of Commune Agnonmoist and Colline agricultural monitores ✓ Increasing rice production by introducing suitable farming practices to beneficiaries through the project ✓ Extending the improved farming practices on rice and expanding production areas

Sub-project3.6; Promotio of Vegetable Production during Dry Season in Marsh

This sub-project aims at introduction of sutiable vegetable varieties and appropriate farming

techniques through some training and field practices at demonstration farm.

Expected Outcome;	<ul style="list-style-type: none"> ✓ Capacity and technical skills development of Commune Agnonmoist and Colline agricultural monitors ✓ Increasing rice production by introducing suitable farming practices to beneficiaries through the project ✓ Extending the improved farming practices on vegetable and expanding production areas
Main Activities	<ul style="list-style-type: none"> ➤ To conduct technical guidance on trial implementation and vegetable cultivation ➤ To prepare cropping calendar ➤ To do monitoring of the activities
Target Area	Nyabuyumpu, Kanywampene, Nyakibere, Gisuma, Nyamwijima, Rusamza, Jogo, Mutukura, Kamirange, Nyakijanda
Target Value	Cabbage 9 ton/ha, Amaranth 12 ton/ha, Onion 9ton/ha, Leeks 8ton/ha, Tomato 10ton/ha (target yield by 2017)

Sub-Program 3 Intensification of Agricultural Production (Plants and Animals)

Project 4. Livestock Promotion

Colline Agricultural Type Project

In the target area, solidarity chain system of livestock has not been established, because it was not target area of PARSE project, which established “solidarity chain committee” and systemize monitoring, breeding and provision of livestock in target area. Now PARSE project had stopped distribution of livestock, and now concentrate on capacity building of ACSA, and agro-pastoral farmers in collaboration with FFS (Farmers Field School) by FAO for strengthening existing solidarity chain system. Thus, it is necessary to provide technical support for establishment of solidarity chain in the target colline.

And to keep livestock, enough amount of forage is necessary, however, it is difficult for most of agro-pastoral farmers to plant necessary amount of forage grass in the limited size of land, therefore, technical transfer on improvement of yield of forage grass is strongly required.

Also, animal health service providing system is important to make “solidarity chain” function. ACSA take major role in providing animal health service to livestock farmers. However, procurement of medicine, diagnostic of livestock are conducted partly in inefficient way, because the number of agro-pastoral farmers per ACSA is more than 300. Therefore, it is necessary to systemize animal health service providing system through improvement of current system and transfer technique to agro-pastoral farmers to make them capable for health care of their livestock. In the near future, animal health service providing system centered in veterinary pharmacy center shall be established. Though there is still no veterinary pharmacy in target three communes, this project focus on strengthening and improving existing service provision by ACSA.

Sub-Project 4.1; Increase of Livestock

This sub-project aims at providing technical support for establishment of solidarity chain in the colline where PARSE project has not been conducted for establishment of livestock solidarity-chain.

Expected Outcome;	✓ Colline which was not target area of PARSE project also introduced Solidarity Chain of livestock.
Main Activities	<ul style="list-style-type: none"> ➤ Increase of Livestock ➤ Transfer technique on maintenance of Livestock ➤ Establishment of Livestock management system ➤ Establishment of livestock solidarity-chain system
Target Area	Butare, Itaba, others (Collines without establishment of livestock solidarity-chain)
Target Value	➤ Restocking Dairy cows: 100 heads, Goat: 2,000 heads, Pig: 4,000 heads, Chicken: 10,000 heads, Rabbit: 6,000 heads

Sub-Project 4.2; Strengthening Forage Production

To keep livestock, enough amount of forage is necessary, however, it is difficult for most of agro-pastoral farmers to plant necessary amount of forage grass in the limited size of land. therefore, technique transfer on improvement of yield of forage grass is strongly required. This sub-project aims at providing technical support to increase yield of forage grass in the colline where PARSE project has not been conducted for establishment of livestock solidarity-chain.

Expected Outcome;	✓ Yield of forage grass increase.
Main Activities	➤ Distribution of seedlings of forage grass ➤ Transfer technique on cultivation and maintenance of forage grass
Target Area	Butare, Itaba, others (Collines without establishment of livestock solidarity-chain)
Target Value	➤ 120 ha (20a X 100 heads of daily cow + 5a X 2,000 heads of goat)

Sub-Project 4.3; Strengthening Animal Health System

Animal health service providing system is important to make “solidarity chain” function. ACSA take major role in providing animal health service to population. Animal health service providing system centered in places equipped with veterinary pharmacies shall be established.

This sub-project aims at strengthening and improving existing service provision by ACSA in the colline where PARSE project has not been conducted for establishment of livestock solidarity-chain.

Expected Outcome;	✓ Animal Health system for livestock solidarity-chain is strengthened.
Main Activities	➤ Training ACSA on animal health system including artificial insemination ➤ Provision of materials for animal health to ACSA
Target Area	Butare, Itaba, others (Collines without establishment of livestock solidarity-chain)
Target Value	➤ Training ACSA on animal health system including artificial insemination in the commune once per year ➤ Establish commune level animal health center equipped with veterinary pharmacies, concentrates, etc.

Sub-Program 4 Development of Fishing and Fish Farming

Project 5. Fish Culture Promotion

Marsh Agricultural Type Project

Gitega province has no access to Lake Tanganyika which is the main source of fish consumed in Burundi, no fishing activity is registered into its active. However, fish farming which is the breeding fish is promising in the province especially as it meets the three required criteria for the success of the activity which are: a favorable topography, availability of water in sufficient quantity and quality as well as socio-economic factors.

Fish farming shall be developed as income resource for livelihood improvement of farmers facing low crop production due to limitation of cultivation land in the commune.

Expected Outcome;	✓ Household income increases through selling fish.
Main Activities	✓ Developing fish ponds ✓ Training fish farmers on protection and management of fish ponds
Target Area	Rukobe II, Buhinda, Kirambi, Gisikara, Karemba, Mutanga, Nkima, Buhanga (Marsh agriculture type colline)
Target Value	✓ Developing 40 fish ponds ✓ Organizing (1) training for fish farmers on protection and management of fish ponds per year in commune

Program 2: Professionalization of Producers and Promoting Innovation

SP 6 Organization of Producers and their Capacity Building

Project 6. Capacity Buildings for Farmers

Marsh Agricultural Type, Colline Agricultural Type Project

Producers must be organized and their capacity shall be reinforced. Actually, agricultural producers are in a weak position, especially in the price negotiation for marketing of their products. Individual producers cannot sell their products at good prices. Organized in strong associations or cooperatives, they get much strength to develop themselves and become vital partners in the development of the agriculture and livestock sector as service delivers.

Expected Outcome;	✓ The Organizations of Agricultural Producers (OAP) are established and well managed ✓ Promotion of establishment of cooperatives
Main Activities	✓ Training OPA on organization management ✓ Organizing cooperative
Target Area	All colline
Target Value	✓ Organizing trainings on organization management for five (5) association ✓ Developing five (5) association into cooperative

Sub-Program 8 Rural Finance

Project 7. Improvement of Access to Rural Finance

Marsh Agricultural Type, Colline Agricultural Typ, Off-farm Type Project

Itaba commune has micro-finance institutions such as COOPEC. The credit system suitable for the agriculture is necessary in order to improve production of rural area. The increase of production will allow the producer to reimburse the credit but the supervision of that same credit remains vital.

Expected Outcome;	✓ Improve access of agricultural producers to financing for their activities ✓ Increase the investment capacities of private sector and OPA
Main Activities	✓ Promotion of access to credit for agricultural activities of producers organizations
Target Area	All collines
Target Value	✓ 20% of agricultural activities are financed by micro finance

Program 3: Development of industries and agribusiness

Off-Farm Type Project

Sub Program 12: Rural Infrastructure

Projects 8. Marketing Promotion

There are many people who do not or almost not have arable lands for crop production. Therefore, promotion of activities has been necessary for these people in order to increase their livelihood.

It is necessary to establish strategic marketing and distribution system.

Also, it is necessary to activate commercial activities near central market in commune.

This project aims to i) improve bargaining power of producers in market, ii) increase efficiency of distribution of agricultural products to market, iii) creation of income resource through strengthening distribution by bicycle system to be operated by association.

It is necessary to establish market information providing system and improve accessibility to market with small input.

Expected Outcome;	✓ Amount of agricultural products delivered to market will increase. ✓ Access to the commune center market from each colline will improved.
Main Activities	✓ Establishment of market price information sharing system ✓ Promoting business dealing agricultural products ✓ Rehabilitation and maintenance of access footpath to the market
Target Area	All collines
Target Value	✓ Establishment of market price information sharing system ✓ Promoting business dealing agricultural products ✓ Rehabilitation and maintenance of access footpath to the market

Projects 9. Handicraft Industry Promotion

There have been many socially vulnerable people in the commune. Among them, there are many people who do not or almost not have arable lands for crop production. Therefore, promotion of activities has been necessary for these people in order to increase their livelihood.

In addition, supports to them may be possible through associations' activities which do not utilize fields, because there are many associations that support socially vulnerable people such as orphans and widows through their activities.

PCDC aimed at strengthening handicraft activities in commune, however, these projects has not yet been conducted.

In this project, handicraft industry association will be established and strengthened as independent organization, training on handicraft industry will be provided to the association and also session on operation and maintenance of machine will be conducted with the machine installment.

This project aims to establish and strengthen handicraft industry association, transfer technique, install machine and establish operation and management system.

Expected Outcome;	✓	Technique on handicraft industry will be introduced and practiced.
	✓	Production of handicraft industry products, marketing and selling system will be established.
Main Activities	✓	Establish and Strengthening association on handicraft industry
	✓	Training of techniques on handicraft industry
	✓	Provision of necessary materials for handicraft industry
Target Area		Kagoma, Gihamagara, Kanyinya, Macu colline (Off-farm type colline)
Target Value	✓	Organizing 6 associations on handicraft industry
	✓	Organizing training on technique on handicraft industry for 6 associations
	✓	Provision of necessary materials for handicraft industry for 6 associations

Program 4: Improvement of the Institution Frame

SP14 Improvement of the Frame and Condition of Labor

Project 10. Capacity Building for Local Officers and Technicians

Marsh Agricultural Type, Colline Agricultural Type Project

This project aims to provide technicians training with well-prepared contents module and enable them to learn and get skill effectively.

Capacity development for technicians is composed of i) elaboration of capacity development program, ii) conduct training based on the capacity development program, iii) follow-up after training.

Expected Outcome;	✓	Technicians concerning service delivering on agriculture, livestock and livelihood improvement obtain necessary knowledges and skills for promoting PCDC projects in agriculture, livestock and livelihood improvement sector.
Main Activities	✓	Organize training on necessary knowledges and skills for promoting PCDC projects in agriculture, livestock and livelihood improvement sector based on capacity development program.
Target Area		All collines
Target Value	✓	Based on the Capacity Development Program

8. Implementation Structure of Action Plan for Promoting PCDC Projects in Agriculture and Livestock and Livelihood Improvement Sector

Project implementation system differs by each project. However, most of projects follow the procedures mentioned hereunder;

1. Holding sensitization meeting
2. Selection of beneficiaries
3. Technical transfer to beneficiaries (training)
4. Acquisition of land for project
5. Procurement of materials
6. Distribution of materials

7. Demonstration of utilization and maintenance of materials
8. Establish project management system
9. Monitoring and evaluation

Holding Sensitization Meeting

Commune administration and DPAE staff decide criteria on selection of beneficiaries. Commune administration sensitizes colline chief and CDC members in weekly security meeting to make beneficiaries list of their colline.

Selection of Beneficiaries

Chiefs of collines prepare list of candidate beneficiaries and get permission from commune administration through zone chief. After permission from commune administration, chiefs of collines and CDC members hold meeting and select beneficiaries based on the criteria set under witness of Colline agricultural monitor and ACSA.

Technical Transfer to Beneficiaries (Training)

Commune agronomist/ veterinaries become trainer. They sensitizes Colline agricultural monitor and Colline agricultural monitor arranges training for target beneficiaries.

Commune agronomist reviews module of training prepared in capacity building program, and prepares agenda of training. Colline agricultural monitor informs agenda of training to the target beneficiaries beforehand.

Procurement of Materials

DPAE staff decide procurement place for materials to be provided to target beneficiaries and control quality in procurement.

Distribution of Materials

Commune administration, Commune agronomist, colline chief, Colline agricultural monitor and CDC members supervise distribution of materials to target beneficiaries.

Demonstration of Utilization and Maintenance of Materials

Colline agricultural monitor demonstrates necessary techniques for utilization and maintenance of materials provided to target beneficiaries.

Establishment of Project Management System

Commune agronomist, colline chief, Colline agricultural monitor and CDC support establishment of operation and management system of projects by target beneficiaries.

Monitoring and Evaluation

Government officials from MINAGRIE establish their monitoring structure; Zone Agronomist is in charge of collecting monitoring reports from each of the collines every week. Receiving the reports from zone agronomist, the commune agronomist submits monthly monitoring report to the chief of DPAE in the monthly meeting convened at the MINAGRIE. Colline chief and CDC, on the administrative side, regularly monitor activities of target associations. They are responsible for reporting to the commune administration through zone chief. Collecting information, government officials from the both lines ideally hold information sharing sessions in weekly security meeting.

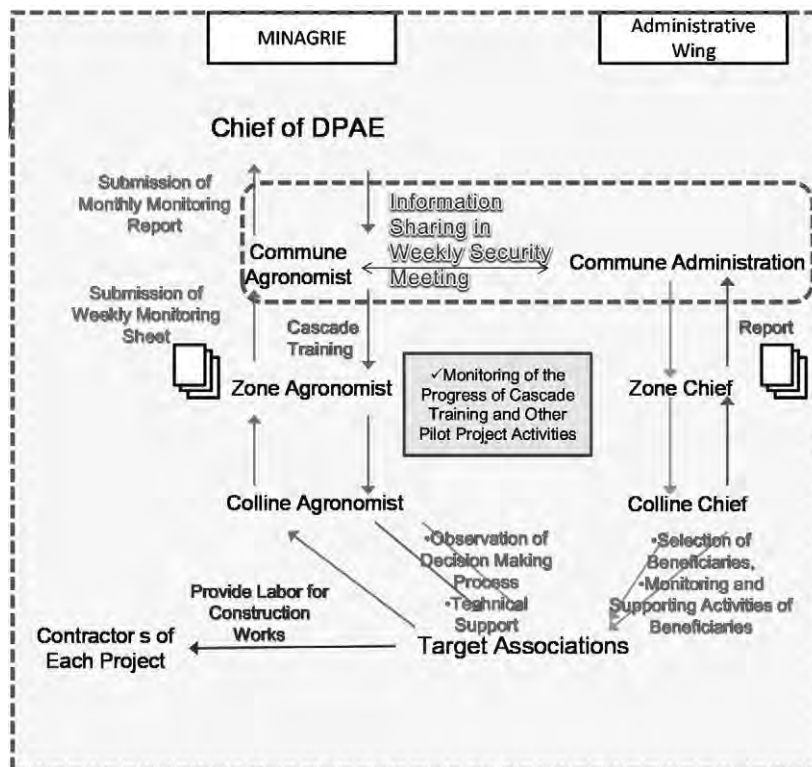


Figure 5.7 Monitoring Structure of the Projects

9. Project Sheet of Itaba Commune

Table 5.16 Project Sheet of Itaba Commune

Action Plan Project Sheet: Itaba Commune										Schedule					
A.	B.	C.	D.	Activities	Item	Project Area	Qty	Unit	UC '000	Amount Million	2013	2014	2015	2016	2017
Program 1: Production and Sustainable Food Security															
Sub-Program 1: Productive Capital Protection															
1. Environment Protection															
Contourline															
Kanyonga, Rukobe I, Ruhanza, Kibogyeye, Kugitega, Mugomera, Butare, Itaba															
Contourline digging															
500 km 350 175.0 35 35 35 35 35															
Grass fixing															
2,500,000 pc 0.01 25.0 5 5 5 5 5															
Maintenance of contourline															
500 km 40 20.0 4 4 4 4 4															
Afforestation and Agro-Forestry															
Producing and planting															
1,350,000 pc 0.008 10.8 2.16 2.16 2.16 2.16 2.16															
Organizing awareness seminar															
all collines															
100 time 50 5.0 1 1 1 1 1															
Total															
235.8															
2. Soil Fertility Improvement															
2.1 Strengthening Compost Production															
Organizing sensitization seminar															
all collines															
100 time 50 5.0 1 1 1 1 1															
Total															
5.0															
Sub-Program 2: Upgrade and Rehabilitation of Irrigation Schemes															
3. Marsh Development															
3.1 Feasibility Study of Marsh Development															
Nyabuyumpu, Kanywampene, Nyakibere, Gisuma, Nyamwijima, Rusanzza, Jogo, Mutukura, Kamirange, Nyakijanda															
Conducting feasibility study															
217.0 ha 300 65.1 32.55 32.55															
3.3 Marsh Development															
Constructing irrigation facility															
108.5 ha 4,000 434.0 108.5 108.5 108.5 108.5															
3.4 Establishing and Strengthening Water Management Unit															
Organization meeting															
15 time 50 0.8 0.15 0.15 0.15 0.15 0.15															
Organizing operation and management seminar															
9 time 50 0.5 0.15 0.15 0.15															
Organizing maintenance seminar															
9 time 50 0.5 0.15 0.15 0.15															
3.5 Promotion of Rice Production in Rainy Season															
Providing technical training															
15 time 50 0.8 0.15 0.15 0.15 0.15 0.15															
3.6 Promotio of Vegetable Production in Dry Season															
Providing technical training															
15 time 50 0.8 0.15 0.15 0.15 0.15 0.15															
Total															
502.3															
Sub-Program 3: Intensification of Agricultural Production (plants and animals)															
4. Livestock Promotion															
4.1 Increase of Livestock															
Restocking livestock															
Butare, Itaba, others (Collines without solidarity-chain) *1															
100 head 2,500 250.0 62.5 62.5 62.5 62.5															
2,000 head 250 500.0 100 100 100 100 100															
4,000 head 150 600.0 120 120 120 120 120															
10,000 head 3 30.0 6 6 6 6 6															
6,000 head 15 90.0 18 18 18 18 18															
Organizing technical transfer seminar															
all collines															
100 time 50 5.0 1 1 1 1 1															
4.2 Strengthening Forage Production															
Distribution of forage grass seedlings															
*1															
120 ha 30 3.6 1.8 1.8															
Organizing technical transfer seminar															
all collines															
100 time 50 5.0 1 1 1 1 1															
4.3 Strengthening Animal Health System															
Training ACSA on animal health system															
commune															
5 time 1,000 5.0 1 1 1 1 1															
Provision of materials for animal health															
all collines															
20 set 141 2.8 1.41 1.41															
Total															
1,491.4															
Sub-Program 4: Development of Fishing and Fish Farming															
5. Fish Farming Promotion															
Training on protection and management of fish ponds															
Rukobe II, Buhinda, Kirambi, Gisulura, Kirambi, Mutanga, Ntama, Buhanga (Marsh to pc collines)															
5 time 1,000 5.0 1 1 1 1 1															
Developing fish ponds															
40 site 1,000 40.0 8 8 8 8 8															
Total															
45.0															
Sub-Program 5: Food Security, Nutrition and Vulnerability Management															
Program 2: Professionalization of Producers and Promoting Innovation															
Sub-Program 6: Organization of Producers and their Capacity Building															
6. Capacity Building for Farmers															
Training on organization management of OAP															
all collines															
25 time 1,000 25.0 5 5 5 5 5															
Cooperative development															
50 time 50 2.5 0.5 0.5 0.5 0.5															
Total															
27.5															
Sub-Program 7: Development of Local Services and Innovation Project															
Sub-Program 8: Rural Finance Project															
7. Improvement of Access to Microfinance															
Organizing sensitization seminar on rural credit															
all collines															
100 time 50 5.0 1 1 1 1 1															
Total															
5.0															
Sub-Program 9: Research / Development															
Program 3: Development of industries and agribusiness															
Sub-Program 10: Export Sectors															
Sub-Program 12: Rural Infrastructure															
8. Marketing Promotion															
all collines															
Establishment of market price information sharing system															
Sensitization meeting															
40 time 50 2.0 1 1															
Training to info collectors															
5 time 100 0.5 0.1 0.1 0.1 0.1 0.1															
Promoting business dealing agricultural products															
Sensitization meeting															
10 time 50 0.5 0.1 0.1 0.1 0.1 0.1															
Training on business															
10 time 100 1.0 0.2 0.2 0.2 0.2 0.2															
Rehabilitation and maintenance of access															
Sensitization meeting															
200 time 50 10.0 2 2 2 2 2															
Total															
14.0															
9. Handicraft Industry Promotion															
Establish and strengthening association on handicraft industry															
Kagoma, Gihamagara, Kanyinyaya, Macu															
Formulation meeting of associaton															
60 time 100 6.0 1.2 1.2 1.2 1.2 1.2															
Training of techniques															
30 time 100 3.0 0.6 0.6 0.6 0.6 0.6															
Provision of necessary materials															
6 set 2,000 12.0 6 6															
Total															
21.0															
Sub-Program 13: Reform of DPAAE															
Program 4: Improvement of the institution frame															
Sub-Program 14: Improvement of the frame and labor condition															
10. Capacity Building for Technician															
Refer to the Capacity Development Program															
Grand Total															
2,347.0															

C. Bukirasazi Commune Action Plan for Promoting PCDC

1. Introduction

PCDC is a valid tool for community development; however, it is not implemented in the most effective way. On the other hand, agriculture is the main source of livelihood for people of communities and MINAGRIE has staffs up to colline level, hence support focusing on the agricultural sector is effective. Therefore this Action Plan aims to facilitate implementation of agricultural projects of PCDC.

Combining those views, it was assumed that support to MINAGRIE, DPAE and commune officials is necessary to facilitate implementation of PCDC and this Action Plan is practical tools to facilitate implementation of PCDC.

2. Features of Bukirasazi Commune

2.1 General Features of Governorate

As of 2012, there are 18 collines in Bukirasazi commune and these collines are classified into two zones: Bukirasazi, and Kangozi.

2.2 Natural Conditions

This commune is completely located in Kirimiro, the famous region for its wide agricultural variety, and it is surrounded by four communes. It is limited in the north by Makebukoko commune, in the west by Gishubi commune, in the south by the commune of Buraza and in the east by the commune of Itaba. Bukirasazi commune is located in the Congo-Nil with the altitude between 1,800 and 2,000m. The average annual rainfall is 1457 mm/year. The annual average temperature is 19.7 °C and varies between 25.5 °C and 13.8 °C.

2.3 Socio-Economic Condition

The total population in Bukirasazi commune was estimated at 37,349 and the number of household was 8,964 (2012). The one with fewer population, fewer households and households engaged in agriculture is Shaya with 97 households and 438 inhabitants. The colline which has more population, more households engaged in agriculture is Nyamisura with 5,223 inhabitants and 665 households.

Population density is 426.5/km², and people living in IDP camp occupy 8.5% (3213) of all.

Number of houses with straw roof accounts for 4.2% (361) of all houses and number of houses with metal sheet occupies 29.2% (2390).

Access to infrastructure is relatively good, less than 30 minutes on average to go to school, health center and market from the center of each colline.

2.4 Environmental and Social Consideration

2.4.1 Environmental Consideration

Summary of the environmental consideration of this commune is shown in the table below.

Table 5.17 Current Environmental Issues of Bukirasazi Commune

Environment	Environment Consideration/ Evaluation in Existing Condition (Before Project)
General overview of Climate	The climate of the project region of the study is also corresponding to the zone of Kirimiro. The average temperatures of the zone are between 13.8°C and 25.5°C with

	<p>an average of 19.7°C. The registered average rain fall is reported as 1457 mm/year i.e. above to the national average. The rainy seasons begins in September and continue until mid-May, whereas, the dry seasons lasts for three months i.e. from June to August.</p>
Agriculture based on Climate condition.	<p>In the absence of proper irrigation facility, the agriculture in the commune heavily dependent on the variability and instability of the climatic conditions. Majority of the total population of the Bukirasazi commune is dependent on agriculture. Instable climatic conditions led to situation of flood and thus substantially decrease the farming activity and result in agriculture loss. Such loss adds the one factor for the poverty to the farmers.</p>
Soil & Soil Productivity	<p>In geological terms, the peaks of the hills are composed of the quartzitic rocks and harder while the soils of the valley / swamp are composed of softer rocks such as granite balls. As of Marshes of the commune is concerned, the soil is not the organic one, as the marsh is being exploited since long. Also, farmers are using chemical fertilizers for the production of various crops. The soil in the flat & marsh region is characterized as clay or sandy clay, and due to erosion the conditions are deteriorating. However, the soils are fertile and can provide higher agriculture production, if the irrigation system is developed and managed properly. The fertility of soil of marsh is on decreasing trend because of undeveloped condition of marshes and lack of irrigation facility. The commercial activity of brick building is prevalent in the marshes of Bukirasazi and thus doing great harm to the soil.</p>
Water Availability	<p>The Kibuye ,Gasebuzi, Gishanga and Nyamusawaga rivers are the main rivers of the Bukirasazi commune. During the rainy season, the occurrence of flood is frequent and a lot of fertile and cultivated land submerge in to the water, which results in production loss. Further, because of uneven terrain of the marsh, the water cannot reach at each corner of the marsh and hence it restricts the farmers to choose the right food crop to grow and productivity suffers as well.</p>
Flora	<p>The dominant crops of marshes of the Bukirasazi commune are rice, maize, beans and sweet potato. The choice of the crops to cultivate depends on the season and reach of water to the land. Vegetation at the slopes of the hills surrounding to marsh exist and it is being well exploited. It was observed that almost most of the surrounding slopes of the marsh is under the system of multi cropping vegetation of maize, banana and beans. However, the trees of eucalyptus are abundant on the slopes. The natural vegetation does exist in few areas and some wild grass can also be seen on the slopes. It was observed that the cultivation of coffee is relatively less at the slopes.</p>
Fauna(Livestock)	<p>Almost all the marshes in the Bukirasazi commune are under cultivation and there is no wild animal in existence in the marsh area. Presently, the fauna in the project zone is limited to comprise of insects, termites and birds. The farmers of the marshes are also engaged in the breeding of livestock. The number of livestock is increasing after cessation of hostilities and due to efforts of different development partners. However, constraints like lack of grazing area due to intensive agriculture, inadequate availability of the veterinary services and lack of veterinary centers also exist.</p>

2.4.2 Social Consideration

(1) Progress of Reconciliation

In Bukirasazi commune, there are two IDP camps, Bukirasaz and Kibuye IDP camp. People living in IDP camps and other people have good relationship and IDPs can go outside even at night. It is owing to peoples' self-help efforts, IDPs and other people try to let bygones be bygones. In Kibuye, IDPs and other people used to check mutually and confirm security situation during the night, such frequent

interactions among improve mutual relationship.

(2) Consideration for People in Need of Special Attention

1) Situation of People in Need of Special Attention

i) Status of People Living in Bukirasazi and Kibuye IDP camp

People living in Bukirasazi IDP camp and Kibuye IDP camp face bad residence environment due to high population density in camp. In Bukirasazi IDP camp, in some houses, metal sheet roofs are broken due to heavy rain and face difficulty of procurement of strong roof which endure during the rainy season.

Also, there are many children in IDP camp and many of them cannot go to school because of lack of money for uniform and textbook.

Most of adults living in camp commute to their land for cultivation, some people living in Bukirasazi IDP camp commute to land in Bukirasazi colline, other people in Bukirasazi IDP camp commute to land in other collines. This is the same as that in Kibuye IDP camp. In most cases, these cultivations are self-sufficient and people are in high needs of other income generation.

ii) Status of Widows and Orphans

Some widows have less land for cultivation and no means to send their children to the schools. There are some associations which help widows for cultivation; however, still many widows need some sort of assistance, especially economic assistance because they lack food and clothing.

Orphans face lack of clothes, lack of access to treatment and school materials. Due to such situation, they often abandon studies. Also, they face difficulty to use their lands, sometime their land to be inherited was taken away by their relatives. There are not a few associations which help orphans especially for school materials. Also, not a few households care orphans, however, majority of families which welcomed orphans are poor, therefore they are still in need of assistance.

iii) Status of Other People in Need of Special Attention

Ex-combatants have problems such as lack of housing. Some of them lost some parts of their body and face inability to work and difficulty to eat regularly. When demobilization, they got demobilization fees on the condition that they organize association by themselves. However, for some ex-combatants, demobilization fees were insufficient. A few ex-combatants show successes in integration and find work (ex. driver). Some ex-combatants live in IDP camps.

PWD face difficulty to move due to lack of facilities, inability to work, psychological trauma related to their disability. Some are unable to seek medical care, and extremely poor. There are no special schools for PWD, therefore they face lack of access to education.

Batwa people have a very low income from pottery and some of them neglect agriculture due to lack of land and suffer from lack of food. In the colline profiling survey, 80% of colline chiefs answered that they do not have Batwa ethnic group in their collines, which shows lack of interactions between Batwa people and other people.

People struggling with HIV/AIDS find it difficult to have medication (anti retroviral), and face inability to eat properly. Their diet is poor and inadequate.

2) Inclusiveness of People in Need of Special Attention

Most of projects support and target to association, not individuals, and thus, inclusiveness of social vulnerable people in associations' activities should be considered. Before considering inclusiveness of people in need of special attention in activities of associations, characteristics of associations and process on selection of beneficiaries should be clarified.

i) Inclusiveness of IDP people in Group Activities

In Bukirasazi IDP camp, there are no associations composed only of IDPs. IDPs participate in association activities led by people living in collines. Bukirasazi IDP camp leader cum chief of Bukirasazi colline organize association as leader and that association are composed of people living in camp and people living in colline with ratio 1:1.

In Kibuye IDP camp, there are no associations composed only of IDPs. IDPs participate in association activities led by people living in collines. For example, saving group through cultivation, which are organized by colline chief (living in colline), include 12 people living in Kibuye IDP camp out of 30 members.

ii) Inclusiveness of Widow and Orphan in Group Activities

All associations surveyed by the Project team included widows as members. Further, it was confirmed that mutual help groups for widows were active. However, few widows couldn't participate in association due to lack of ability to pay for saving in the association. Some associations help such widows who cannot afford to participate in association activities through utilizing saved money for them.

Also, most of associations surveyed by the Project supported orphans. In Burundi, it is traditional to support orphans. In some association, each member has responsibility for one or two orphans and use saved money in association for their support.

From above, it is confirmed that level of inclusiveness of widows and orphans in association activities are relatively high. It is necessary to utilize and promote such helping system through the Project.

iii) Inclusiveness of Other People in Need of Special Attention

Ex-Combatant did not participate in associations' activities with other people in target collines of social survey (3 collines). However, there exist associations composed of Ex-Combatants only, because establishment of associations was the requisite to get money when demobilized. It is not sure whether these associations function at present or not. For ex-combatant, catholic churches support through the means of labor absorption for marsh development.

Most of the disabled people are supported by their families or relatives and they are not organized. However, few are supported through association activities though it is difficult for them to become members. Some catholic churches and local NGO help association are supporting the disabled.

Most of Batwa people did not participate in associations' activities, because it is more difficult for them to make a living than others. Further, it is difficult to enhance their participation in associations' activities, because they cannot afford to pay money for saving to association periodically, though fee is reasonable for others. Therefore, in most cases, they are not included in the beneficiaries of projects.

Some of the people struggling with HIV/AIDS are supported by associations and also some are organized in form of mutual-aid group, which usually includes others who are in good health condition.

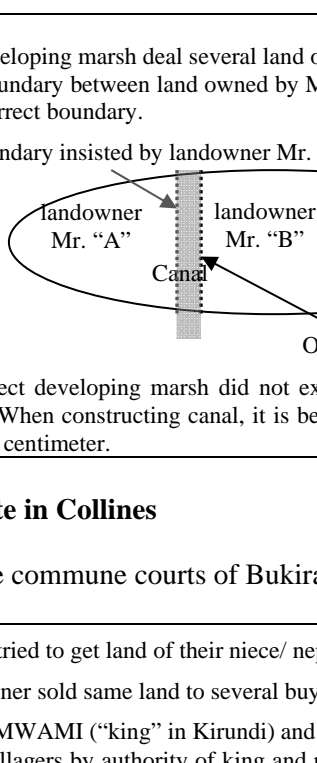
(3) Land Dispute

Land dispute issues were surveyed under the categories of 1) in marsh, 2) in colline, 3) concerning returnees, and 4) concerning IDP camps.

1) Land Problems in Marsh

According to the commune courts in Bukirasazi, there are few cases in marsh, however following cases of land dispute were confirmed.

- A project developing marsh deal several land owned by different farmers as one section. As a result, a project construct canal in the boundary between land owned by Mr. "A" and land owned by Mr. "B", it caused land dispute between both parties over correct boundary.



- A project developing marsh did not explain well about loss of land by canal construction, and brought land dispute. When constructing canal, it is better to explain how large land will be acquired showing concrete figure like how centimeter.

2) Land Dispute in Collines

According to the commune courts of Bukirasazi, following cases were confirmed.

- Case 1 : Relatives tried to get land of their niece/ nephew succeeded by their parents who passed away.
Case 2 : A land owner sold same land to several buyers.
Case 3 : In past, NMWAMI ("king" in Kirundi) and UMUGANWA ("prince" in Kirundi) visited village and presented lands to some villagers by authority of king and prince while ignoring the owners of those lands. Still now, those people insisted that they were given lands from king and prince and land owners denied their affirmation.
Case 4 : Land allocation within families sometimes cause troubles.

3) Land Dispute Concerning Returnee

It takes long time to solve land dispute concerning returnees, because it requires collection of a lot of information to verify possession of land.

There are few land disputes cases concerning returnees in Gitega province, which is not adjacent to the border, also there are few cases under control of CNTB in Gitega city.

Mtabila camp in Tanzania closed at the end of 2012, and according to UNHCR data, 93 people returned in Bukirasazi commune till 31st December 2012. It is necessary to take into consideration possibility of land dispute cases and resolution system.

4) Land Dispute Concerning IDP camp

Up to now, no disputes happened in Bukirasazi commune concerning IDP camp. Rwinyana colline is selected as location of building peace villedge.

Land disputes discussed above should be considered well among stakeholders before designing and implementing the projects.

2.4.3 Agricultural Condition

(1) Land Use

Farm land possession: Concerning the upland field, all farmers who were interviewed possess own farm land in living colline. Most of them live near the farm land and some of them possess it in the different colline. The range of land size is 0.5ha to 5ha per household. Concerning the marsh development, people who have farm land in the marsh is limited and they have only small pieces of lands which are scattered in the same marsh or different marsh. The average area is 3a to 5a per person. Their lands are located far from living places. In Bukirasazi commune, colline profiling indicates there are a few farmers who have both marsh land and colline.

(2) Crop Production (including cropping pattern and crop calendar)

Production and productivity in Bukirasazi is the biggest in three communes. Major crop productions are Cassava (bitter variety and sweet variety), Banana (for cooking, wine and fruits), and Maize at the colline and marsh. At colline, Beans and Sweet potato are produced at twice in a year; season A and B. In marsh, sort of vegetables are produced in dry season, rice at certain areas are produced in rainy season (Present situation of average production is shown to the following table). In general, mixed cropping without chemical fertilizer and pesticide is a popular method as traditional farming method at marsh and colline. On the other hand, some advanced farmers and farmers who purchase fertilizer and manure can use fertilizer, but the quantity is not enough to increase production. Some farmers adopted to use early mature varieties and late mature varieties considering the season. Fruits production is relatively bigger than other communes. Cropping pattern in Bukirasazi Commune is shown the below;

Month	1	2	3	4	5	6	7	8	9	10	11	12
(Bukirasazi)	Season B				Season C				Season A			
Season A	Banana, Irish potato								Cassava, Beans, Peas, pignon peas, Maize, Sweet potato,			
Season B		Beans, Peas, Sweet potato, Irish potato										
Season C					Beans, Maize, Sweet potato, Irish potato, Rice, Vegetables							

Figure 5.8 Major Cropping Pattern in Bukirasazi Commune

Table 5.18 Average Crop Production in Bukirasazi Commune

Crops Production	Present Situation
Rice	1.7 tons/ha
Banana	13.21 tons/ha
Cassava	18 tons/ha
Beans (short)	0.62 tons/ha
Beans (climbing)	0.7 tons/ha
Sweetpotato	6.09 tons/ha
Maize	1.56 tons/ha

(Source: PCDC II)

Table 5.19 Utilization of Manure, Chemical Fertilizer and Pesticide by Crops

	Input	Manure	Chemical	Pesticide
	Crops			
Colline	Beans	O	△	X
	Banana	O	X	X
	Cassava	X	X	X
	Sweet potato	X	X	X
	Irish potato	O	△	X
	Maize	O	△	X
	Sorghum	O	△	X
Marsh	Rice	X	X	X
	Vegetable	O	△	△
	Irish potato	O	△	X
	Sweet potato	X	X	X
	Beans	O	△	X

(Source: PCDC II)

(3) Livestock

Bukirasazi commune being agricultural and agropastoral, there are several types of farm animals including: cattle, pigs, sheep, goats, chickens, rabbits, and bees. They can generate money by selling them, which contribute to improving food security and can also produce manure. Specialty, cow is the highest demand from farmers in order to get manure. Solidarity-chain system has been introduced through livestock project (PARSE). On the other hand, breeding and rearing management by farmers have not been adopted well, and cost of medicine is not affordable to farmers and accessibility to medicine is also not good. Note that the distribution is not fair on all the collines.

Table 5.20 Average Number of Livestock per Household

Livestock Species	Number of heads per household
Cattle	0.3
Goats	1.3
Sheep	0.2
Pigs	0.4
Poultry	1.4
Rabbits	0.1
Bees (number of hives)	0.3

(Source: Colline profile)

(4) Marsh Development

Marsh agriculture has a big potential of intensive crop production through a year in order to control water, to introduce appropriate farming practices, if marsh will be developed. Most of marshes are not developed at present, therefore water control is the biggest constraint caused by flooding in the rain season and water shortage in the dry season. On the other hand, Nyabisagi was developed by ADIC (61ha) and Kibuye and Gishanga 1 were developed by this project under JICA support.

Although slope protection of the surrounding marsh is essential for marsh development, it is not well developed at present.

(5) Forestry

In general, soil erosion by cutting trees and soil degradation in colline is known as a major issue by most of people. However, afforestation area has not been much expanded, because farmers are not willing to be reduced their farm land by afforestation. In addition, it is not easy to get nursery to farmers near their place as long as any project is implemented. As for contour line digging, situation is same as afforestation; the contour line is not well expanded because of this activity is quite tough and it needs some materials. Varieties of trees people prefer are Gravellea, Eucalyptus, and Cedres. As for agroforestry, many of people plant fruits trees, these are Avocado, Orange, Japanese plum, etc. These fruits trees seedling are provided by the government in free of charge.

(6) Association

More than 50% of collines have associations which have access to credit which is informal but under mutual surveillance among members of association, it contributed to self-active economical development of those associations through cooperative purchase of agricultural inputs and necessary material for small business. There are 98 associations in Bukirasazi commune.

(7) Agri-business/ Private Sector

Major processing activity in Bukirasazi is making cassava and maize flour. Also, banana wine making is active. As for the other activities, some association and private person have milling machine for cassava, maize, and sorghum to flour making. For handicraft, business scale is very small and underdeveloped with limited direct financing opportunities. Most of association doesn't have enough skills and modern equipment for processing.

(8) Agricultural Infrastructure, Commercialization

There is a big market in Bukirasazi commune and access to the market is better than other collines. New modern market was constructed in Bukirasazi colline.

3. Challenges for Promoting PCDC Projects in Agriculture, Livestock and Livelihood Improvement Sector

3.1 Challenges from Environmental and Social Consideration

3.1.1 Challenges from Environmental Consideration

- Population Pressure on agriculture land- Per person / household agriculture land is very small in the Bukirasazi commune. Per cultivated land size is approximately 10 to 15 square meters as per a rough observation. Hence, consideration for environment in the eyes of farmers is very low in the priorities of the farmers. They mostly treat it as a productive work.
- Erosion of Soil- Across the hills and colline side, the soil erosion is an issue to address due to cultivation and thus lesser numbers of trees.
- Lack of awareness- Farmers are not aware of the benefits of environmental conservation.
- Fauna- There is no wild life in the area. Livestock activities are not much popular in the commune mainly due to lack of grazing area due to thinning of land and intensive agriculture. It should be noted that livestock plays important role in environment conservation & preservation.
- Flora - There is little wild life or forest in the commune. Eucalyptus is the main trees which local population plants. However, awareness about the benefits of forestation is low in the commune.

- Water- The terrain in the commune is uneven. During the rainy season, farmers are often suffering from the floods.
- Unawareness of modern farming practice- due to unawareness about modern farming practice the productivity loss is too much and in turns harms to the environment too

3.1.2 Challenges from Social Consideration

- Obstacles for the promotion to participate in groupe activities of people living in IDP camp; Most of them live on self-sufficient agriculture and take a lot of time to commute to land for cultivation and cannot afford to improve their residencial environment (high density causing disease) and access to education.
- Land Disputes; Due to high population density in Bukirasazi commune (503 /km²), less and less land people have. Therefore, it is difficult to aquire private land for community development. It may cause diputes among people on claiming possession of land and compensation.
- Social situation in need of special attention; Some people, especially widow and orphan face land problems. They have less or no land and live in need of special assistance from association. Also, there are some people who cannot cultivate due to lack of power with serious desease, age, HIV/AIDS etc.

3.2 Challenges in Agriculture, Livestock and Livelihood Improvement Sector

(1) Environmental Protection

- Farmers do not have enough knowledge about techniques on environmental protection
- Farmers do not want to decrease their arable land by afforestation and agro-forestry
- Lack of proper management of seedlings by seedling producers
- Insufficient seedlings to farmers who want to adop contour line planting and afforestation
- Lack of marketing network and information on seedling in the area

(2) Marsh Development

- Difficulty of water control without irrigation infrastructure
- Difficulty of operation and maintenance for irrigation facility by water users
- Lack of proper cultivation techniques on rice and vegetable without cropping calendar

(3) Soil Fertility

- Soil degradation at colline due to lack of improvement of manure application
- Most of farmers do not consider crop rotation well due to the limitation of farm land
- Chemical fertilizer is not affordable to farmers because of high cost
- Lack of domestic animals, especially cows is very expensive for farmers, so that they cannot get and use enough manure

(4) Selected Seed Solidarity Chain

- Low production of seed /seedlings available for producers; sometimes introduced varieties are unsuitable to the target area and proper cultivation technique for introduced varieties of seed/seedlings are not extended to farmers.
- Lack of seed storages makes it difficult for farmers to keep seeds in good condition and sometimes cause lower quality of seeds
- Seed multiplication system is not established.

(5) Livestock Promotion

- Most of livestock was killed during the conflicts and people face lack of manure from fierce of livestock and it causes less fertility of soil for cultivation.
- Production of forage grass is insufficient to feed livestock.
- Farmers do not have enough knowled on animal health and it sometimes causes failure to take care of livestock..
- In some collines which were not target colline of PARSE, solidarity chain system was not established.
- Animal health service was not systematically conducted, and cost of pharmacy is high for farmers.

(6) Post-harvest, Processing

- Lack of knowledge about post-harvest technique (technologies on storage, drying, and so on); farmers donot have any opportunity to get training on post-harvest techniques.
- Farmers donot have enough knowledges on processing.

(7) Development of Industries and Agribusiness

- Lack of knoledge on accounting and business management and lack of opportunity for capacity building on these skills.
- Some association produced in primitive way and faces difficulty in control of quantity and quality.
- Microfinance system is not promoted and it makes difficult for them to start industries and agribusiness.

4. Analysis of PCDC

4.1 Objective and Vision of PCDC

PCDC 2nd generation in Bukirasazi commune have following vision; “Bukirasazi exempte de famine, dont la population est en bonne santé, intelligente et consciente ; Bukirasazi havre de paix et modèle de bonne gouvernance ; Bukirasazi commune attrayante.” “Bukirasazi without hunger, where population is healthy, intelligent, and conscious. Bukirasazi heaven of peace and model of good governance. Bukirasazi attractive commune””

PCDC is the plan for next five years (2013-2017) for community development in commune. Objective of PCDC is to provide the commune with an adequate and appropriate instrument which includes aspirations, assets, potentialities and the main priority actions for the communal development.

4.2 Achievement State of PCDC Projects

Achievement state of PCDC projects are surveyed focus on strategic axis in PCDC second generation, “No.1 Promotion of agriculture and livestock with sustainable market and environmental protection” and “No.4 economic development through off-farm activities”.

4.2.1 “No.1 Promotion of Agriculture and Livestock with Sustainable Market and Environmental Protection”

(1) Environmental Protection

For ensuring crop production, although countermeasures against soil erosion such as contour digging, grass fixing, agro-forestry are conducted, many farmers donot have enough knowledge on the technique and number of seedlings for agro-forestry and grass is less than 10 % of target value written

in PCDC. Also, the length of contour digging is shorter than initially envisioned.

(2) Marsh Development

PCDC set feasibility study for 230 ha in Gishanga 1 and 2, Buhanda and Mukaze. Development in Gishanga 1 (80ha) was completed and not yet conducted in Gishanga 2, Buhanda and Mukaze. Marsh development is scheduled to be conducted above four (4) areas, although some of them were not yet conducted.

For establishment of marsh management committee, Gishanga 1 & 2, Kingoro and Kibuye are targeted and federation was established in Kibuye with marsh committee at the top and hydraulic committee at the lowest. In other marsh area, no system was established.

(3) Soil Fertility

PCDC promotes three (3) compost pits for all household in Bukirasazi commune; however still many people need sensitization on compost making. This is because some people yet did not think it worthwhile to make compost and consider compost making time and labor consuming.

Regarding the efficient application of fertilizer, though some sensitization and training was conducted, not a few farmers neither understand nor practice efficient application of chemical fertilizer. Moreover, they do not know correct utilization of manure for soil fertility.

(4) Selected Seed Solidarity Chain

There is no system of certified seed multiplication in the entire commune but some associations which multiply commercial seeds under supervision of DPAE in some collines.

According to PAI in 2012, 2 tonnes of bean and soy bean are provided to farmers, and this realized figure is far from necessary amount to achieve the goal of 9 tonnes of bean per year and 18 tonnes of soy bean per year.

Also, PCDC sets target yield in 2017 as follows.

Table 5.21 PCDC Target Yield in Bukirasazi

Crop	Current Yield	Target Yield in 2017
Rice	1.7 tons/ha	4 tons/ha
Banana	13.2 ton/ha	40 ton/ha
Cassava	18 tons/ha	30 tons/ha
Sweet potato	6.1 tons /ha	20 tons /ha
Bean	0.7 tons /ha	1.2 tons /ha
Maize	1.6 tons/ha	2.5 tons/ha

(5) Livestock Promotion

According to PCDC, number of cattle shall increase from 1 per 5 households to 2 households in Bukirasazi commune in 2017. PCDC sets target values as follows.

Table 5.22 Target Number of Increase in the Number of Cattles

Item	Current Situation	Standard	Target in 2017
Cattle	1 cow/5hh, with 2 lit of milk/day	1 cow/hh	1 cow/2hh, with 4 lit of milk/day
Goat	1 goat/hh	5 goat/hh	3 goat/hh

Sheep	1 sheep/4hh	1 sheep/hh	1 sheep/2hh
Pig	1 pig/3hh	1 pig/hh	1 pig/2hh
Chicken	2 hens/hh	10 hens/hh	5 hens/hh

4.2.2 “No.4 Economic development through off-farm activities”

(1) Post-harvest, Processing

In terms of processing, a processing unity for making juice and composed flour is initiated at Kibuye (ELM) and Migano as well as another under construction at Ruvumu. Various activities are planned for processing; banana, maize, cassava, rice and potato, and promotion at workshops in Rubumu, Kibere and Kibuye.

(2) Development of Industries and Agribusiness

In Bukirasazi commune, handcraft is underdeveloped despite its importance in economy by its ability to generate income to households and relieve agricultural sector. Bukirasazi commune is aiming to create jobs in handcraft sector through capacity building as professional craftsmen.

5. Analysis of PPIA

5.1 Objective and Vision of PPIA

PPIA follows vision of PNIA (Programme National d'Investissement Agricole);

“The Burundian agriculture's fundamental mission is to ensure food security in quantity and quality for all Burundians. To achieve the mission, it is necessary to shift from subsistence agriculture to commercial agriculture and family-run agriculture, also it is necessary to ensure a decent household income and good natural resource management in environmentally friendly way. This agriculture is practiced on farms with an average size will reach 1 ha against 0.5 ha per farm whose soil fertility regain sufficient to allow returns that are comparable to the best African performance. Also, for achievement of the mission, it is necessary to organize farmers and train them to acquire necessary technical skills.”

5.2 Progress of PPIA Projects

Preparation of PPIA started 2012 and it was formulated in December 2012 in Gitega Province. Afterwards, the committee, mainly consisted from DPAAE staff which elaborated PPIA, started elaborating the action plan in July 2013 by collecting plans from partners. However, most partners have not given plans, the action plan making stalls at present.

6. Countermeasure for Promoting PCDC Projects in Agricultural Sector

6.1 Focusing on Main Livelihood and Targeting of Areas

The Action Plan is aiming at livelihood improvement of people in the target communes of the Project through promoting PCDC projects. The Action Plan should present various alternative projects to solve obstacles for livelihood improvement. Moreover, presenting project menu focusing on main livelihood of target area will lead to efficient and effective livelihood improvement.

Here, the Project focused on colline, which is the smallest administrative unit, and the Action Plan presents suitable project menu for livelihood improvement for each colline.

People's main livelihood can be classified into three categories; i) Agriculture in Marsh, ii) Agriculture in Colline, iii) Off-farm Activities. Therefore, suitable projects menu for livelihood

improvement would be provided based on this classification. Also, collines in Bukirasazi commune were classified into these three types by main livelihood.

The Action Plan provide i) Marsh Agriculture project menu, ii) Colline Agriculture project menu, iii) Non-Agriculture project menu and then applied the project menu to each type colline i.e.; i) Marsh Agricultural type, ii) Colline Agricultural type and iii) Off-farm type.

(1) Projects Focusing on Livelihood Improvement through Marsh Agriculture

Increase in productivity of agriculture in marsh contributes to livelihood improvement of people. Development of production base, technical transfer on agriculture in marsh and improvement of agricultural input are necessary projects for people living on agriculture in marsh. Generally, people owning land in marsh also possessed own lands in colline, therefore, some recognizes “people having land in marsh are relatively rich, because they can cultivate in marsh during the dry season” according to the result of colline profiling survey.

(2) Projects Focusing on Livelihood Improvement through Colline Agriculture

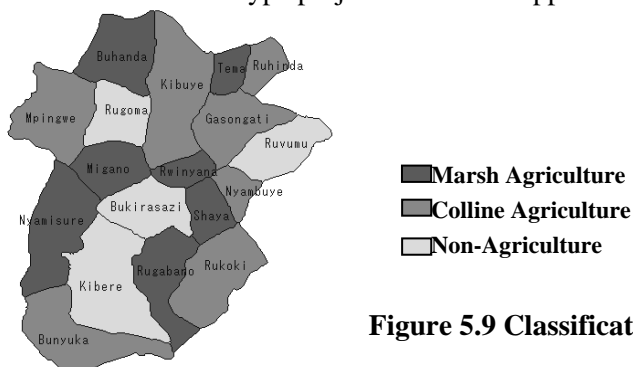
There are many households which donot have land in marsh, but have land only in collines. Therefore, efforts to increase in productivity in colline are inevitable for livelihood improvement for such people. Colline lands have been heavily damaged by soil erosion due to heavy rain. Also, steep and narrow colline land brings inefficient farming system. Increasing in productivity in colline land in parallel with preservation of land including fight against soil erosion is quite important projects for people living on agriculture in colline.

(3) Projects Focusing on Livelihood Improvement through Off-Farm Activities

There are not a few households which have so small or no land. Also, not a few people are under situation in need of special attention. Some IDPs have to commute to collines far from camp for cultivation, some widows cannot cultivate due to lack of farming utensils and ethnic minority such as Batwa originally lived on non-agricultural means. Therefore, it is necessary to set projects supporting activities except cultivation, like agricultural products processing, trading and handicraft industries for people who cannot live on cultivation. Livelihood improvement project menu focusing on activities except cultivation is called “Non-Agriculture” projects hereinafter.

(4) Classification of Collines based on Suitable Livelihood Improvement Menu

Based on the direction of livelihood improvement project set up above, collines were classified into 1) Marsh Agricultural Type, 2) Colline Agricultural Type and 3) Off-Farm Type on the basis of people’s land ownership and engagement in non-agricultural industry. The collines with high household percentage owning land both in collins and marshs were classified as 1) Marsh Agricultural Type; the collines with high household percentage owning land only in collines were as 2) Colline Agricultural Type; and the collines with high percentage of people engaging in non-agricultural industry as 3) Off-Farm Type. The results of classification are presented in the figure as below. The Action Plan set three type project menus and applied them to corresponding type of collines.



Note) Classification basis; 1) The marsh agricultural type and 2) the colline agricultural type are classified by the average percentage of corresponding household, and 3) the non-agriculture type is classified by upper quartile point, 75% of population engaging in non-agricultural industry.

Figure 5.9 Classification of the Collines

The Action Plan set three type project menus and applied them to corresponding type of collines.

6.2 Consideration for People in Need of Special Attention

(1) Setting Project Menu for People in Need of Special Attention (Off-Farm Type Project)

As described in “6.1 Focusing on Main Livelihood and Targeting of Areas”, project menu focusing on livelihood except cultivation (“off-farm type” project menu) is set for people having so small land or no land, especially for people in need of special attention.

“Off-farm” projects are applied to collines with high percentage of people engaging in non-agriculture industries. The Action Plan required affirmative selection of people in need of special attention as beneficiaries of “Off-farm type” projects.

Some IDPs have to commute to collines far from camp for cultivation, some widows cannot cultivate due to lack of farming utensils and ethnic minority like Batwa who basically lived on non-agricultural means. Therefore, it is necessary to set projects for supporting activities as means of livelihood except from cultivation, like agricultural products processing, trading and handicraft industries for people who cannot live on cultivation.

(2) Policy of Support for People in Need of Special Attention

When projects are designed and implemented, inclusiveness of social vulnerable people like Ex-Combatant, Ex-Child Soldier, Widow, Orphan, Disabled, Batwa people, people struggling with HIV/AIDS and IDPs, should be considered.

According to the colline profiling survey, situation of people in need of special attention was clarified as follows;

Table 5.23 Summary of People in Need of Special Attention Based on the Colline Profiling

Community Members Who Need Special Attention	Situation	Difficulty They Face	Support from Outside	Participation in Association	Means of Living	Land Holding
Ex-Combatant	Some success in integration and the others are living in IDP Camp	Food security	Social rehabilitation kit	Yes	Agriculture, Non-agricultural industry	Most of them sold out their land at the time of leaving for war
Ex-Child Soldier	Good relationship with people	Food Security	Land / Cattle	Yes	Agriculture, Non-agricultural industry	It depends on each person
Widow	They have no means to send their children to the school	Food security, lack of clothes	No support	Yes	Agriculture	Very small or having difficulty to possess land
Orphan	They cannot go to school and do not have money for stationary.	Food security, lack of clothes, no money for medical supports	There are some Associations supporting them	—	—	Some' lands are taken by their relatives
PWD	They cannot go to school and able to work, therefore, they are so poor.	Food security, no money for medical support	There are some Associations supporting them	Yes	Some cannot move and work	Depends on kind of disabilities

Batwa	They are poor living on self-sufficient agriculture and pottery	Food security, they donot know how to cultivate	There are some Associations supporting them	No, they donot have any association	Pottery, Agriculture	Very small land
HIV/AIDS	They do not have travel fee to go and take ARVs	Lack of agricultural input, Food Security	There are some Associations supporting them	Yes	Agriculture, Non-agricultural industry	Same land holdings as other people
IDP	It is too far to go to their original colline to cultivate	Some difficulties in crop cultivation in original colline	There are some Associations supporting them	Yes	Agriculture, Non-agricultural industry	They have land in their original colline, sometime take long time to go there

In the Project, it is necessary to be careful not to exclude social vulnerable people from the beneficiaries of the projects / activities.

The Draft Action Plan set policy of support for people in need of special attention as follows:

- In “Marsh Agricultural Type” collines and “Colline Agricultural Type” collines, it is necessary to take into consideration member compositions of associations and it should be scrutinize that whether support for people in need of special attention are included in association activities or not at the stage of listing candidate target association (beneficiaries). In “Off-farm Type” collines, it is necessary to take into consideration for member compositions of associations at the stage of selection of target associations to apply “Non-Agriculture” project menu to people in need of special attention.

However, for IDPs, Batwa people and Ex-Combatants, different approaches are required to benefit them as described below;

➤ **IDPs**

IDPs usually live in camp and some have land to cultivate in collines where IDP camp is located and others have to commute to the other collines. IDPs occupies majority of the people in need of special attention. In all collines having a camp in the target communes of the Projects, existence of associations including IDPs as members is confirmed. For IDPs having land near the camp, some took major roles in association, as a leader or vice leader. As for the IDPs having land far from the camp, some participated in the association activities and the other did not. But, for the latter, mutual aid system among IDPs was confirmed. For example, IDPs having land near camp went to the other collines and helped other IDPs with cultivation.

In the collines having IDP camps, to some extent, inclusiveness of IDPs in associations’ activities was confirmed. Therefore, in the selection of target association (beneficiaries) after selection of target collines, especially in collines having IDP camps, it is necessary to take into consideration for member compositions of associations, whether associations include IDPs or not. In the collines far from camps, due to unsure inclusiveness of IDPs in associations’ activities, there is possibility that they are excluded from benefit of projects. Therefore, it is necessary to avoid possibility of exclusion of IDPs at the stage of listing candidate beneficiaries through strengthening information sharing in the collines.

➤ **Batwa People**

Batwa people are ethnic minorities and live in the place far from other tribes. Their major means of living is pottery and self-sufficient agriculture. However, some donot know a way of farming because originally they are hunting people. Most of Batwa people did not participate in associations’ activities, because it is more difficult for them to earn a living than others. Also, it is difficult to enhance their participation in associations’ activities because they cannot afford to pay money for saving in association periodically, though it is reasonable fee for others. Therefore, in most cases, they are not

included in the beneficiaries of the projects.

Therefore, it is difficult to benefit Batwa people through association activities and it is necessary to apply “Non-Agriculture” project menu specifically to Batwa people through respecting their own cooperation system.

➤ **Ex-Combatants**

Most of Ex-Combatants sold their land before going to wars, therefore, they donot have land for cultivation when they came back and face difficulty to survive. For the inclusiveness in associations’ activities, ex-combatants did not participate in associations’ activities with other people in colline in the target collines of social survey (3 collines per commune, total 9 collines). Also, it was not confirmed the existence of associations supporting ex-combatants. There are associations composed of ex-combatants only, because establishment of associations is the condition to get money when demobilized, though it is not sure whether these associations function at present or not. Therefore, it is difficult to support ex-combatants through association activities. However, some catholic churches supported them through job creation in marsh development, and through helping associations which are supporting ex-combatants. The Project should consider collaboration with such support organization aiming at expansion of benefit to ex-combatants in the future.

7. PCDC Projects in Agricultural Sector

7.1 Project Design

PCDC has many activities concerning Agriculture, Livestock and Livelihood Improvement Sector. In this action plan, following projects were wet to cover activities described in PCDC concerning Agriculture, Livestock and Livelihood Improvement Sector.

1. Environment Protection
2. Soil Fertility Protection
3. Marsh Development
4. Seed Solidarity Chain
5. Livestock Promotion
6. Capacity Building for Farmers Organization (Association)
7. Fish culture Promotion
8. Improvement of Access to Microfinance
9. Agricultural Products Processing
10. Marketing Promotion
11. Handicraft Industry Promotion
12. Capacity Building for Local Officers and Technicians

The project menus were set based on the conutermeasures as described in previous section. Project menu were presented by three main livelihood type, Marsh Agricultural type, Colline Agricultural type, and Off-Farm type. Therefore, above projects shall be classified by the type of main livelihood.

Also, in this Action Plan, Projects in PCDC are re-arranged along with PPIA structure to ensure harmonization with provincial investment plan of DPAAE.

The following table shows the Project Menu in the Action Plan. “Type of Livelihood” shows corresponding sub-programs of PPIA and projects to types of livelihood of people, because project implementation and target colline selection should be carried out based on major livelihood of people in the colline for better effectiveness of projects. As described in “6. Countermeasure for Promoting PCDC Projects in Agricultural Sector”, people’s main livelihood can be classified into i) agriculture in marsh, ii) agriculture in colline and iii) off-farm activities. Therefore, suitable projects menu for livelihood improvement would be provided based on this classification.

Table 5.24 Project Menu in the Action Plan of Bukirasazi Commune

Strategic Axes in PCDC	Program (PPIA)	Sub-Program (PPIA)	Type of Livelihood			Project
			Marsh	Colline	Off-farm	
No.1 Promotion of Agriculture and Livestock, Sustainable Market, Environmental Protection	Program 1: Production and Sustainable Food Security	Sub-Program 1: Productive Capital Protection	O	O		1.Environment Protection
			O	O		2. Soil Fertility Protection
		Sub-Program 2: Upgrade and Rehabilitation of Irrigation Schemes	O			3.Marsh Development
		Sub-Program 3: Intensification of Agricultural Production (plants and animals)	O	O		4. Seed Solidarity Chain
				O		5. Livestock Promotion
		Sub-Program 4: Development of Fishing and Fish Farming		O		6. Fish culture Promotion
		Sub-Program 5: Food Security, Nutrition and Vulnerability Management				
	Program 2: Professionalization of Producers and Promoting Innovation	Sub Program 6: Organization of Producers and their Capacity Building	O	O		7. Capacity Building for Farmers Organization
		Sub Program 7: Development of Local Services and Innovation Project				
		Sub Program 8: Rural Finance Project	O	O		8. Improvement of Access to Microfinance
		Sub Program 9: Research / Development				
	Program 3: Development of industries and agribusiness	Sub Program 10: Export Sectors				
		Sub Program 11: Cash Crops and Animals			O	9.Agricultural Products Processing
		Sub Program 12: Rural Infrastructure			O	10.Marketing Promotion
				O	11.Handicraft Industry Promotion	
	Sub Program 13: Reform of DPAAE					
Program 4: Improvement of the institution frame	Sub-Program 14: Improvement of the frame and labor condition	O	O	O	12. Capacity Building for Local Officers and Technicians	

7.2 Project Menu

Program 1: Increase in Production and Sustainable Food Security	
Sub-Program 1: Productive Capital Protection	
Project 1. Environmental Protection	
<u>Marsh Agricultural Type, Colline Agricultural Type Project</u>	
<p>For colline farming, farmers possess only small piece of land and they cultivate more than twice in a year, therefore, it is said “over cultivation”. Generally, chemical fertilizer and organic manure are not affordable for farmers, because of the high cost of chemical fertilizer and lack of domestic animals for making compost. Therefore, farmers try mixed cropping and continuous cropping instead of chemical fertilizer and manure. For these reasons, degradation of soil became remarkable problem.</p> <p>On the other hand, government promotes the extension activities on environment conservation. Seedlings for afforestation are not sufficient to supply to farmers due to the lack of supplying system of materials. For that reason, afforestation areas in colline haven’t been expanded since donors’ support had been started.</p> <p>This Project will contribute to expand the afforestation areas and contour line planting to adapt these techniques through the activities. Also, this project contributes to expand agro-forestry and fruit production techniques and preserve land against soil erosion.</p>	
Expected Outcome	<ul style="list-style-type: none"> ✓ Beneficiaries understand importance of contour digging and practice digging contour and fix grasses in contour in their farm. ✓ Beneficiaries understand and introduce agro-forestry in their farm. ✓ Grass for fixing in contour and tree for agro-forestry are produced and supplied within colline. ✓ Frequency of soil degradation reduces considerably.
Main Activities	<p>Contour Digging and Grass Fixing</p> <ul style="list-style-type: none"> ➤ Digging contour line ➤ Fixing grass (banagrass, tripsacum) in contour line ➤ Maintenance of contour line dug <p>Afforestation</p> <ul style="list-style-type: none"> ➤ Planting afforestation tree <p>Agro-Forestry</p> <ul style="list-style-type: none"> ➤ Producing and planting seedlings for agro-forestry (grevillea, cedrella, calliandra, and leucaena) <p>Awareness Seminar on Environmental Protection</p> <ul style="list-style-type: none"> ➤ Training for harvesters of seeds of tree for afforestation ➤ Sensitization seminar on importance of fight against soil erosion
Target Area	<p><Marsh Agricultural Type> Kingoro Marsh Area</p> <p><Colline Agricultural Type> Gasongati colline, Mpingwe colline, Nyambuye colline, Bunyuka colline, Rukoki colline</p>
Target Value	<p>Contour Digging and Grass Fixing</p> <ul style="list-style-type: none"> ➤ Dig contour line 1100 km ➤ Fix grass in countour line; banagrass 2,750,000 seedlings, tripsacum 2,750,000 seedlings ➤ Maintain contour line 1,683.13km <p>Afforestation</p> <ul style="list-style-type: none"> ➤ Planting 600,000 seedlings of tree for afforestation <p>Agro-Forestry</p> <ul style="list-style-type: none"> ➤ Producing and planting seedlings for agro-forestry (grevillea; 120,000, cedrella; 64,000, calliandra 550,000, leucaena; 550,000) <p>Awareness Seminar on Environmental Protection</p>

	<ul style="list-style-type: none"> ➤ Organizing one (1) training for harvesters of seeds of tree for afforestation per year ➤ Organizing one (1) sensitization seminar on importance of fight against soil erosion per year 																
<p>Project 2. Soil Fertility Improvement</p> <p><u>Marsh Agricultural Type, Colline Agricultural Type Project</u></p> <p>Generally, small scale farmers cultivate more than twice a year, it is over cultivation. Chemical fertilizer and organic manure are not affordable for farmers, because of high cost and shortage of compost materials. Therefore, farmers try to save dosage of chemical fertilizer and manure by mixing cropping and continuous cropping. It causes the expansion of soil degradation around colline included in marsh area. On the other hand, government has been promoting the extension activities on soil conservation and farmers become understand the importance of soil conservation. Meanwhile, stable fertilizer supply system has not been established and suitable rotation cropping system and effective fertilizer application rate have not been decided so that soil conservation activities are stagnated.</p> <p>This Project will contribute to promote and expand the compost making technique, suitable application rate of fertilizers, and suitable cropping pattern to beneficiaries.</p> <p>This Project is composed by following two (2) sub-projects.</p> <p>Sub-Project 2.1; Strengthening Compost Production</p> <p>This sub-project aims at promotion of manure production in compost pit with and without piece of livestock in correct way for efficient soil fertilization of farmers' fields.</p> <table border="1"> <tr> <td>Expected Outcome;</td> <td> <ul style="list-style-type: none"> ✓ Technique on production of manure in compost without livestock is improved and quantity and quality of manure increase ✓ Technique on production of manure with livestock is improved and quantity and quality of manure increase. ✓ Availability of manure with livestock is improved for farmers who donot possess livestock. </td> </tr> <tr> <td>Main Activities</td> <td> <ul style="list-style-type: none"> ➤ Sensitization on compost making ➤ Transfer technique on compost making and promote compost production </td> </tr> <tr> <td>Target Area</td> <td>All collines</td> </tr> <tr> <td>Target Value</td> <td> <ul style="list-style-type: none"> ➤ Organizing 1 sensitization seminar per year ➤ Production of 26,000 composts (3 compost pits per household) </td> </tr> </table> <p>Sub-Project 2.2; Strengthening the Effectiveness of Fertilizer</p> <p>This sub-project aims at promotion of increased effectiveness of fertilizer by mixing with manure and prevail efficient application way of chemical fertilizer to fertile soil effectively in crop land.</p> <table border="1"> <tr> <td>Expected Outcome;</td> <td> <ul style="list-style-type: none"> ✓ Technique on improvement of effect of fertilizer is introduced. ✓ Yield of crop increases with limited farming input. </td> </tr> <tr> <td>Main Activities</td> <td> <ul style="list-style-type: none"> ➤ Distribution of chemical fertilizer ➤ Transfer technique on application of chemical fertilizer mixing with manure </td> </tr> <tr> <td>Target Area</td> <td>All collines</td> </tr> <tr> <td>Target Value</td> <td> <ul style="list-style-type: none"> ➤ 10 % of all farmholds (750 farmholds) introduces effective application of fertilizer mixing with manure </td> </tr> </table> <p>Sub-Program 2 Upgrading and Rehabilitation of Irrigation Schemes</p> <p>Project 3. Marsh Development</p> <p><u>Marsh Agricultural Type Project</u></p> <p>Marshes have high potential as farmland, so marsh development will contribute to regional food security and livelihood improvement of the people through production increase with appropriate farming practices on rice and vegetable. On the other hand, from a viewpoint of community regeneration which the Project is aiming, maintenance of irrigation facilities and water management will facilitate community activities and contribute to community regeneration through arising people's sense of togetherness.</p> <p>This pilot project will contributed to increase the rice and vegetable production by adapting</p>		Expected Outcome;	<ul style="list-style-type: none"> ✓ Technique on production of manure in compost without livestock is improved and quantity and quality of manure increase ✓ Technique on production of manure with livestock is improved and quantity and quality of manure increase. ✓ Availability of manure with livestock is improved for farmers who donot possess livestock. 	Main Activities	<ul style="list-style-type: none"> ➤ Sensitization on compost making ➤ Transfer technique on compost making and promote compost production 	Target Area	All collines	Target Value	<ul style="list-style-type: none"> ➤ Organizing 1 sensitization seminar per year ➤ Production of 26,000 composts (3 compost pits per household) 	Expected Outcome;	<ul style="list-style-type: none"> ✓ Technique on improvement of effect of fertilizer is introduced. ✓ Yield of crop increases with limited farming input. 	Main Activities	<ul style="list-style-type: none"> ➤ Distribution of chemical fertilizer ➤ Transfer technique on application of chemical fertilizer mixing with manure 	Target Area	All collines	Target Value	<ul style="list-style-type: none"> ➤ 10 % of all farmholds (750 farmholds) introduces effective application of fertilizer mixing with manure
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Target Area	All collines																
Target Value	<ul style="list-style-type: none"> ➤ 10 % of all farmholds (750 farmholds) introduces effective application of fertilizer mixing with manure 																

improved farming practices. Additionally, it will contribute to strengthen implementation capacity and technical skills of Commune Agronomists and Colline agricultural monitors.

Sub-project 3.1; Feasibility Study of Marsh Development

This sub-project aims at clarifying the technical information of selected marsh.

Expected Outcome;	✓ Compling feasibility studies on socio-economy, topographic data, and geographic data.
Main Activities	➤ To implement feasibility study of marsh development by selected contractors
Target Area	Gishanga I, Rugoma-Nyakavyeyi, Rukoki-mukaze, and Gishanga II
Target Value	280.2ha of marsh will be developd.

Sub-project 3.3; Marsh Development

This sub-project aims at construcion of irrigation facilities by selected contractors and creation of job opportunity for local people.

Expected Outcome;	✓ Completin of construction of irrigation facility
Main Activities	➤ To select contractor by bidding ➤ To implement construction work and to supervise the work
Target Area	Gishanga I, Rugoma-Nyakavyeyi, Rukoki-mukaze, and Gishanga II
Target Value	280.2ha of marsh will be developd.

Sub-project 3.4; Establising and Strengthening Water Management Unit

This sub-project aims at establishing of water user association to strengthen their capacity through the training and meeting.

Expected Outcome;	✓ Formulation of Water Users Assocaiton ✓ Formulation of annual activity plan
Main Activities	➤ To organize Water Users Association ➤ To formulate regulation ➤ To formulate annual activity plan
Target Area	Gishanga I, Rugoma-Nyakavyeyi, Rukoki-mukaze, Gishanga II
Target Value	Water management unit will be established in each target area.

Sub-project 3.5; Promotion of Rice Production during Rainy Season in Marsh

This sub-project aims at introduction of sutiable rice varieties and appropriate farming techniques through some training and field practices at demonstarion farm

Expected Outcome;	✓ Capacity and technical skills development of commune agnonmoist and Colline agricultural monitores ✓ Increasing rice production by introducing suitable farming practices to beneficiaries through the project ✓ Extending the improved farming practices on rice and expanding production areas
Main Activities	➤ To conduct technical guidance on trial implementation and rice cultivation ➤ To prepar cropping calendar ➤ To do monitoring of the activities
Target Area	Gishanga I, Rugoma-Nyakavyeyi, Rukoki-mukaze, Gishanga II
Target Value	Yield will be increased from 1.7 tons/ha to 4 tons/ha (ordinal area) and 6 tons/ha (kirimiro area)

Sub-project3.6; Promotion of Vegetable Production during Dry Season in Marsh

This sub-project aims at introduction of sutiable vegetable varieties and appropriate farming techniques through some training and field practices at demonstarion farm.

Expected Outcome;	✓ Capacity and technical skills development of commune agnonmoist and Colline agricultural monitores
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	<ul style="list-style-type: none"> ✓ Increasing rice production by introducing suitable farming practices to beneficiaries through the project ✓ Extending the improved farming practices on vegetable and expanding production areas
Main Activities	<ul style="list-style-type: none"> ➤ To conduct technical guidance on trial implementation and vegetable cultivation ➤ To prepar cropping calendar ➤ To do monitoring of the activities
Target Area	Gishanga I, Rugoma-Nyakavyeyi, Rukoki-mukaze, and Gishanga II
Target Value	160 tons of Cabbage, 80 tons of amaranths, 100 tons of Tomatoes, 40 tons of Onion/year
Sub-Program 3 Intensification of Agricultural Production (Plants and Animals)	
Project 4. Selected Seed Solidarity Chain	
<u>Marsh Agricultural Type, Colline Agricultural Type Project</u>	
<p>In the target area, farmers keep production as a seed for next cropping season's. These seeds are not produced in the procedure of home seed-raising method, so that quality control of seed is quite difficult and quantity of seed is not stable because of depending on the production in the year. In addition, farmers are not able to keep seeds in good condition for the next season due to deteriorating seed quality by insect damage, lack of suitable storage technique, and lack of knowledge on storage. On the other hand, good quality seeds and improved seeds are distributed by DPAE through donor's support. However, target areas and providing rate are limited and extension of multiplication technique has not been applicable for farmers, seed distribution system has not been established. For these reasons, qualified seeds are insufficient to distribute to farmers who want to.</p> <p>Through the project, cultivation techniques of selected seed will be improved and increase the yield of seed. Also, seed solidarity chain system will be established and operated by beneficially. This Project will contribute to improve and expand the techniques for selected seed production and to increase the production. And then, seed solidarity chain system will be established and operated by beneficiaries.</p>	
Sub-Project 4.1; Dissemination of Selected Seed	
This sub-project aims at strengthening and prevailing technique on selection and cultivation of good quality seed, seed of improved variety.	
Expected Outcome;	<ul style="list-style-type: none"> ✓ Improved variety suitable for soil and environment is selected. ✓ Necessary technique for cultivating seed of selected variety is introduced and practiced
Main Activities	<ul style="list-style-type: none"> ➤ Distribution of selected seed ➤ Transfer technique on cultivation of seed of selected variety
Target Area	All Collines
Target Value	➤ 30 % of all farmholds (2,200 farmholds) buy and cultivate selected seed
Sub-Project 4.2; Seed Storage Construction	
This sub-project aims at strengthening and prevailing preservation technique of selected seed. Also, this aims at promoting construction of seed storage, and establishment seed solidarity chain system centered at seed storage in the community.	
Expected Outcome;	<ul style="list-style-type: none"> ✓ Preservation technique suitable for seed of selected variety is introduced and practiced. ✓ Production, storage, distribution and return of improved seed are strengthened systematically.
Main Activities	<ul style="list-style-type: none"> ➤ Construction of seed storage ➤ Transfer technique on selected seed preservation technique ➤ Establishment of management system of seed storage

Target Area	All Collines
Target Value	➤ 30 % of all farmholds (2,200 farmholds) buy and cultivate selected seed
<p>Project 5. Livestock Promotion <u>Colline Agricultural Type Project</u></p> <p>In the target area, solidarity chain system of livestock has not been established, because it was not target area of PARSE project, which established “solidarity chain committee” and systemize monitoring, breeding and provision of livestock in target area. Now PARSE project had stopped distribution of livestock, and now concentrate on capacity building of ACSA, and agro-pastoral farmers in collaboration with FFS (Farmers Field School) by FAO for strengthening existing solidarity chain system. Thus, it is necessary to provide technical support for establishment of solidarity chain in the target colline.</p> <p>And to keep livestock, enough amount of forage is necessary, however, it is difficult for most of agro-pastoral farmers to plant necessary amount of forage grass in the limited size of land, therefore, technique transfer on improvement of yield of forage grass is strongly required.</p> <p>Also, animal health service providing system is important to make “solidarity chain” function. ACSA take major role in providing animal health service to population, however, procurement of medicine, diagnostic of livestock are conducted partly in inefficient way, because the number of agro-pastoral farmers per ACSA is more than 300. Therefore, it is necessary to systemize animal health service providing system through improvement of current system and transfer technique to agro-pastoral farmers to make them capable for health care of their livestock. In the near future, animal health service providing system centered in veterinary pharmacy center shall be established. Though there is still no veterinary pharmacy in target three communes, this project focus on strengthening and improving existing service provision by ACSA.</p> <p>Sub-Project 5.1; Increase of Livestock</p> <p>This sub-project aims at providing technical support for establishment of solidarity chain in the colline where PARSE project has not been conducted for establishment of livestock solidarity-chain.</p>	
Expected Outcome;	✓ Colline which was not target area of PARSE project also introduced Solidarity Chain of livestock.
Main Activities	<ul style="list-style-type: none"> ➤ Increase of Livestock ➤ Transfer technique on maintenance of livestock ➤ Establishment of livestock management system ➤ Establishment of livestock solidarity-chain system
Target Area	Mpingwe, Shyaya, Tema, Ruhinda, Rukoki, Bunyuka (Collines without establishment of livestock solidarity-chain)
Target Value	➤ Restocking Dairy cows: 150 heads, Beef cattle : 50 heads, Goat: 8000, Pig; 3,000
<p>Sub-Project 5.2; Strengthening Forage Production</p> <p>In order to keep livestock, sufficient amount of forage is necessary; however, it is difficult for most of agro-pastoral farmers to plant necessary amount of forage grass in the limited size of land. Therefore, technical transfer on improvement of yield of forage grass is strongly required. This sub-project aims at providing technical support to increase yield of forage grass in the colline where PARSE project has not been conducted for establishment of livestock solidarity-chain.</p>	
Expected Outcome;	✓ Yield of forage grass increase.
Main Activities	<ul style="list-style-type: none"> ➤ Distribution of seedlings of forage grass ➤ Technical transfer on cultivation and maintenance of forage grass
Target Area	Mpingwe, Shyaya, Tema, Ruhinda, Rukoki, Bunyuka (Collines without establishment of livestock solidarity-chain)
Target Value	➤ 40ha (*20a X (150 heads of daily cow + 50 heads of beef cattle))

Sub-Project 5.3; Strengthening Animal Health System

Animal health service providing system is important to make “solidarity chain” function. ACSA take major role in providing animal health service to population. Animal health service providing system centered in places equipped with veterinary pharmacies shall be established.

This sub-project aims at strengthening and improving existing service provision by ACSA in the colline where PARSE project has not been conducted for establishment of livestock solidarity-chain.

Expected Outcome;	✓ Animal Health system for livestock solidarity-chain is strengthened.
Main Activities	➤ Training ACSA on animal health system including artificial insemination ➤ Provision of materials for animal health to ACSA
Target Area	Mpingwe, Shyaya, Tema, Ruhinda, Rukoki, Bunyuka (Collines without establishment of livestock solidarity-chain)
Target Value	➤ Training ACSA on animal health system including artificial insemination in the commune once per year ➤ Establish commune level animal health center equipped with veterinary pharmacies, concentrates, etc.

Sub-Program 4 Development of Fishing and Fish Farming

Project 6. Fish Culture Promotion

Marsh Agricultural Type Project

Gitega province has no access to Lake Tanganyika which is the main source of fish consumed in Burundi, no fishing activity is registered into its active. However, fish farming which is the breeding fish is promising in the province especially as it meets the three required criteria for the success of the activity which are: a favorable topography, availability of water in sufficient quantity and quality and socio-economic factors.

Fish farming shall be developed an income source activity for livelihood improvement of farmers facing low crop production due to limitation of cultivation land in the commune.

Expected Outcome;	✓ Household income increases through selling fish.
Main Activities	✓ Organizing sensitization seminars on the importance of fish for eating and increasing household income ✓ Developing fish ponds ✓ Planting grass in banks of fish ponds ✓ Feeding fish with fry ✓ Establish the fish farmers organization ✓ Organize training workshops for leaders of fish farmers associations on the fishing techniques ✓ Equipping fish farmers associations with equipments for fish transport
Target Area	Kibuye, Ruhinda , Rugoma , Tema, Nyamisure , Kibere , Rukoki , Rugabano, and Bunyuka
Target Value	➤ Organizing two (2) sensitization seminars on the importance of fish for eating and increasing household income per year ➤ Developing two (2) fish ponds per target collines (18 ponds) ➤ Planting grass in banks of fish ponds (18 ponds) ➤ Feeding fish with fry (5 kg / pond (90kgs of fry) for all 18 ponds) ➤ Establish the one (1) fish farmers organization per target colline (9 farmers organization) ➤ Organize 5 days training workshops for leaders of fish farmers associations on fishing techniques 2 times ➤ Equipping fish farmers associations with four (4) equipments boxes for fish transport per target colline

Program 2: Professionalization of Producers and Promoting Innovation

Sub Program 6 Organization of Producers and their Capacity Building

Project 7. Capacity Buildings for Farmers

Marsh Agricultural Type, Colline Agricultural Type Project

Producers must be organized and their capacity shall be reinforced. Actually, agricultural producers are in a weak position, especially in the price negotiation for marketing of their products. Individual producers cannot sell their products at good prices. Organized in strong associations or cooperatives, they get much strength to develop themselves and become vital partners in the development of the agriculture and livestock sector as service delivers.

Expected Outcome;	<ul style="list-style-type: none"> ✓ The Organizations of Agricultural Producers (OAP) are established in strong organizations ✓ The profits of producers are protected ✓ Promotion of establishment of cooperatives
Main Activities	<ul style="list-style-type: none"> ✓ Training on rotation cropping technique ✓ FFS training for selected seed multiplication ✓ Training on producers for efficient use of chemical fertilizer mixing with manure ✓ Training on kitchen-garden ✓ Organizing producers in farmers' organization for prioritized crops (banana, maize, cassava, rice, and potato) ✓ Facilitation on access to rural credit ✓ Training on technique concerning value-added chain for cooperatives cultivating prioritized crops (banana, maize, cassava, rice, potato) ✓ Organizing commercialization of processing agricultural products (banana, maize, cassava, rice, and potato)
Target Area	All collines
Target Value	<ul style="list-style-type: none"> ✓ Organizing two (2) trainings on rotation cropping technique per colline ✓ FFS training for selected seed multiplication ✓ Organizing two (2) trainings on producers for efficient use of chemical fertilizer mixing with manure per colline ✓ One (1) training on kitchen-garden in each colline per year (18 trainings per year) ✓ Organizing producers in farmers' organization for prioritized crops (banana, maize, cassava, rice, potato) ✓ One (1) training on access to rural credit in each colline per year (18 trainings per year) ✓ Training on technique concerning value-added chain for cooperatives cultivating prioritized crops (banana, maize, cassava, rice, and potato) ✓ Organizing commercialization of processing agricultural products (banana, maize, cassava, rice, and potato)

Sub-Program 8 Rural Finance

Project 8. Improvement of Access to Rural Finance

Marsh Agricultural Type, Colline Agricultural Typ, Off-farm Type Project

Bukirasazi commune has micro-finance institutions such as COOPEC. The credit system suitable for the agriculture is necessary in order to improve production of rural area. The increase of production will allow the producer to reimburse the credit but the supervision of that same credit remains vital.

Expected Outcome;	<ul style="list-style-type: none"> ✓ Improve access of agricultural producers to financing for their activities ✓ Increase the investment capacities of private sector and OPA
Main Activities	<ul style="list-style-type: none"> ✓ Promotion of access to credit for agricultural activities of producers organizations
Target Area	All collines
Target Value	<ul style="list-style-type: none"> ✓ 20% of agricultural activities are financed by micro finance

Program 3: Development of industries and agribusiness

Off-Farm Type Project

Sub Program 11: Cash Crops and Animals

Projects 9. Agricultural Products Processing

There have been many socially vulnerable people in the commune. Among them, there are many people who do not or almost not have arable lands for crop production in the area. Therefore, promotion of activities has been necessary for such kind of people in order to increase their livelihood.

In addition, supports to them may be possible through associations' activities which do not utilize fields, because there are many associations that support socially vulnerable people such as orphans and widows through their activities.

Agricultural products processing association shall be established and strengthened as independent organization, training on agro-alimentary processing will be provided to the associations and also training sessions on operation and maintenance of processing machine shall be conducted with the necessary materials.

Expected Outcome;	<ul style="list-style-type: none"> ✓ Value-adding technique through agro-alimentary processing will be introduced and practiced. ✓ Agricultural products processing, preservation, marketing and selling system will be established.
Main Activities	<ul style="list-style-type: none"> ✓ Establishing and Strengthening association on agro-alimentary processing (pineapple juice, jam, wine, beignets, and banana wine) ✓ Training of techniques on agro-alimentary processing (pineapple juice, jam, wine, beignets, banana wine) ✓ Provision of necessary materials for agro-alimentary processing (pineapple juice, jam, wine, beignets, and and banana wine)
Target Area	Bukirasazi, Kibere, Rugoma, Ruvumu colline
Target Value	✓ 4 associations

Sub Program 12: Rural Infrastructure

Projects 10. Marketing Promotion

There are many people who do not or almost not have arable lands for crop production. Therefore, promotion of activities has been necessary for these people in order to increase their livelihood.

It is necessary to establish strategic marketing and distribution system.

Also, it is necessary to activate commercial activities near central market in commune.

This project aims to i) improve bargaining power of producers in market, ii) increase efficiency of distribution of agricultural products to market, iii) creation of income resource through strengthening distribution by bicycle system to be operated by association.

It is necessary to establish market information providing system and improve accessibility to market with small input.

Expected Outcome;	<ul style="list-style-type: none"> ✓ Amount of agricultural products delivered to market will increase. ✓ Access to the commune center market from each colline will improve.
Main Activities	<ul style="list-style-type: none"> ✓ Establishment of market price information sharing system ✓ Promoting business dealing agricultural products ✓ Rehabilitation and maintenance of access footpath to the market
Target Area	All collines
Target Value	<ul style="list-style-type: none"> ✓ Establishment of market price information sharing system ✓ Promoting business dealing agricultural products ✓ Rehabilitation and maintenance of access footpath to the market

Projects 11. Handicraft Industry Promotion

There have been many socially vulnerable people in the commune. Among them, there are many people who do not or almost not have arable lands for crop production. Therefore, promotion of activities has been necessary for these people in order to increase their livelihood.

In addition, supports to them may be possible through associations' activities which do not utilize fields, because there are many associations that support socially vulnerable people such as orphans

<p>and widows through their activities.</p> <p>PCDC aims at strengthening handicraft activities in commune; however, these projects has not yet been conducted.</p> <p>In this project, handicraft industry association will be established and strengthened as independent organization, training on handicraft industry will be provided to the association and also session on operation and maintenance of machine will be conducted with the machine installment.</p> <p>This project aims at establishing and strengthening handicraft industry association, transferring technique, installing machine and establishing operation and management system.</p>	
Expected Outcome;	<ul style="list-style-type: none"> ✓ Technique on handicraft industry will be introduced and practiced. ✓ Production of handicraft industry products, marketing and selling system will be established.
Main Activities	<ul style="list-style-type: none"> ✓ Establish and strengtehning association on handicraft industry ✓ Training of techniques on handicraft industry ✓ Provision of necessary materials for handicraft industry
Target Area	Bukirasazi, Kibere, Rugoma, Ruvumu colline
Target Value	<ul style="list-style-type: none"> ✓ Organizing 5 associations on handicraft industry ✓ Organizing training on technique on handicraft industry for 5 associations ✓ Provision of necessary materials for handicraft industry for 5 associations
<p>Program 4: Improvement of the Institution Framework</p> <p>SP14 Improvement of the Frame and Condition of Labor</p> <p>Project 12. Capacity Building for Local Officers and Technicians <u>Marsh Agricultural Type, Colline Agricultural Type Project</u></p> <p>This project aims to provide technicians training with well-prepared contents module and enable them to learn new skill effectively.</p> <p>Capacity development for technicians is composed of i) elaboration of capacity development program, ii) conduct training based on the capacity development program, iii) follow-up after the training.</p>	
Expected Outcome;	<ul style="list-style-type: none"> ✓ Technicians concerning service delivering on agriculture, livestock and livelihood improvement obtain necessary knowledges and skills for promoting PCDC projects in agriculture, livestock and livelihood improvement sector.
Main Activities	<ul style="list-style-type: none"> ✓ Organize training on necessary knowledges and skills for promoting PCDC projects in agriculture, livestock and livelihood improvement sector based on capacity development program.
Target Area	All collines
Target Value	<ul style="list-style-type: none"> ✓ Based on the capacity development program

8. Implementation Structure of Action Plan for Promoting PCDC Projects in Agriculture and Livestock and Livelihood Improvement Sector

Project implementation system differs by each project, However, most of the projects follow the procedures hereunder;

1. Holding Sensitization meeting
2. Selection of beneficiaries
3. Technical transfer to beneficiaries (training)
4. Acquisition of Land for project
5. Procurement of materials
6. Distribution of materials
7. Demonstration of utilization and maintenance of materials
8. Establish project management system

9. Monitoring and evaluation

Holding Sensitization Meeting

Commune administration and DPAE staff decide criteria on selection of beneficiaries. Commune administration sensitizes colline chief and CDC members in weekly meeting to make beneficiaries list of their colline.

Selection of Beneficiaries

Chiefs of collines prepare list of candidate beneficiaries and get permission from commune administration through zone chief. After permission from the commune administration, chiefs of collines and CDC members hold meeting and select beneficiaries based on the criteria under witness of Colline agricultural monitor and ACSA.

Technical Transfer to Beneficiaries (Training)

Commune agronomist/ veterinaries become trainers. They sensitize Colline agricultural monitor who is in charge of coordinating training for target beneficiaries.

Commune agronomist reviews module of training prepared in capacity building program, and prepares agenda of training. Colline agricultural monitor will inform agenda of training to target beneficiaries beforehand.

Procurement of Materials

DPAE staff decide procurement place for materials to be provided to target beneficiaries and control quality in procurement.

Distribution of Materials

Commune administration, commune agronomist, colline chief, Colline agricultural monitor and CDC members supervise distribution of materials to target beneficiaries.

Demonstration of Utilization and Maintenance of Materials

Colline agricultural monitor demonstrates necessary technique for utilization and maintenance of materials provided to the target beneficiaries.

Establish Project Management System

Commune agronomist, colline chief, Colline agricultural monitor and CDC support establishment of operation and management system of projects by target beneficiaries.

Monitoring and Evaluation

Government officials from MINAGRIE establish their monitoring structure; zone agronomist is in charge of collecting monitoring reports from each of the collines every week. Receiving the reports from zone agronomist, the commune agronomist submits monthly monitoring report to the chief of DPAE in the monthly meeting convened at the MINAGRIE. colline chief and CDC, on the administrative side, regularly monitor activities of target associations. They are responsible for reporting to the commune administration through zone chief. Collecting information, government officials from the both lines ideally hold information sharing sessions in weekly security meeting.

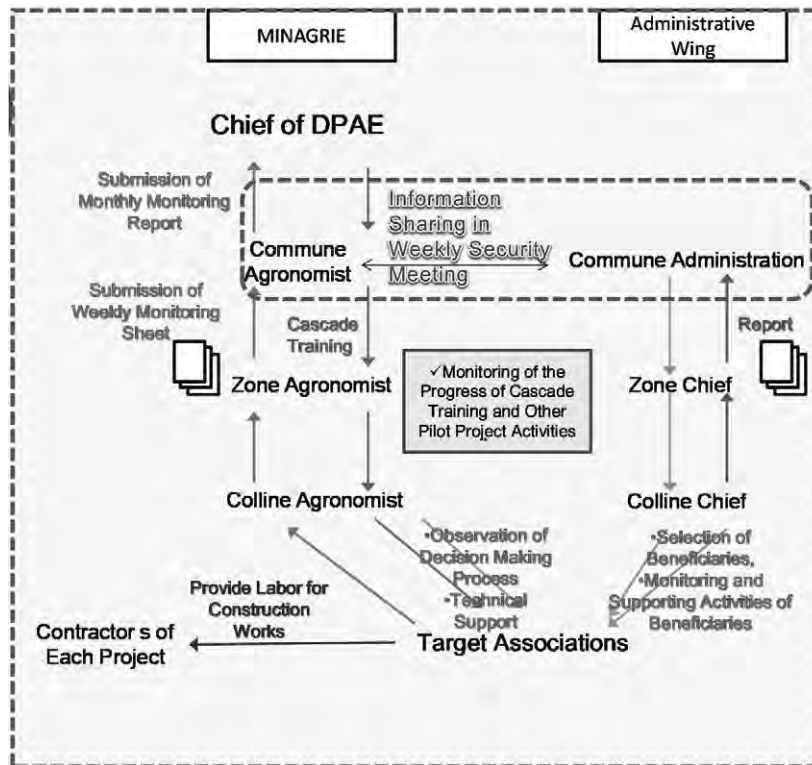


Figure 5.10 Monitoring Structure of the Project, Bukirasazi

9. Project Sheet of Bukirasazi Commune

Table 5.25 Project Sheet of Bukirasazi Commune

Action Plan Project Sheet: Bukirasazi Commune

A.	B.	C.	D.	Activities	Item	Project Area	Q'ty	Unit	UC '000	Amount Million	Schedule						
											2013	2014	2015	2016	2017		
Program 1: Production and Sustainable Food Security																	
Sub-Program 1: Productive Capital Protection																	
1.Environment Protection																	
				Contourline		Kingoro marsh, collines;											
				Contourline digging		Gasongati, Mpingwe,	1,100	km	450	495.0	24.75	74.25	49.5	173.25	173.25		
				Grass fixing	Banagrass	Nyambuye, Bunyuka,	2,750,000	pc	0.01	27.5	2.75	6.875	1.375	8.25	8.25		
					Tripsacum	Rukoki	2,750,000	pc	0.01	27.5	2.75	6.875	1.375	8.25	8.25		
				Maintenance of contourline			1,683	km	40	67.3	3.366	20.196	6.732	23.562	13.464		
				Afforestation													
				Planting seedlings			600,000	pc	0.005	3.0	0.6	0.6	0.6	0.6	0.6		
				Agro-forestry													
				Producing and planting	Grevillea		120,000	pc	0.025	3.0		0.6	0.3	1.2	0.9		
					Cedrella		64,000	pc	0.025	1.6		0.32	0.16	0.64	0.48		
					Calliandra		550,000	pc	0.025	13.8		2.75	1.375	5.5	4.125		
					Leucaena		550,000	pc	0.025	13.8		2.75	1.375	5.5	4.125		
				Organizing awareness seminar		all collines											
				For tree seed harvesters			90	time	50	4.5	0.9	0.9	0.9	0.9	0.9		
				Fight against soil erosion			90	time	50	4.5	0.9	0.9	0.9	0.9	0.9		
				Total						661.4							
2.Soil Fertility Improvement																	
				2.1 Strengthening Compost Production													
				Organizing sensitization seminar		all collines	90	time	50	4.5	0.9	0.9	0.9	0.9	0.9		
				2.2 Strengthening Effectiveness of Fertilizer													
				Organizing technical transfer seminar		all collines	234	time	50	11.7	0.9	2.7	2.7	2.7	2.7		
				Total						16.2							
Sub-Program 2: Upgrade and Rehabilitation of Irrigation Schemes																	
3. Marsh Development																	
				3.1 Feasibility Study of Marsh Development		Rugoma-Nyakavyeyi,											
				Conducting feasibility study		Rukoki-mukaze, Gishanga II	125.2	ha	300	37.6		37.6					
				3.3 Marsh Development													
				Constructing irrigation facility			125.2	ha	4,000	500.8		250.4	250.4				
				3.4 Establishing and Strengthening Water Management Unit													
				Organization meeting			15	time	50	0.8			0.5	0.25			
				Organizing operation and management seminar			9	time	50	0.5			0.3	0.15			
				Organizing maintenance seminar			9	time	50	0.5			0.3	0.15			
				3.5 Promotion of Rice Production in Rainy Season													
				Providing technical training			15	time	50	0.8	0.15	0.15	0.15	0.15	0.15		
				3.6 Promotio of Vegetable Production in Dry Season													
				Providing technical training			15	time	50	0.8	0.15	0.15	0.15	0.15	0.15		
				Total						541.5							
Sub-Program 3: Intensification of Agricultural Production (plants and animals)																	
4. Seed Solidarity Chain																	
				4.1 Dissemination of Selected Seed													
				Distribution of selected seed	Banana	all collines	220	are	8.3	1.8	0.367	0.367	0.367	0.367	0.367		
					Cassava		220	are	5.0	1.1	0.22	0.22	0.22	0.22	0.22		
					Potato		220	are	20	4.4	0.88	0.88	0.88	0.88	0.88		
				Organizing technical transfer seminar			90	time	50	4.5	0.9	0.9	0.9	0.9	0.9		
				4.2 Seed Storage Construction													
				Storage construction			2	pc	20,000	40.0			40.0				
				Organizing sensitization seminar			270	time	50	13.5	1.35	3.375	3.375	2.7	2.7		
				Total						65.3							
5. Livestock Promotion																	
				5.1 Increase of Livestock													
				Restocking livestock	Cow	Mpingwe, Shyaya, Tema,	150	head	1,300	195.0	9.75	48.75	48.75	48.75	39		
					Beef cattle	Ruhinda, Rukoki, Bunyuka	50	head	1,600	80.0	4	20	20	20	16		
					Goat	(collines without solidarity-chain) *1	8,000	head	50	400.0	20	100	100	100	80		
					Pig		3,000	head	50	150.0	7.5	37.5	37.5	37.5	30		
				Organizing technical transfer seminar		all collines	288	time	50	14.4		3.6	3.6	3.6	3.6		
				Organizing livestock cooperatives			21	time	50	1.1			1.1				
				5.2 Strengthening Forage Production													
				Distribution of forage grass seedlings		*1	40	ha	30	1.2	0.6	0.6					
				Organizing technical transfer seminar		all collines	90	time	50	4.5	0.9	0.9	0.9	0.9	0.9		
				5.3 Strengthening Animal Health System													
				Training ACSA on animal health system		commune	5	time	1,000	5.0	1	1	1	1	1		
				Provision of materials for animal health		all collines	18	set	141	2.5	1.269	1.269					
				Total						853.7							
Sub-Program 4: Development of Fishing and Fish Farming																	
6. Fish Farming Promotion																	
				Organizing sensitization seminar		Kibuye, Ruhinda ,	90	time	50	4.5	0.9	0.9	0.9	0.9	0.9		
				Developing fish ponds		Rugoma , Tema,	18	site	1,000	18.0		6	6	6			
				Grass planting at fish pond bank		Nyamisure , Kibere ,	18	site	240	4.3		1.44	1.44	1.44			
				Feeding fish with fry		Rukoki , Rugabano,	90	kg	300	27.0		9	9	9			
				Establish fish farmers organization		Bunyuka	10	time	50	0.5		0.25	0.25				
				Organize 5 days training for leaders			2	time	2,000	4.0		2	2				
				Equipping fish farmers associations			36	pc	300	10.8		5.4	5.4				
				Total						69.1							

Action Plan Project Sheet: Bukirasazi Commune

A.	B.	C.	D.	Activities	Item	Project Area	Qty	Unit	UC '000	Amount Million	Schedule					
											2013	2014	2015	2016	2017	
				7. Capacity Building for Farmers												
				Training on rotation cropping technique			180	time	50	9.0	1.8	1.8	1.8	1.8	1.8	
				FFS training for selected seed multiplication	Banana	all collines	180	are	8	1.4	0.72	0.72				
					Cassava		180	are	7.9	1.4	0.711		0.711			
					Potato		270	are	20	5.4	1.08	1.08	1.08	1.08	1.08	
					Maize		270	are	10	2.7	0.54	0.54	0.54	0.54	0.54	
					Rice		60	are	188	11.3		2.82	2.82	2.82	2.82	
				Training for efficient use of chemical fertilizer with manure			234	time	50	11.7	0.9	2.7	2.7	2.7	2.7	
				Training on kitchen-garden			90	time	50	4.5	0.9	0.9	0.9	0.9	0.9	
				Organizing producers in organizations			125	time	50	6.3	1.25	1.25	1.25	1.25	1.25	
				Training on access to rural credit			90	time	50	4.5	0.9	0.9	0.9	0.9	0.9	
				Training on value-added chain			25	time	50	1.3	0.25	0.25	0.25	0.25	0.25	
				Organizing commercialization of processin			5	time	50	0.3	0.05	0.05	0.05	0.05	0.05	
				Total						59.7						
				Sub Program 7: Development of Local Services and Innovation Project												
				Sub Program 8: Rural Finance Project												
				8. Improvement of Access to Microfinance												
				Organizing sensitization seminar on rural credit		all collines	90	time	50	4.5	0.9	0.9	0.9	0.9	0.9	
				Total						4.5						
				Sub Program 9: Research / Development												
				Program 3: Development of industries and agribusiness												
				Sub Program 10: Export Sectors												
				Sub Program 11: Cash Crops and Animals												
				9. Agricultural Products Processing												
				Establish and Strengthening association on agro-processing												
				Formulation meeting of association		Bukirasazi, Kibere, Rugoma, Ruvumu	40	time	100	4.0	0.8	0.8	0.8	0.8	0.8	
				Training of techniques			20	time	100	2.0	0.4	0.4	0.4	0.4	0.4	
				Provision of necessary materials			4	set	2,000	8.0	4	4				
				Total						14.0						
				Sub Program 12: Rural Infrastructure												
				10. Marketing Promotion		all collines										
				Establishment of market price information sharing system												
				Sensitization meeting			36	time	50	1.8	0.9	0.9				
				Training to info collectors			5	time	100	0.5	0.1	0.1	0.1	0.1	0.1	
				Promoting business dealing agricultural products												
				Sensitization meeting			10	time	50	0.5	0.1	0.1	0.1	0.1	0.1	
				Training on business			19	time	100	1.9	0.3	0.4	0.4	0.4	0.4	
				Rehabilitation and maintenance of access												
				Sensitization meeting			180	time	50	9.0	1.8	1.8	1.8	1.8	1.8	
				Total						13.7						
				11. Handicraft Industry Promotion												
				Establish and strengthening association on handicraft industry												
				Formulation meeting of association		Bukirasazi, Kibere, Rugoma, Ruvumu	50	time	100	5.0	1	1	1	1	1	
				Training of techniques			25	time	100	2.5	0.5	0.5	0.5	0.5	0.5	
				Provision of necessary materials			5	set	2,000	10.0	6	4				
				Total						17.5						
				Sub Program 13: Reform of DPAAE												
				Program 4: Improvement of the institution frame												
				Sub-Program 14: Improvement of the frame and labor condition												
				12. Capacity Building for Technician												
				Refer to the Capacity Development Program												
				Gtand Total						2,316.7						

- A. Program (PPIA)
- B. Sub-Program (PPIA)
- C. Project
- D. Sub-Project

Chapter 6 Capacity Development Program

6.1 Directions

Capacity building of government officials and also local people are quite important for sustainable development, because development projects should be carried out by Burundian people basically, although most of development projects are funded, planned and implemented by donors at present. But currently there is not enough opportunity to train officials in communes, zones and collines. At the same time, establishment of implementation structure of training is essential for implementation of the sustainable capacity development for them. Therefore, the Project formulated the capacity development program. The Project adopted the cascading training method for local officials by using MINAGRIE staff at each level to conduct further trainings. Additionally, final target of this method is association. Feasibility of a proposed implementation structure after the Project was also verified during implementation of trainings.

While various trainings for capacity development were carried out within the Project, the Project Team evaluated various aspects of the trainings. They are relevance, effectiveness, efficiency, impact and sustainability of trainings and appropriate timing of implementation in order to maximize them. Based on the evaluation, necessary training was included in the program. Moreover, the repetition of some of trainings may not be possible after the project i.e. training in Japan and in third countries, so they were not included in the program.

The modules of training in Burundi were summarized for users in each level. The training materials included in the program should be kept at the General Directorate of Mobilization for Agricultural Development and Extension (Direction Générale de la Mobilisation pour l'Auto-Development et la Vulgarisation Agricoles, hereinafter called "DGMAVA") which is the responsible directorate body for training. They will be utilized by officials at each level for further trainings.

6.2 Capacity of Relevant Organization for Implementation of PCDC

6.2.1 Relevant Organization for PCDC

Only MINAGRIE has technical staff from central to colline level. They are in charge of agricultural project on community development. Especially, officials in commune level are a lot of responsibility for implementation of PCDC. DPAE organize monthly meeting to share activities of the officials in zone and communal level. The Ministry of Interior (Ministère de l'Intérieur, hereinafter called "MI") has its official as a provincial governor and advisors including commune advisors, and the Ministry of Community Development (Ministère du Développement Communal, hereinafter called "MDC") is in charge of the policy making and facilitation of PCDC. The following table shows the administrative actors for PCDC.

Table 6.1 Administrative Actors for PCDC

Administrative Level	Actor	Organization	Remark
Center	Permanent Secretary	MINAGRIE	-
	Staff in DGPAE	ditto	-
	Staff in DGMAVA	ditto	-
	Staff in DGA	ditto	-
	Staff in DGE	ditto	-
Provincial	Director of DPAE	MINAGRIE	-
	Staff of service for planning and monitoring & evaluation	ditto	-

Administrative Level	Actor	Organization	Remark
	Staff of service for training, extension, developmental research support for OPA	ditto	-
	Staff of service for rural engineering	ditto	-
	Staff of service for vegetable production	ditto	-
	Staff of service for livestock production	ditto	-
	Governor	MI	-
	Economic advisor in province	Ditto	-
	PDC		Development committee
Commune	Commune administrator	-	Elected
	Technical advisor in charge of development	ditto	-
	Technical advisor in charge of social infrastructure	ditto	-
	Agronomist	MINAGRIE	-
	Veterinary	MINAGRIE	-
	CCDC	-	Development committee
Zone	Assemble	-	Political decision-making
	Zone chief	-	Appointed by commune administrator
	Assistant of agronomist	MINAGRIE	-
Colline	Assistant of veterinary	Ditto	-
	Colline chief	-	Elected
	Agricultural monitor	MINAGRIE	-
	Community Animal Health Agent (ACSA)	ditto	Semi-official
	CDC	-	Development committee
Assemble	-	Political decision-making	

* Hatching indicates the staff of MINAGRIE.

Source: Made by the team

6.2.2 Functions of Relevant Organizations for PCDC

Official regulation describes the functions of MINAGRIE and DPAE concerned with PCDC as below.

“Decret No 100/300 du 25 Novembre 2011 portant Organisation du Ministère de l’Agriculture et de l’Elevage” states regular works and roles of each department in MINAGRIE and DPAE. However, there is no specification about the detailed works and roles of the agricultural officials in each administrative level under the province, although it states that DPAE should support PCDC in the sector of agriculture and livestock. The main roles of officials in MINAGRIE are planning, coordination and supervision of agricultural projects, and the main roles of officials of DPAE are execution and technical supervision of projects.

Especially for training, DGMAVA is the responsible directorate and the General Directorate of Agriculture (Direction Générale de l’Agriculture, hereinafter called “DGA”) and General Directorate of Livestock (Direction Générale de l’Elevage, hereinafter called “DGE”) support and cooperate with DGMAVA if necessary. However, it does not mention the details of training programs.

There is no official regulation for PCDC concerned with actors under MI and MDR. However, a commune government is responsible for activities such as planning, coordination, supervision on management and technique, and execution of various projects under PCDC, including all agricultural projects within the commune.

6.2.3 Present Situations and Issues on Capacity Development

In MINAGRIE, DGMAVA is the main directorate responsible for the training in agricultural sector. According to the interview to DGMAVA, there is no annual training program in mid and long term, but ad hoc training courses are conducted when budget is secured. These training courses are conducted mostly when donors include training in their project and they conduct it based on their target themes. When MINAGRIE has budget, it conducts training according to the main target crops such as a rice, banana, cassava, maize, palm oil and potato.

Lack of enough capacity of administrative actors to implement PCDC is one of the big challenges to secure sustainability but MINAGRIE and local administrations, the implementing agency of PCDC, does not have an appropriate system to train staff.

6.3 Necessary Capacity Development for Promotion of Implementation

6.3.1 Necessary Techniques and Knowledge for Officials

Although smooth implementation of PCDC by officials is expected, necessary techniques and knowledge listed below are not enough and they have difficulties to carry out PCDC according to the survey on officials.

Table 6.2 Necessary Techniques and Knowledge

Administrative Level	Actor	Organization	Necessary Techniques and Knowledge
Center	Staff in MINAGRIE	MINAGRIE	<ul style="list-style-type: none"> Method of preparation of development plan in agricultural sector
	Staff in DPAAE	MINAGRIE	<ul style="list-style-type: none"> Collecting and analyzing of community needs Method of preparation of development plan in agricultural sector Method of monitoring
Province	Economic advisor	MOI	-
	Technical advisor	MOI	<ul style="list-style-type: none"> Collecting and analyzing of community needs Method of preparation of development plan Method of monitoring New techniques
Commune	Agronomist	MINAGRIE	<ul style="list-style-type: none"> New techniques in wetland New techniques for conservation of seed and production Food processing
	Veterinary	ditto	<ul style="list-style-type: none"> Animal health
	Assistant of agronomist	MINAGRIE	Same as Agronomist of commune
Zone	Assistant of veterinary	ditto	Same as Veterinary of commune
	Agricultural monitor	MINAGRIE	Same as Agronomist of commune
Colline	Community Animal Health Agent (ACSA)	ditto	Same as Veterinary of commune

* Hatching indicates the staff of MINAGRIE

Source: Made by the team

Necessary techniques and knowledge are different among relevant actors in each level, especially between central and local level, so various trainings for capacity development should be carried out.

However, for establishment of sustainable implementation structure of training, the Project Team adopted cascade training instead of implementation of single training. Then, the Project verifies effect of each training and bringing up system for trainers through implementation of cascade training. In addition, the Project confirms whether cascade training contribute to the promotion of implementation of PCDC in the field by government officials.

6.3.2 Concept of Cascade Training

Capacity development of officials and local people are quite important for sustainable development, because development projects should be basically carried out by Burundian people basically, while most of the development projects are funded, planned and implemented by donors at present, therefore, capacity building is one of the important pillars of the Project. Cascade training consisting of 3 steps was carried out in Burundi for promotion of implementation of PCDC.

In the first step, the trainings targeted DPAE staff, engineers in MINAGRIE, agronomists and veterinaries from communes and were conducted by external trainers for various fields according to activities of the pilot projects. In the second step, the trainings targeted chiefs and agricultural assistants from zone level, chiefs, CDC members, agriculture monitors, and ACSA from colline level, and were conducted by the trainees of the first training. In the third step, capacity building of associations was conducted through the implementation of the pilot projects in cooperation with second step's trainees.

Governmental Organization

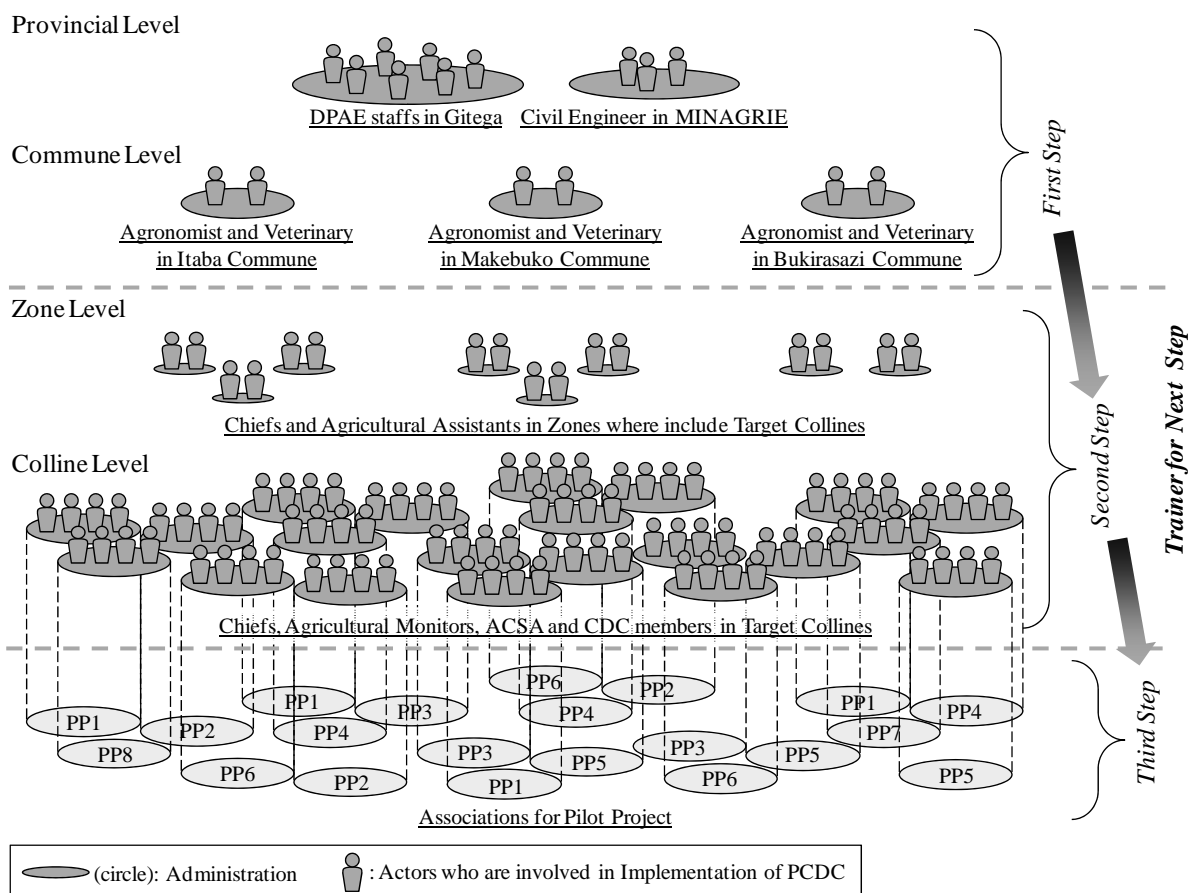


Figure 6.1 Concept on Cascade Training

6.3.3 Methodology of Capacity Development in the Project

Capacity development for planning and coordination of projects was carried out through the On-the Job-Training (hereinafter called “OJT”), and training in Japan and 3rd countries, Sierra Leone. Participants learnt methodologies and outputs on planning and coordination of projects through formulation of the Action Plan and Manual in the Project with OJT, an example of community development project in Sierra Leone, review of the Draft Action Plan and the Manual and various practices of rural development in Japan. The trainees of these trainings were trainers for training in Burundi. Capacity development for execution and technical supervision of projects was carried out through the OJT and training in Burundi. Participants learnt methodologies on execution and technical supervision of projects through training in Burundi and actual implementation of the pilot project. Capacity development for monitoring and evaluation of PCDC was strongly needed. The capacity development of actors in all levels was conducted through the monitoring and evaluation of the pilot projects. The relationships with capacity development activities and project outputs are shown in the figure below.

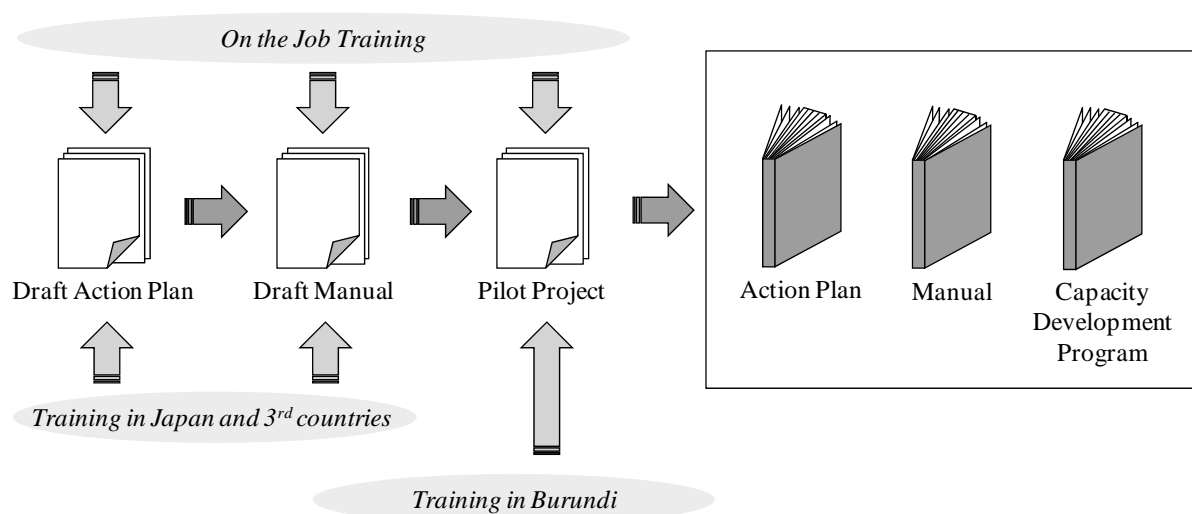


Figure 6.2 Relationship Between Capacity Development Activities and Project Components

Conducted capacity development in the Project is explained in the following sections.

6.4 Conducted Capacity Development in the Project

6.4.1 On-the Job-Training

The objective of this training was to improve the capacity of individual counterpart for planning, coordination, supervision and execution of the project through implementation of pilot projects and formulation of the Action Plan and Manual with the Project Team. The duration was the same as the Project period. In addition, the Project held weekly meetings with counterparts from several departments for collaboration among counterparts. The following table shows the list of counterparts.

Table 6.3 List of Counterparts for Training

No.	Expert	Position	Name
1	Community Development	Project Director	Mr. KABARAGASA Augustin
		Director of DPAAE (Chairperson of TWG)	Mr. MANYANGE Hermenegilde
2	Irrigation and Drainage	Chief of Division of Rural Engineering, DPAAE	Mr. NKURIKIYE Thacien
3	Agriculture	Chief of Division of Vegetable Production, DPAAE	Ms. NSEGIYUMVA Godeberthe
4	Livelihood Improvement		

No.	Expert	Position	Name
		Chief of Division of Planning, Monitoring and Evaluation, DPAE	Mr. NDAYISHIMIYE André
5	Social Study	Chief of Division of Livestock Development, DPAE	Mr. SABUKUNZE Serges
6	Agricultural Organization / Training Program	Chief of Division of Training, Technical Extension, Research and Development, and Support of OPA (Farmer's Organization), DPAE	Mr. KARUMBETE Donatien
7	Environmental and Social Consideration	Chief of Division of Restoration and Consolidation for Water and Soil, MINAGRIE	Ms. HATUNGIMANA Susanne
8	Coordination / Assistance of Supervisor of Work	Project Director	Mr. KABARAGASA Augustin
		Director of DPAE (Chairperson of TWG)	Mr. MANYANGE Hermenegilde
9	Technical Team for Road Rehabilitation	Technician and Controller for Work in Road Office, Ministry of Transport, Public Works and Equipment (MTTPE)	Mr. NDAKORANIWE Ernest
		Technical Advisor in Road Office, Gitega, MTTPE	Mr. GASHARI Marin

In the training in Japan, the trainees prepared training action plans (hereinafter called "TAPs") considered with their regular works in Burundi and their activities for PCDC are based on the results of the training in Japan. The Project Team supported the trainees to implement these TAPs and it was also a part of OJT.

6.4.2 Training on Agricultural Policy and Cooperative Activities for Community Development in Japan

The objectives of this training course were as below.

- (a) Understanding of the method of reconfirmation for existing resources (community profiling) and prioritization of projects on the community development based on community profiling
- (b) Understanding of the plan of rural development, outline of practices, support systems by local governments in Japan
- (c) Understanding of system and role of cooperatives
- (d) Based on (a), (b) and (c), the frame of the Draft Action Plan and the Draft Manual are reviewed.
- (e) After going back to Burundi, community development is promoted through discussion and execution of projects in the target area

The trainees were the administrative officials involved in planning of community development in the agricultural sector working at central and provincial level. The following table shows the list of trainees.

Table 6.4 List of Trainees

No.	Name	Position
1	Mr. KABARAGASA Augustin	Project Director
2	Mr. MAJAMBERE Christophe	Director of rural engineering, DGA, MINAGRIE
3	Ms. BIGIRIMANA Revocate	Director of animal promotion, DGE, MINAGRIE
4	Mr. RURAKENGEREZA Victor	Advisor in charge of activity data, DGMVA, MINAGRIE
5	Mr. MADEBARI Jean-Pierre	Advisor of directorate of agricultural statistic and information, DGPAAE, MINAGRIE

No.	Name	Position
6	Mr. NDAYISHIMIYE Joseph	Director of monitoring and evaluation, DGPAE, MINAGRIE
7	Mr. NTIBAKIVAYO Pierre-Claver	Advisor in cabinet in charge of PNIA, MINAGRIE
8	Mr. MANYANGE Hermenegilde	Director of DPAA in Gitega
9	Mr. NININHAZWE Alexis	Economic advisor in Gitega province
10	Mr. NIYONZIMA Hermenegilde	Advisor of general director, MDC

The training was conducted in August 2012, after the preparation of the frame of Action Plan and Manual. The schedule is shown in the following table.

Table 6.5 Schedule of Training in Japan

No	Date			Place	Activity
1	14Aug.	Wed.	AM	-	Depart from Bujumbura
			PM	Ditto	Arrival to Nairobi Orientation/Confirmation of purpose
2	15Aug.	Thu.	AM	Nairobi	Necessity of community profiling
			PM	Ditto	Review of result of community profiling Confirmation of action plan and manual
3	16Aug.		-	Mwea	Site visit to Mwea irrigation area, rice store and so on
4	17Aug.	Fri.	-	Nairobi	Discussion with Expert in JICA project
			-	-	Depart from Nairobi
5	18Aug.	Sat.		In flight	-
6	19Aug.	Sun	-	-	Arrival to Tokyo
7	20Aug.	Mon.	AM	Tokyo	Briefing
			PM	Ditto	Orientation
8	21Aug.	Tue.	AM	Tokyo	Rural development in Japan after the war
			PM	Ditto	Community system in Japan Move to Gunma prefecture
9	22Aug.	Wed.	AM	Maebashi	Role and system of agricultural cooperation Site visit to rice farmer
			PM	Ditto	Role of local government on agricultural sector
10	23Aug.	Thu.	AM	Kanratomioka	Role and system of agricultural cooperation Site visit to vegetable farmer Move to Minakami
			PM	Minakami	Site visit to agro-pastoral farmer and his farm stand
11	24Aug.	Fri.	AM	Minakami	Visit to farm stand authorized by Minakami town and so on
			PM	- Tokyo	Move to Tokyo Reflection
12	25Aug.	Sat.	AM	Tokyo	Review of action plan and manual in the Project
			PM	Ditto	Preparation of action plan after training course
13	26Aug.	Sun.	-	Tokyo	Ditto
14	27Aug.	Mon.	-	Tokyo	Ditto
15	28Aug.	Tue.	AM	Tokyo	Presentation of action plan
			PM	Tokyo	Courtesy call to JICA headquarter Presentation of action plan and evaluation meeting Closing ceremony
16	29Aug.	Wed.	-	-	Depart from Tokyo
17	30Aug.	Thu.	-	-	Arrival to Bujumbura

At the end of this training course, the trainees prepared TAPs considered with their regular works in Burundi. TAPs were outcome based on experience and leaning in the training and summary of actual activities conducted after going back to Burundi. TAPs were expected to contribute to facilitation of the Project. These TAPs were monitored by the Project Team. And the Project Team supports to implement these action plans as a part of OJT. Themes of each TAP and activities are described in the following table.

Table 6.6 Themes of Each TAP and Activities

No.	Theme of TAP	Activities
1	Support for organization	<ol style="list-style-type: none"> 1. Identification of existing associations by sector and activity in the target 3 communes 2. Organization of associations of users of the three marshes (Nyamuswaga, Kibuye, Rurembera) as cooperative 3. Organization of other existing associations as cooperative 4. Sensitization of importance of organization as cooperative for the officials on community development 5. Implementation of capacity development on technique and organizational management of agricultural cooperative
2	Institutionalization of action plan for promotion of implementation of PCDC	<ol style="list-style-type: none"> 1. Workshops for sensitization of action plan to administration such as communes and province 2. Workshops for sensitization to partners of agricultural development included in technical and financial partners such as donors and NGO 3. Meetings for extension and adoption of PCDC to community members and local members as beneficiary of PCDC
3	Application of action plan and manual for new PCDC from 2013	<ol style="list-style-type: none"> 1. Workshops for adoption of action plan and manual for new PCDC 2. Promotion of meeting which has new topic such as colline profile, in colline administration 3. Development and validation of PCDC integrated action plan and manual 4. Capacity development for committees in administrations of communes and province to monitor the implementation of PCDC 5. Implementation of quarterly evaluation for PCDC

In order to share the results of training among relevant officials in commune level, the workshop was held in November 2012.

After this training course, some trainees continued to conduct the TAPs. The trainee from MDC suggested adopting cooperative development in the new PCDC and other trainees from MINAGRIE sensitized importance of synergetic intervention between DPAE and commune administration for implementation of PCDC.

6.4.3 Training on Role of Government and Community Members for Community Development in Sierra Leone

The objectives of this training course were as below.

- (a) Understanding of roles of the central and provincial government for community development
- (b) Understanding of collaboration between government and community members for establishment of maintenance system for public infrastructures such as road and water supply
- (c) Based on (a), and (b), the Project is promoted through discussion and execution of projects in the target area

The trainees were the administrative and technical officials who are in a position to plan and execute agricultural projects and road rehabilitation. The following table shows the list of trainees.

Table 6.7 List of Trainees for Training in Sierra Leone

No.	Name	Position
1	Mr. MANYANGE Hermenegilde	Director of DPAE in Gitega
2	Mr. KARUMBETE Donatien	Chief of service for training, extension, development research and support to OPA, DPAE in Gitega
3	Mr. NININHAZWE Alexis	Economic advisor in Gitega province

No.	Name	Position
4	Mr. KANTUNGEKO Cleophas	Technical advisor in charge of commune development in Itaga, Gitega
5	Mr. GAHUNGU Benjamin	Technical advisor in charge of commune development in Makebuko, Gitega
6	Mr. NAHIMANA Dieudonné	Technical advisor in charge of commune development in Bukirasazi, Gitega
7	Mr. NSEKARWIMJIYE Léonard	Technical advisor in charge of commune development in Buraza, Gitega
8	Mr. NDAKORANIWE Ernest	Technician and controller of work in road office, MTTPE
9	Mr. GASHARI Marin	Technical advisor of road office in Gitega, MTTPE

The training was conducted in June 2012, before starting of road rehabilitation in the Project. The schedule is shown in the following table.

Table 6.8 Schedule of Training in Sierra Leone

No	Date			Place	Activity
1	03 June	Sun		-	Depart from Bujumbra Arrival to Freetown Confirmation of purpose
2	04 June	Mon	AM	JICASLFO MLGRD	Courtesy call Courtesy call, Presentation of CDCD project
			PM	-	Preparation of workshop
3	05 June	Tue	AM	SLRA -	Role of SLRA and feeder road policy Move to Port Loko
			PM	Port Loko district	Courtesy call Workshop for exchange information
4	06 June	Wed	AM	- Kambia district Ward 135	Move to Kambia Courtesy call, Presentation of activities in Kambia Role of community member for construction of public hall
			PM	Ward 130 Feeder road project	Role of community member for construction of culvert Role of government, constructor and community member for rehabilitation of road
				-	Move to Port Loko
5	07 June	Thu	AM	- Feeder road project	Move to Kambia Method of road maintenance
			PM	JICA water supply project JICA agricultural project -	System of operation and maintenance on water supply project and site visit Method of improvement of agricultural productivity through activities on demonstration farms Move to Port Loko
6	08 June	Fri	AM	Feeder road project Ward 201 Ward 200	Role of government, constructor and community member for rehabilitation of road Method of rehabilitation and getting budget for summary court Role of community member for construction of primary school
			PM	-	-
7	09 June	Sat	AM	-	Preparation of work shop
			PM	MLGRD	Workshop for discussion of achievements in the training course
8	10 June	Sun	-	-	Depart from Freetown
9	11 June	Mon	-	-	Arrival to Bujumbura

The trainees presented achievements of this training in the workshop held on 9 June 2012 as below.

- ◆ Understanding of decentralization program
- ◆ Necessity of implementation of capacity development program from community level to

provincial level

- ◆ Necessity of training for maintenance for infrastructure after construction of them
- ◆ Information sharing among all parties
- ◆ Preparation of handbook on local government and rural development

In order to share the results of training among relevant officials in commune level, the workshop was held in November 2012.

6.4.4 Training in Burundi for Promotion of Implementation of PCDC in the Field

(1) Objective of Training

The objective of the training was to improve officials as resource persons for the promotion of implementation of the pilot projects in the field through the cascade training, especially in first and second step trainings. Ten trainings were formulated based on the activities of the pilot projects in first and second step training as mentioned in the following table. In addition, the training No.1 (creation, management, accounting and annual plan of association) should include special attention for vulnerable people including IDPs, widows, orphans and others from the view point of social inclusiveness.

Table 6.9 Comparison between Pilot Projects and Trainings in First and Second Step

Title of Pilot Project	Title of Training
Overall Pilot Projects	No.1 Creation, Management, Accounting and Annual Plan of Association
	No.2 Constitution and Management of Cooperatives
PP1 Marsh Development	No.3 Organization, Management and Maintenance of Irrigation Facilities
	No.4 Cropping Techniques of Rice and Vegetables
PP2 Environmental Protection	No.5 Environmental Protection
PP3 Soil Fertility Improvement	This training course was included in the training courses in first and second step for multiplication of selected seed.
PP4 Selected Seed Solidarity Chain	No.6 Multiplication of Selected Seed for Banana and Beans (or Potato)
	No.7 Multiplication of Selected Seed for Cassava, Soya, Maize and Potato (or Beans)
PP5 Livestock Promotion	No.8 Livestock Promotion
PP6 Agricultural Products Processing Promotion	No.9 Food Processing
PP7 Marketing Promotion	No.10 Marketing Promotion
PP8 Handicraft Industry Promotion	-

The cascade training was started before and during implementation of the pilot projects. The training in the first and second step consists of 10 days. A series of the training was conducted in December 2012 for the first step and in January and February 2013 for the second step. The training for handicraft promotion was not conducted in the first and second step because there were no suitable officials for this field. Therefore materials of the training for handicraft promotion were prepared during implementation of the pilot project.

(2) First Step Training for Provincial and Commune Levels

The trainees were 14 persons in total consisted of 6 DPAAE staff, 2 staff from civil engineering section in MINAGRIE, 3 agronomists and 3 veterinaries from target communes.

The following table describes the conducted training courses in the first step. Targets were actors in provincial and communal levels for implementation of PCDC.

Table 6.10 Schedule of First Step Training

Day	Date	Program
1	2012/12/05 (Wed)	No.3 Organization/ Management and Maintenance of Irrigation Facilities
2	2012/12/06 (Thu)	No.4 Cropping Techniques of Rice and Vegetables
3	2012/12/07 (Fri)	No.9 Food Processing
4	2012/12/08 (Sat)	No.1 Creation, Management, Accounting and Annual Plan of an Association
5	2012/12/12 (Wed)	No.6 Selected Seed Multiplication: Banana and Beans Cultures
6	2012/12/13 (Thu)	No.7 Selected Seed Multiplication: Potato, Cassava, Soya, Maize Cultures
7	2012/12/14 (Fri)	No.5 Environment Protection
8	2012/12/15 (Sat)	No.8 Livestock Promotion
9	2012/12/18 (Tue)	No.2 Constitution and Management of Cooperatives
10	2012/12/19 (Wed)	No.10 Marketing Promotion

After a series of training in the first step, the Project Team and the first step trainees discussed and modified the training materials. The trainings in the following steps were conducted by using the modified materials.

(3) Second Step Training for Zone and Colline Levels

The trainees were 144 persons consist of chiefs and agricultural assistants in targeted zones and chiefs, CDC members, agriculture monitors and ACSA in target collines. Detailed number of the trainees is described in the following table.

Table 6.11 Varieties and Number of Trainees in Second Step Training

No.	Trainee	Itaba	Makebuko	Bukirasazi
1	Chief of Zone	3	2	2
2	Agricultural Assistant in Zone	3	3	2
3	Chief of Colline	10	11	8
4	CDC member	17	11	14
5	Agricultural Monitor	10	11	8
6	ACSA	10	11	8
Total		53	49	42

The trainees in the second step were divided in two groups because target group were many. The following table describes the conducted training courses in the second step. Targets were actors in zone and colline levels who were involved in the pilot projects of colline agriculture and off-farm type. Order of programs was decided by trainers.

Table 6.12 Schedule of Second Step Training Targeting Actors in Zone and Colline Levels for Pilot Projects of Colline Agriculture and Off-farm Type

Day	Date	Program
1	2013/01/21 (Mon)	No.6 Selected Seed Multiplication: Banana and Potato Cultures
2	2013/01/22 (Tue)	No.7 Selected Seed Multiplication: Beans, Cassava, Soya, Maize Cultures
3	2013/01/23 (Wed)	No.4 Cropping Techniques of Rice and Vegetables
4	2013/01/24 (Thu)	No.8 Livestock Promotion
5	2013/01/25 (Fri)	No.1 Creation, Management, Accounting and Annual Plan of an Association
6	2013/01/28 (Mon)	No.3 Organization/ Management and Maintenance of Irrigation Facilities
7	2013/01/29 (Tue)	No.2 Constitution and Management of Cooperatives
8	2013/01/30 (Wed)	No.5 Environment Protection
9	2013/01/31 (Thu)	No.9 Food Processing
10	2013/02/01 (Fri)	No.10 Marketing Promotion

The following table describes the conducted training courses in the second step. Targets were actors in zone and colline levels who were involved in the pilot projects for marsh agriculture type. The order of programs was decided by trainers.

Table 6.13 Schedule of Second Step Training Targeting Actors in Zone and Colline Levels for Pilot Projects for Marsh Agriculture Type

Day	Date	Program
1	2013/02/06 (Wed)	No.1 Creation, Management, Accounting and Annual Plan of an Association
2	2013/02/07 (Thu)	No.2 Constitution and Management of Cooperatives
3	2013/02/08 (Fri)	No.10 Marketing Promotion
4	2013/02/11 (Mon)	No.9 Food Processing
5	2013/02/12 (Tue)	No.6 Selected Seed Multiplication: Banana and Potato Cultures
6	2013/02/13 (Wed)	No.7 Selected Seed Multiplication: Beans, Cassava, Soya, Maize cultures
7	2013/02/14 (Thu)	No.4 Cropping Techniques of Rice and Vegetables
8	2013/02/15 (Fri)	No.3 Organization/ Management and Maintenance of Irrigation Facilities
9	2013/02/18 (Mon)	No.8 Livestock Promotion
10	2013/02/19 (Tue)	No.5 Environment Protection

(4) Third Step Training for Associations

The target trainees were 3,636 persons, which consist of target association members in all pilot projects. The capacity development was started to conduct through the implementation of the pilot projects in cooperation with second step's trainees. Detailed number of the trainees is described in the following table.

Table 6.14 Number of Target Trainees in Third Step Training

PP	Itaba		Makebuko			Bukirasazi		
	Number of Association	Member M F	Number of Association	Member M F	Number of Association	Member M F		
PP1 Marsh Development	-	690	-	1,338	-	1,080		
PP2 Environmental Protection	1	0 23	1	9 32	1	10 27		
PP3 Soil Fertility Improvement	1	8 12	0	0 0	1	16 4		

PP	Itaba			Makebuko			Bukirasazi		
	Number of Association	Member		Number of Association	Member		Number of Association	Member	
		M	F		M	F		M	F
PP4 Selected Seed Solidarity Chain	1	19	8	1	0	14	1	14	11
PP5 Livestock Promotion	0	0	0	1	3	30	0	0	0
PP6 Agricultural Products Processing Promotion	1	2	8	1	6	30	1	3	10
PP7 Marketing Promotion	1	0	38	1	9	3	1	25	33
PP8 Handicraft Industry Promotion	1	34	0	2	26	27	2	22	12
Total		842			1,527			1,267	

The third step training has been started for association members before activities of the pilot project. Each association has a target pilot project. They were trained for certain program concerned with the target pilot project only. Firstly, the members were trained for getting knowledge of "Creation, Management, Accounting and Annual Plan of an Association". The additional sub-trainings were conducted before supplying input such as seed, fertilizer, tool, machine and so on. Such trainings were conducted based on input schedule of the pilot project. Contents of conducted sub-training are described in the following table.

However, some trainers who were the second step trainees did not have enough skills to train the association members. They were involved in the whole process for a certain pilot project and started to get much knowledge and techniques for associations as OJT.

Table 6.15 Contents of Conducted Sub-Training in Pilot Projects

PP	Title of Training	Sub-Training	Timing of Conducted Sub-Training
PP1 Marsh Development	No.1 Creation, Management, Accounting and Annual Plan of an Association	<i>Same as on the left</i>	February and March 2013
	No.2 Constitution and Management of Cooperatives	<i>Same as on the left</i>	February and March 2013
	No.3 Organization, Management and Maintenance of Irrigation Facilities	<i>Same as on the left</i>	March 2013
		Watershed protection	May 2013
No.4 Cropping Techniques of Rice and Vegetables	<i>Same as on the left</i>	May 2013	
	Utilization of huller machine	June 2013	
PP2 Environmental Protection	No.1 Creation, Management, Accounting and Annual Plan of an Association	<i>Same as on the left</i>	February 2013
	No.5 Environmental Protection	Seedling preparation and procedure of tree plantation	February 2013
PP3 Soil Fertility Improvement	No.1 Creation, Management, Accounting and Annual Plan of an Association	<i>Same as on the left</i>	February 2013
	No.6 Soil Fertility Improvement	Compost making	February 2013
		Mixing chemical and organic fertilizer	February 2013
PP4 Selected Seed Solidarity Chain	No.1 Creation, Management, Accounting and Annual Plan of an Association	<i>Same as on the left</i>	February 2013
	No.7 Multiplication of Selected Seed	<i>Same as on the left</i>	February 2013
		Demonstration of sowing	February 2013
		Seed selection by categories	February 2013
PP5 Livestock Promotion	No.1 Creation, Management, Accounting and Annual Plan of an Association	<i>Same as on the left</i>	March 2013
	No.8 Livestock Promotion	Breeding techniques	March 2013
PP6 Agricultural Products Processing Promotion	No.1 Creation, Management, Accounting and Annual Plan of an Association	<i>Same as on the left</i>	Three days in February and March 2013
	No.9 Food Processing	Food processing for potato donut	June 2013
		Utilization of milling machine and its maintenance	March 2013
		Food processing for banana wine	Five days in May 2013
PP7 Marketing	No.1 Creation, Management,	<i>Same as on the left</i>	Three days in February and

PP	Title of Training	Sub-Training	Timing of Conducted Sub-Training
Promotion	Accounting and Annual Plan of an Association		March 2013
PP8 Handicraft Industry Promotion	No.1 Creation, Management, Accounting and Annual Plan of an Association	<i>Same as on the left</i>	Three days in February and March 2013
	No.10 Handy Craft Promotion	Utilization of carpentry machines and its maintenance	September 2013
		Utilization of tool for improved tile and its maintenance	October 2013
		Utilization of machine for brick making and its maintenance	June 2013
		Utilization of tools for ceramic making and its maintenance	Three days in July 2013

At the end of all training, training materials were finalized in the Project. Title of these training materials was adopted to follow the title of training in Table 6.15. Although the training for marketing promotion was not conducted in the third step training, the training for creation, management, accounting and annual plan of an association was conducted for all pilot projects in the third step training. The trainers in the third step training did not adopt to use the training material for marketing promotion prepared in the first and second step trainings, because it describes a concept and theory of marketing and they judged that association members were not adoptable level for these description at that time. In addition, the training materials are attached in Annex and the list of the materials is described in the following table.

Table 6.16 List of Training Materials

Project	Title of Training Material	Step of Cascade Level	Number of Training Material		
			Module	Presentation	Technical Card
1 Environment Protection	No.1 Creation, Management, Accounting and Annual Plan of an Association	First	A. PP1(1)-1	A. PP1(1)-2	-
		Second	B. PP1(1)-1	B. PP1(1)-2	-
		Third	B. PP1(1)-1	-	-
	No.5 Environmental Protection	First	A. PP2(1)-1	A. PP2(1)-2	A. PP2(1)-3
		Second	B. PP2(1)-1	B. PP2(1)-2	B. PP2(1)-3
		Third	B. PP2(1)-1	-	B. PP2(1)-3
2 Soil Fertility Improvement	No.1 Creation, Management, Accounting and Annual Plan of an Association	First	A. PP1(1)-1	A. PP1(1)-2	A. PP1(1)-3
		Second	B. PP1(1)-1	B. PP1(1)-2	B. PP1(1)-3
		Third	B. PP1(1)-1	-	B. PP1(1)-3
	No.6 Soil Fertility Improvement	First	A. PP3(1)-1	-	-
		Second	B. PP3(1)-1	-	-
		Third	B. PP3(1)-1	-	-
3 Marsh Development	No.1 Creation, Management, Accounting and Annual Plan of an Association	First	A. PP1(1)-1	A. PP1(1)-2	-
		Second	B. PP1(1)-1	B. PP1(1)-2	-
		Third	B. PP1(1)-1	-	-
	No.2 Constitution and Management of Cooperative	First	A. PP1(2)-1	A. PP1(2)-2	-
		Second	B. PP1(2)-1	B. PP1(2)-2	-
		Third	B. PP1(2)-1	-	-
	No.3 Organization, Management and Maintenance of Irrigation Facilities	First	A. PP1(3)-1	A. PP1(3)-2	A. PP1(3)-3
		Second	B. PP1(3)-1	B. PP1(3)-2	B. PP1(3)-3
		Third	B. PP1(3)-1	-	B. PP1(3)-3
	No.4 Cropping Techniques of Rice and Vegetables	First	A. PP1(4)-1	A. PP1(4)-2	A. PP1(4)-3
		Second	B. PP1(4)-1	B. PP1(4)-2	B. PP1(4)-3
		Third	B. PP1(4)-1	-	B. PP1(4)-3
4 Seed Solidarity Chain	No.1 Creation, Management, Accounting and Annual Plan of an Association	First	A. PP1(1)-1	A. PP1(1)-2	-
		Second	B. PP1(1)-1	B. PP1(1)-2	-
		Third	B. PP1(1)-1	-	-
	No.7 Multiplication of Selected Seed in General	First	A. PP4(1)-1	-	-
		Second	-	-	-
		Third	-	-	-
	No.7 Multiplication of Selected Seed for Target Crops	First	A. PP4(2)-1	A. PP4(2)-2	A. PP4(2)-3
		Second	B. PP4(2)-1	B. PP4(2)-2	B. PP4(2)-3
		Third	B. PP4(2)-1	-	B. PP4(2)-3
5 Livestock Promotion	No.1 Creation, Management, Accounting and Annual Plan of an Association	First	A. PP1(1)-1	A. PP1(1)-2	-
		Second	B. PP1(1)-1	B. PP1(1)-2	-
		Third	B. PP1(1)-1	-	-
	No.8 Livestock Promotion	First	A. PP5(1)-1	A. PP5(1)-2	-
		Second	B. PP5(1)-1	B. PP5(1)-2	-

Project	Title of Training Material	Step of Cascade Level	Number of Training Material		
			Module	Presentation	Technical Card
		Third	B. PP5(1)-1	-	-
9 Agricultural Products Processing	No.1 Creation, Management, Accounting and Annual Plan of an Association	First	A. PP1(1)-1	A. PP1(1)-2	-
		Second	B. PP1(1)-1	B. PP1(1)-2	-
		Third	B. PP1(1)-1	-	-
	No.9 Food Processing	First	A. PP6(1)-1	A. PP6(1)-2	A. PP6(1)-3
		Second	B. PP6(1)-1	B. PP6(1)-2	B. PP6(1)-3
		Third	B. PP6(1)-1	-	B. PP6(1)-3
10 Marketing Promotion	No.1 Creation, Management, Accounting and Annual Plan of an Association	First	A. PP1(1)-1	A. PP1(1)-2	-
		Second	B. PP1(1)-1	B. PP1(1)-2	-
		Third	B. PP1(1)-1	-	-
	No.10 Marketing Promotion	First	A. PP7(1)-1	A. PP7(1)-2	A. PP7(1)-3
		Second	B. PP7(1)-1	B. PP7(1)-2	B. PP7(1)-3
		Third	B. PP7(1)-1	-	B. PP7(1)-3
11 Handicraft Industry Promotion	No.1 Creation, Management, Accounting and Annual Plan of an Association	First	A. PP1(1)-1	A. PP1(1)-2	-
		Second	B. PP1(1)-1	B. PP1(1)-2	-
		Third	B. PP1(1)-1	-	-
	No.11 Handy Craft Promotion	First	A. PP8(1)-1	-	-
		Second	B. PP8(1)-1	-	-
		Third	B. PP8(1)-1	-	-

6.5 Results of Trainings

6.5.1 First Step Training for Provincial and Commune Levels

At the end of a series of training, the questionnaire survey was carried out for all trainees. The Project verified the effect of each training based on the questionnaire survey, and verified results are described below.

(1) Relevance

Concerning the relevance of the training courses, four questions were answered by the trainees.

1) Question 1: Was it suitable program for ordinary work of trainees?

All trainees judged that the program of training course for environmental promotion (No.5) was suitable for their ordinary work. Some exchange visits were proposed to make this program more suitable especially for food processing (No.9). It was the first time for the trainees to have opportunity to learn some programs such as cooperative (No.2) and marketing (No.10). It seems that they did not have enough experience for cooperative and marketing in their work.

Table 6.17 Result of Question 1

Program	Suitable	Neutral	Unsuitable
No.1	69%	31%	0%
No.2	50%	29%	21%
No.3	62%	31%	8%
No.4	82%	9%	9%
No.5	100%	0%	0%
No.6	73%	18%	9%
No.7	82%	9%	9%
No.8	64%	18%	18%
No.9	27%	45%	27%
No.10	57%	29%	14%

*No. of program equal to No. in Table 6.9.

2) Question 2: Was it effective program for ordinary work of trainees?

All trainees judged that the program of training courses for organization, management and maintenance of irrigation facilities (No.3), environmental promotion (No.5), and livestock promotion (No.8) were effective for their ordinary work. There was no negative comment for all programs. Exchange visits were proposed for better understanding organization, management and maintenance of irrigation facilities (No.3), environmental promotion (No.5) and marketing (No.10).

Table 6.18 Result of Question 2

Program	Effective	Neutral	Ineffective
No.1	92%	8%	0%
No.2	71%	29%	0%
No.3	100%	0%	0%
No.4	90%	10%	0%
No.5	100%	0%	0%
No.6	82%	18%	0%
No.7	82%	18%	0%
No.8	100%	0%	0%
No.9	45%	55%	0%
No.10	77%	23%	0%

*No. of program equal to No. in Table 6.9.

3) Question 3: Which program should be excluded in the future training?

No program was supposed to be excluded by the trainees.

4) Question 4: Was it suitable program period for trainees?

All trainees were satisfied for the program period.

(2) Effectiveness

Concerning the effectiveness of the training courses, two questions were answered by the trainees.

1) Question 5: Were trainees satisfied with the training course in comparison with his/her expectation?

All trainees were satisfied with the training courses for multiplication of selected seed (No.6 & 7). Some trainees were not satisfied with the contents of environmental promotion (No.5). However, most trainees obtained satisfaction from the all training courses.

Table 6.19 Result of Question 5

Program	Satisfied	Neutral	Unsatisfied
No.1	85%	15%	0%
No.2	86%	14%	0%
No.3	85%	15%	0%
No.4	88%	13%	0%
No.5	69%	15%	15%
No.6	100%	0%	0%
No.7	100%	0%	0%
No.8	67%	33%	0%
No.9	89%	11%	0%
No.10	86%	14%	0%

*No. of program equal to No. in Table 6.9.

2) Question 6: Did trainees understand contents of program?

All trainees understood the contents of programs especially for livestock promotion (No.8) and marketing promotion (No.10). In addition, most trainees understood the contents of all programs. Some trainees have already understood the contents even before the training courses.

Table 6.20 Result of Question 6

Program	Much	Neutral	Little
No.1	82%	18%	0%
No.2	92%	8%	0%
No.3	91%	9%	0%
No.4	71%	29%	0%
No.5	73%	18%	9%
No.6	88%	13%	0%
No.7	88%	13%	0%
No.8	100%	0%	0%
No.9	88%	13%	0%
No.10	100%	0%	0%

*No. of program equal to No. in Table 6.9.

(3) Efficiency

Concerning the efficiency of the training courses, one question was answered by the trainees.

1) Question 7: How did trainees evaluate trainer?

All trainees judged that the trainers evaluated especially for multiplication of selected seed for Banana and Beans (No.6) and marketing promotion (No.10) had enough knowledge. In addition, most trainees evaluated the trainers positively. Some trainees pointed out that the performance of trainer was not enough for environmental promotion (No.5).

Table 6.21 Result of Question 7

Program	Good	Neutral	Poor
No.1	93%	7%	0%
No.2	93%	7%	0%
No.3	92%	8%	0%
No.4	88%	13%	0%
No.5	67%	17%	17%
No.6	100%	0%	0%
No.7	89%	11%	0%
No.8	75%	25%	0%
No.9	89%	11%	0%
No.10	100%	0%	0%

*No. of program equal to No. in Table 6.9.

(4) Impact

Concerning the impact of the training courses, one question was answered by the trainees.

1) Question 8: Can trainees utilize results of the training course for their ordinary work in the future?

All trainees mentioned to utilize knowledge about multiplication of selected seed (No.6 & 7) for their ordinary work. In addition, most trainees decided to adopt fruitful technology from all programs to their work. Some trainees proposed to support marsh committees to maintain irrigation facilities by using learned methodology from the training courses (No.3).

Table 6.22 Result of Question 8

Program	Useful	Neutral	Useless
No.1	79%	21%	0%
No.2	71%	29%	0%
No.3	92%	8%	0%
No.4	89%	11%	0%
No.5	93%	7%	0%
No.6	100%	0%	0%
No.7	100%	0%	0%
No.8	88%	13%	0%
No.9	67%	33%	0%
No.10	77%	23%	0%

*No. of program equal to No. in Table 6.9.

(5) Sustainability

Concerning the sustainability of the training courses, one question was answered by the trainees.

1) Question 9: Was capacity of trainees improved through the training course?

Approximately half number of trainees described that their capacity was improved and they are ready to teach their knowledge. However, some trainees mentioned that they had enough capacity to teach knowledge even before the training courses.

Table 6.23 Result of Question 9

Program	Much	Neutral	Little
No.1	42%	58%	0%
No.2	57%	43%	0%
No.3	67%	33%	0%
No.4	50%	50%	0%
No.5	54%	38%	8%
No.6	50%	50%	0%
No.7	50%	50%	0%
No.8	50%	50%	0%
No.9	63%	38%	0%
No.10	62%	38%	0%

*No. of program equal to No. in Table 6.9.

(6) Conclusion of First Step Training

All trainees answered positively for the training courses in questionnaire, even if they already had experience to participate in some training courses outside of the Project.

For some trainees, it was the first time to learn programs such as cooperative (No.2) and marketing (No.10). However, importance of cooperative and marketing were mentioned in PPIA and PCDC. The training courses are not enough for these programs compared with expected by the government.

Other programs were already learnt by them but they realized to be improved for their capacity through the training courses especially for organization, management and maintenance of irrigation facilities (No.3), environmental promotion (No.5), multiplication of selected seed (No.6 & 7), food

processing (No.9) and marketing promotion (No.10). However, they suggested organizing exchange visits and getting much knowledge for these programs.

(7) Lessons Learnt through First Step Training

The trainees who are DPAAE staff, staff from civil engineering section in MINAGRIE, agronomists and veterinarians from target communes realized to get enough capacity as trainer for organization, management and maintenance of irrigation facilities (No.3), environmental promotion (No.5), multiplication of selected seed (No.6 & 7), food processing (No.9) and marketing promotion (No.10) theoretically through the training. However, as they suggested, exchange visit is important to get the practical experience. The Project adopted to conduct exchange visit, and they planned contents and coordinated to choose suitable site for the exchange visit by themselves as part of training on planning and coordination of capacity development. Their plan is described in the following table.

Table 6.24 Contents of Exchange Visit Proposed by Trainees in First Step Training

No.	Content (Relevant PP)	Sub-Content	Site	Date
1	Organization, Association and Cooperative (All PP)	♦ Association and promotion of activities for cooperative by CAPAD	♦ CAPAD Mutimbuzi	2013/11/22
2	Marsh Development (PP1)	♦ Maintenance for irrigation facilities ♦ Water management ♦ Water user association and cooperative for rice	♦ SRDI Imbo	2013/11/7
		♦ Vegetable production ♦ Cooperative for vegetable	♦ Mutoyi-Bugendana	2013/11/19
3	Multiplication of Selected Seed (PP4)	♦ Production of sweet potato ♦ Production of cassava ♦ Production of maize ♦ Production of beans	♦ ISABU Gisozi and surrounding farmer, Kajondi	2013/11/26
			♦ ISABU Moso	2013/11/29
4	Livestock Promotion (PP5)	♦ Activities of livestock	♦ ISABU Mahwa and the surrounding farmer, Ruwire-Rutovu	2013/11/12
5	Food Processing (PP6)	♦ Food processing for fruit tree such as banana, cassava and sweet potato	♦ CNTA Bujumbura	2013/11/15

Training for evaluation and monitoring were required for implementation of PCDC. For such subjects, the Project did not organize specific training. However, capacity development for evaluation and monitoring for officials were conducted through implementation of the pilot projects. In order to improve their capacity for evaluation and monitoring, the Project involved them in the activities of the pilot projects positively.

In general, there are necessary training programs such as for planning, coordination, execution, monitoring and evaluation of PCDC. The trainees have enough capacity for execution of some activities. The capacity development program for the trainees of first step training mainly needs the opportunity for planning, coordination, monitoring and evaluation for PCDC with target activities like the pilot projects.

6.5.2 Second Step Training for Zone and Colline Levels

At the end of a series of training courses, the questionnaire survey was carried out for all trainees. The Project verified the effect of each training course based on the questionnaire survey. Verified results are described below.

(1) Relevance

Concerning the relevance of the training courses, four questions were answered by the trainees.

1) Question 1: Was it suitable program for ordinary work of trainees?

The trainees who chose unsuitable did not have opportunity and experience with certain field in their ordinary work. Many trainees mentioned that it was for the first time to learn programs such as association (No.1), cooperative (No.2), irrigation facilities (No.3), rice cultivation (No.4), food processing (No.9) and marketing promotion (No.10). The trainees who gave negative answer for several programs suggested more exchange visits and practices rather than lectures.

Table 6.25 Result of Question 1

Program	Suitable	Neutral	Unsuitable
No.1	56%	9%	35%
No.2	46%	9%	45%
No.3	62%	10%	29%
No.4	51%	13%	36%
No.5	61%	10%	29%
No.6	64%	10%	26%
No.7	56%	11%	33%
No.8	60%	12%	29%
No.9	55%	13%	31%
No.10	53%	19%	27%

*No. of program equal to No. in Table 6.9.

2) Question 2: Was it effective program for ordinary work of trainees?

Most trainees judged that the program of training courses were effective for their ordinary work. For the whole program, exchange visits and practice were suggested to understand easily and realistically. Some trainees suggested increasing variety of vegetable (No.4), cereal (No. 6 & 7) and livestock (No.8) in lectures. For marketing promotion, information to get capital was needed.

Table 6.26 Result of Question 2

Program	Effective	Neutral	Ineffective
No.1	93%	4%	3%
No.2	95%	2%	2%
No.3	95%	2%	2%
No.4	89%	2%	8%
No.5	90%	3%	7%
No.6	96%	2%	2%
No.7	92%	4%	5%
No.8	92%	5%	4%
No.9	94%	2%	4%
No.10	94%	4%	2%

*No. of program equal to No. in Table 6.9.

3) Question 3: Which program should be excluded in the future training?

No program was supposed to exclude by the trainees.

4) Question 4: Was it suitable program period for trainees?

Most trainees were satisfied for the program period.

Table 6.27 Result of Question 4

Program	Suitable	Neutral	Unsuitable
No.1	98%	2%	0%
No.2	98%	2%	0%
No.3	98%	2%	0%
No.4	98%	2%	0%
No.5	98%	2%	0%
No.6	98%	2%	0%
No.7	97%	3%	0%
No.8	98%	2%	0%
No.9	98%	2%	0%
No.10	98%	2%	0%

*No. of program equal to No. in Table 6.9.

(2) Effectiveness

Concerning the effectiveness of the training courses, two questions were answered by the trainees.

1) Question 5: Were trainees satisfied with the training course in comparison with his/her expectation?

Most trainees obtained satisfaction from the all training courses. Some trainees were not satisfied with the programs such as cooperative (No.2), irrigation facilities (No.3), rice cultivation (No.4), food processing (No.9) and marketing promotion because they do not have an opportunity to deal with these fields in their work.

Table 6.28 Result of Question 5

Program	Satisfied	Neutral	Unsatisfied
No.1	93%	5%	1%
No.2	93%	5%	2%
No.3	94%	5%	2%
No.4	90%	5%	4%
No.5	92%	5%	3%
No.6	95%	3%	2%
No.7	93%	3%	4%
No.8	93%	4%	4%
No.9	96%	3%	1%
No.10	92%	5%	3%

*No. of program equal to No. in Table 6.9.

2) Question 6: Did trainees understand contents of program?

Most trainees understood the contents of all programs. However, some trainees mentioned that they had little understanding of some programs such as cooperative (No.2), irrigation facilities (No.3), rice cultivation (No.4), food processing (No.9) and marketing promotion (No.10) because they were not accustomed. It was the first time to learn for them.

Table 6.29 Result of Question 6

Program	Much	Neutral	Little
No.1	89%	6%	5%
No.2	80%	12%	8%
No.3	82%	11%	7%
No.4	85%	5%	10%
No.5	85%	5%	10%
No.6	89%	5%	6%
No.7	86%	6%	8%
No.8	84%	6%	10%
No.9	84%	8%	8%
No.10	80%	10%	11%

*No. of program equal to No. in Table 6.9.

(3) Efficiency

Concerning the efficiency of the training courses, one question was answered by the trainees.

1) Question 7: How did trainees evaluate trainer?

Most trainees evaluated the trainers positively. However, some trainees mentioned that practice was much needed to understand deeply.

Table 6.30 Result of Question 7

Program	Good	Neutral	Poor
No.1	98%	1%	1%
No.2	92%	7%	2%
No.3	93%	5%	2%
No.4	95%	3%	2%
No.5	97%	1%	2%
No.6	96%	2%	2%
No.7	95%	3%	2%
No.8	93%	2%	4%
No.9	94%	2%	4%
No.10	93%	4%	2%

*No. of program equal to No. in Table 6.9.

(4) Impact

Concerning the impact of the training courses, one question was answered by the trainees.

1) Question 8: Can trainees utilize results of the training course for their ordinary work in the future?

Most trainees mentioned that they practice knowledge and techniques to sensitize population in their collines. In addition, some trainees insisted to utilize knowledge and techniques for multiplication of selected seed (No.6 & 7) because they have much knowledge and experience than the other fields.

(5) Sustainability

Concerning the sustainability of the training courses, one question was answered by the trainees.

1) Question 9: Was capacity of trainees improved through the training course?

Most trainees realized that their capacity was improved for all fields. However, the practical training was needed to improve their capacity further.

(6) Conclusion of Second Step Training

Most trainees gave positive answers for the training courses in questionnaire. However many trainees suggested adding practical training to improve the programs in general even they realized their improvement for all fields through the training courses.

For many trainees, the course includes program, which is the first time to learn, such as cooperative (No.2), irrigation facilities (No.3), rice cultivation (No.4), food processing (No.9) and marketing promotion (No.10) because they did not have an opportunity to learn them and were not accustomed to those agendas. However, importance of cooperative, food processing and marketing were mentioned in PPIA and PCDC. Unfortunately, the government cannot conduct enough training for these issues at present.

(7) Lessons Learnt through Second Step Training

Although the first step trainings was conducted by using French materials, the second step training was conducted by using Kirundi materials. It was decided in discussion between the Project Team and the trainers, who were trainees in the first step training, for the second step training. The trainers prepared the Kirundi materials. Through this preparation, they removed some contents in the material to adjust level for trainees of the second step training. It helped them to understand the training programs.

Many trainees of second step training mentioned that the training course for evaluation, monitoring and follow up for the trainees was needed. In the Project, capacity development for evaluation and monitoring targeting trainees were conducted through implementation of the pilot projects. In order to improve their capacity for evaluation and monitoring, the Project involved them in practice of the pilot projects continuously. At the same time, the Project conducted their follow up through the pilot projects.

In general, there are necessary training programs such as for planning, coordination, execution, monitoring and evaluation of PCDC. Even some trainees have enough capacity for execution of activities but most trainees are willing to improve all capacity. The capacity development program for

Table 6.31 Result of Question 8

Program	Useful	Neutral	Useless
No.1	86%	13%	1%
No.2	84%	14%	2%
No.3	88%	10%	2%
No.4	87%	11%	2%
No.5	91%	8%	1%
No.6	92%	7%	1%
No.7	94%	5%	1%
No.8	88%	10%	2%
No.9	89%	9%	2%
No.10	86%	11%	3%

*No. of program equal to No. in Table 6.9.

Table 6.32 Result of Question 9

Program	Much	Neutral	Little
No.1	90%	8%	2%
No.2	84%	11%	5%
No.3	82%	14%	4%
No.4	83%	10%	7%
No.5	86%	8%	5%
No.6	89%	8%	3%
No.7	88%	7%	5%
No.8	86%	9%	5%
No.9	86%	8%	5%
No.10	84%	10%	6%

*No. of program equal to No. in Table 6.9.

the trainees of second step training needs all necessary training programs for PCDC with actual activities like the pilot projects.

6.5.3 Third Step Training for Associations

Training course for creation, management, accounting and annual plan of association (Training Course No.1 in Table 6.9) was conducted for every associations. In addition, some other training courses were conducted for certain associations accordingly. After evaluation workshop for the pilot project, the questions for understanding of knowledge and techniques were carried out for at least three member from one target association. Verified results are described in the following chapter.

(1) Relevance

Concerning the relevance of the training, five questions were answered by the interviewees.

1) Question 1: Was it suitable training for trainees based on the consideration of their activities in Pilot Project?

Most interviewees judged that the training was suitable for their activities in target pilot project. The persons who gave negative answer did not understand the pilot project itself for marketing promotion (PP7) and handicraft industry promotion of ceramic (PP8).

2) Question 2: Was it effective training for trainees based on the consideration of their activities in Pilot Project?

Almost all interviewees judged that the training was effective for their activities in target pilot project.

3) Question 3: What kind of training should be included in future?

Most interviewees answered that no program was supposed to include in training. However, other interviewees mentioned necessity of additional training such as preparation of compost for marsh development (PP1) and seed multiplication (PP4), and livestock promotion for environmental protection (PP2) and soil fertility (PP3).

4) Question 4: What kind of training should be excluded in future?

No program was supposed to exclude by the trainees.

5) Question 5: Was it suitable program period for trainees?

All interviewees for livestock promotion (PP5) and agricultural products processing promotion (PP6) were satisfied. Most interviewees for other pilot projects were satisfied for training period but some mentioned that the period was too short to understand deeply. Some others mentioned that the timing was late for marsh development (PP1), environmental protection (PP2), soil fertility (PP3) and seed multiplication (PP4),

Table 6.33 Result of Question 1

Training for	Suitable	Neutral	Unsuitable
PP1	100%	0%	0%
PP2	100%	0%	0%
PP3	83%	0%	17%
PP4	100%	0%	0%
PP5	100%	0%	0%
PP6	100%	0%	0%
PP7	89%	0%	11%
PP8	93%	0%	7%

*No. of program equal to No. in Table 6.9.

Table 6.34 Result of Question 2

Training for	Effective	Neutral	Ineffective
PP1	100%	0%	0%
PP2	100%	0%	0%
PP3	100%	0%	0%
PP4	100%	0%	0%
PP5	100%	0%	0%
PP6	100%	0%	0%
PP7	100%	0%	0%
PP8	87%	0%	13%

*No. of program equal to No. in Table 6.9.

Table 6.35 Result of Question 5

Training for	Suitable	Neutral	Unsuitable
PP1	56%	0%	44%
PP2	70%	0%	30%
PP3	67%	0%	33%
PP4	44%	0%	56%
PP5	100%	0%	0%
PP6	100%	0%	0%
PP7	78%	0%	22%
PP8	80%	0%	20%

*No. of program equal to No. in Table 6.9.

and activities for marketing promotion (PP7) and handicraft industry promotion (PP8). Based on the comments, the trainings for PP1, PP3 and PP4 were proposed to be organized before and/or in early rainy season and the training for PP2 was proposed during rainy season, considering the appropriate timing of cultivation of target crops. The training for PP8 was proposed during dry season (agricultural off-season). The training for PP7 was proposed from the beginning of a series of activities.

(2) Effectiveness

Concerning the effectiveness of the training courses, two questions were answered by the trainees.

1) Question 6: Were trainees satisfied with the training in comparison with their expected?

Almost all interviewees obtained satisfaction from training. However, some interviewees were not satisfied due to shortage of training period as mentioned in answer of question 5, especially for soil fertility improvement (PP3), multiplication of selected soil (PP4), marketing promotion (PP7) and handicraft industry promotion (PP8).

Table 6.36 Result of Question 6

Training for	Satisfied	Neutral	Unsatisfied
PP1	89%	11%	0%
PP2	100%	0%	0%
PP3	83%	0%	17%
PP4	78%	0%	22%
PP5	100%	0%	0%
PP6	100%	0%	0%
PP7	89%	0%	11%
PP8	80%	0%	20%

*No. of program equal to No. in Table 6.9.

2) Question 7: Did trainees understand contents of training?

Many interviewees understood the contents of training especially for preparation of nursery bed, cultivation of rice and vegetable, line planting of rice, and prevention of erosion on marsh development (PP1), for nursery bed and afforestation on environmental protection (PP2), for cultivation and preparation of compost on soil fertility improvement (PP3), for cultivation of target crop on selected seed solidarity chain (PP4), for prohibition of breeding on livestock promotion (PP5), for management of association and processing on food processing (PP6), and for management of association and accounting on marketing promotion (PP7) and handicraft industry promotion (PP8). However, all interviewees who gave negative answer mentioned that the period of training was short and they had difficulty to understand practically. Then, they proposed longer training and to visit advanced site as exchange visit. Although various exchange visits were organized for association members, these should be conducted before actual implementation of each activity.

Table 6.37 Result of Question 7

Training for	Much	Neutral	Little
PP1	56%	0%	44%
PP2	70%	0%	30%
PP3	83%	0%	17%
PP4	88%	0%	13%
PP5	67%	0%	33%
PP6	78%	0%	22%
PP7	44%	11%	44%
PP8	53%	0%	47%

*No. of program equal to No. in Table 6.9.

(3) Efficiency

Concerning the efficiency of the training courses, one question was answered by the trainees.

1) Question 8: How did trainees evaluate trainer, especially zone and colline officials?

Almost all interviewees evaluated the trainers positively.

Table 6.38 Result of Question 8

Training for	Good	Neutral	Poor
PP1	78%	0%	22%
PP2	100%	0%	0%
PP3	100%	0%	0%
PP4	100%	0%	0%
PP5	100%	0%	0%
PP6	100%	0%	0%
PP7	89%	0%	11%
PP8	87%	0%	13%

*No. of program equal to No. in Table 6.9.

However, they expected continuous and regular supervision by officials.

(4) Impact

Concerning the impact of the training courses, one question was answered by the trainees.

1) Question 9: Can trainees utilize results of the training for their activities in Pilot Project?

Almost all interviewees mentioned to utilize results. Based on knowledge, some of them decided to teach their knowledge to others.

(5) Sustainability

Concerning the sustainability of the training courses, one question was answered by the trainees.

1) Question 10: Was capacity of trainees improved through the training?

Most interviewees realized that their capacity was improved. The improved points they mentioned were following: cultivation of rice and vegetable, line planting of rice, prevention of erosion and maintenance of irrigation facilities for marsh development (PP1), preparation of compost and afforestation for environmental protection (PP2), cultivation and preparation of compost for soil fertility improvement (PP3), cultivation of target crop and preparation of compost for selected seed solidarity chain (PP4), animal health for livestock promotion (PP5), management of association and processing for food processing (PP6), management of association and accounting for marketing promotion (PP7) and handicraft industry promotion (PP8). These points were described in answer of question 7 as the points to understood by many interviewees.

(6) Conclusion of Third Step Training

All interviewees answered positively for the training in questionnaire and realized to be improved for their capacity through the training, even if they already had experience to activities concerned with the pilot project. Most interviewees mentioned that the training period should be long to cultivate better understanding and the exchange visit should be organized to understand practically. Due to shortage of the training period, some interviewees for all training caused negative answer.

Even much training was organized for marketing promotion (PP7) and handicraft industry promotion (PP8) as described in Table 6.15 Contents of Conducted Sub-Training in Pilot Projects, many interviewees were not satisfied for the training period.

As comments for training, many interviewees mentioned the timing of training. Based on the comments, the trainings for marsh development (PP1), soil fertility improvement (PP3) and for selected seed solidarity chain (PP4) were proposed to be organized before and/or early rainy season, the training for environmental protection (PP2) was proposed to be organized during rainy season, and the training for handicraft industry promotion (PP8) was proposed to be organized during dry season.

In addition, all interviewees evaluated the trainers positively but they expected continuous and regular supervision by officials.

Table 6.39 Result of Question 9

Training for	Useful	Neutral	Useless
PP1	100%	0%	0%
PP2	100%	0%	0%
PP3	100%	0%	0%
PP4	100%	0%	0%
PP5	100%	0%	0%
PP6	89%	0%	11%
PP7	100%	0%	0%
PP8	73%	0%	27%

*No. of program equal to No. in Table 6.9.

Table 6.40 Result of Question 10

Training for	Much	Neutral	Little
PP1	78%	0%	22%
PP2	60%	0%	40%
PP3	83%	0%	17%
PP4	78%	0%	22%
PP5	100%	0%	0%
PP6	89%	0%	11%
PP7	67%	0%	33%
PP8	53%	0%	47%

*No. of program equal to No. in Table 6.9.

(7) Lessons Learnt through Third Step Training

Although nobody mentioned the suitable timing for the implementation of trainings in first and second step training, trainees for third step training proposed to conduct some trainings in suitable timing based on season. Mainly, there are three seasons. First season is before and/or early rain season for marsh development (PP1), soil fertility improvement (PP3) and for selected seed solidarity chain (PP4) because this season is just before sowing. Second season is rainy season for environmental protection (PP2) because soil is easy to cruse. Third season is dry season for handicraft industry promotion (PP8) because there are not much agricultural activities. All above consideration should be necessary to conduct these trainings.

As described in Table 6.15, the training for creation, management, accounting and annual plan of an association was conducted for all pilot projects. It means that the training for creation, management, accounting and annual plan of an association is essential for any activities.

In the third step training, only capacity development for execution of PCDC is necessary for association. For this capacity development, practical trainings, such as exchange visit to cultivate better understanding practically and direct instruction, which is conducted by officials and necessary for association members continuously and regularly, should be required.

6.5.4 A Series of Cascade Training

Based on the results of questionnaire and interview for trainee in each level of cascade training, most trainees could understand the contents of training and were satisfied with trainers in aspect of lecture. In cascade training, trainers also prepared a report for the training. According to the report, the trainers were also satisfied with teaching in the training, because they realized that there was no opportunity to conduct the training.

Theoretical knowledge can be instructed in the cascade training but practical knowledge is not easy to be instructed. In order to get practical knowledge, exchange visit which was many trainees proposed and supervision in the field as OJT led by officials should be added in the training.

The training materials for each theme and step were revised through a series of the cascade training. They are attached in Annex.

6.6 Training Program to Promote PCDC

Although PCDC in present is just a list of preferable projects based on people's needs without a clear vision of development of the commune, PCDC is a guiding plan of development projects for communes. If PCDC is set properly and implementation of PCDC is done and promoted, they contribute appropriate income generation for community member and will have important role for reconstruction of community. In order to promote PCDC, it is essential to develop capacity for relevant actors of PCDC and establish system for capacity development. However, it is not clearly mentioned its methodology to develop the actors in present PCDC. Conducted capacity development in the Project was evaluated and necessity of some training was confirmed through the cascade training as mentioned in the previous sessions, it is effective to conduct them for the capacity development and establishment of the system.

Regarding this issues, training program to promote PCDC is summarized in Table 6.41 Implementation Schedule of Training Program. It describes the necessary training concerned with each project of action plan and based on theme, program, trainer, target trainee and timing etc. It helps for easy implementation of trainings.

Table 6.41 Implementation Schedule of Training Program to Promote PCDC

Financial Resources		Project Menu Type	C	D	Training Program	Step of Cascade Level	Trainer	Target	Timing	Number of Training	Cost			Schedule					Number of Training Material in Annex
											Unit	Qty.	Total	2013	2014	2015	2016	2017	
A	B										BIF ('000)	Times	BIF ('000)						
Program 1: Production and Sustainable Food Security																			
SP 1: Productive Capital Protection																			
1. Environment Protection																			
No.1 Creation, Management, Accounting and Annual Plan of an Association																			
						-	Non	All relevant officials in each level, Province: 2 persons, comun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
						Execution	First	DPAE officials 6 persons	After decided the site	Once a year	333	5	1,665	333	333	333	333	333	A.PP1(1)-1, A.PP1(1)-2, A.PP1(1)-3
						Execution	Second	Officials in commune 146 persons	After the first step training	Once a year	3,728	5	18,641	3,728	3,728	3,728	3,728	3,728	B.PP1(1)-1, B.PP1(1)-2, B.PP1(1)-3
						Execution	Third	Officials in zone and colline One association in all colline, Number of all collines is 65.	In rainy season	Once a year	1,547	5	7,734	1,547	1,547	1,547	1,547	1,547	B.PP1(1)-1, B.PP1(1)-3
						Monitoring & Evaluation	-	Non	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
No.5 Environmental Protection																			
						Planning & Coordination	-	Non	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	39	480	18,720	3,744	3,744	3,744	3,744	3,744	B.PP2(1)-3
						Execution	First	DPAE officials 6 persons	After decided the site	Once a year	330	5	1,649	330	330	330	330	330	A.PP2(1)-1, A.PP2(1)-2, A.PP2(1)-3
						Execution	Second	Officials in commune 146 persons	After the first step training	Once a year	3,647	5	18,233	3,647	3,647	3,647	3,647	3,647	B.PP2(1)-1, B.PP2(1)-2, B.PP2(1)-3
						Execution	Third	Officials in zone and colline One association in all colline, Number of all collines is 65.	In rainy season	Once a year	1,510	5	7,552	1,510	1,510	1,510	1,510	1,510	B.PP2(1)-1, B.PP2(1)-3
						Monitoring & Evaluation	-	Non	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	39	480	18,720	3,744	3,744	3,744	3,744	3,744	B.PP2(1)-3
Total													121,713						
2. Soil Fertility Improvement																			
No.1 Creation, Management, Accounting and Annual Plan of an Association																			
						Planning & Coordination	-	Non	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
						Execution	First	DPAE officials 6 persons	After decided the site	Once a year	333	5	1,665	333	333	333	333	333	A.PP1(1)-1, A.PP1(1)-2, A.PP1(1)-3
						Execution	Second	Officials in commune 146 persons	After the first step training	Once a year	3,728	5	18,641	3,728	3,728	3,728	3,728	3,728	B.PP1(1)-1, B.PP1(1)-2, B.PP1(1)-3
						Execution	Third	Officials in zone and colline One association in all colline, Number of all collines is 65.	Before sowing	Once a year	1,547	5	7,734	1,547	1,547	1,547	1,547	1,547	B.PP1(1)-1, B.PP1(1)-3
						Monitoring & Evaluation	-	Non	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
No.6 Soil Fertility Improvement																			
						Planning & Coordination	-	Non	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP3(1)-3
						Execution	First	DPAE officials 6 persons	After decided the site	Once a year	329	5	1,647	329	329	329	329	329	A.PP3(1)-1, A.PP3(1)-2, A.PP3(1)-3
						Execution	Second	Officials in commune 146 persons	After the first step training	Once a year	3,636	5	18,182	3,636	3,636	3,636	3,636	3,636	B.PP3(1)-1, B.PP3(1)-2, B.PP3(1)-3
						Execution	Third	Officials in zone and colline One association in all colline, Number of all collines is 65.	Before sowing	Twice a year	1,506	10	15,058	3,012	3,012	3,012	3,012	3,012	B.PP3(1)-1, B.PP3(1)-3
						Monitoring & Evaluation	-	Non	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP3(1)-3
Total													120,526						

A: Program (PPIA), B: Sub-Program (PPIA), C: Project, D: Theme of Training, Unit cost includes cost for printing of materials, stationeries, meal and transport of trainees and so on.

Financial Resources		Project Menu Type	C	D	Training Program	Step of Cascade Level	Trainer	Target	Timing	Number of Training	Cost			Schedule					Number of Training Material in Annex
A	B										Unit	Qty.	Total	2013	2014	2015	2016	2017	
											BIF ('000)	Times	BIF ('000)						
Program 1: Production and Sustainable Food Security																			
SP 2: Upgrade and Rehabilitation of Irrigation Schemes																			
3.Marsh Development																			
No.1 Creation, Management, Accounting and Annual Plan of an Association																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each commune	Once a month, Number of all commune is 3.	30	180	5,400	1,080	1,080	1,080	1,080	1,080	B.PP1(1)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	333	5	1,665	333	333	333	333	333	A.PP1(1)-1, A.PP1(1)-2, A.PP1(1)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,728	5	18,641	3,728	3,728	3,728	3,728	3,728	B.PP1(1)-1, B.PP1(1)-2, B.PP1(1)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	After the second step training	Once a year	1,547	5	7,734	1,547	1,547	1,547	1,547	1,547	B.PP1(1)-1, B.PP1(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each commune	Once a month, Number of all commune is 3.	30	180	5,400	1,080	1,080	1,080	1,080	1,080	B.PP1(1)-3
No.2 Constitution and Management of Cooperative																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each commune	Once a month, Number of all commune is 3.	30	180	5,400	1,080	1,080	1,080	1,080	1,080	B.PP1(2)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	328	5	1,642	328	328	328	328	328	A.PP1(2)-1, A.PP1(2)-2, A.PP1(2)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,616	5	18,079	3,616	3,616	3,616	3,616	3,616	B.PP1(2)-1, B.PP1(2)-2, B.PP1(2)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	After the second step training	Once a year	1,497	5	7,483	1,497	1,497	1,497	1,497	1,497	B.PP1(2)-1, B.PP1(2)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each commune	Once a month, Number of all commune is 3.	30	180	5,400	1,080	1,080	1,080	1,080	1,080	B.PP1(2)-3
No.3 Organization, Management and Maintenance of Irrigation Facilities																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each commune	Once a month, Number of all commune is 3.	33	180	5,940	1,188	1,188	1,188	1,188	1,188	B.PP1(3)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	328	5	1,640	328	328	328	328	328	A.PP1(3)-1, A.PP1(3)-2, A.PP1(3)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,606	5	18,028	3,606	3,606	3,606	3,606	3,606	B.PP1(3)-1, B.PP1(3)-2, B.PP1(3)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	After the second step training	Twice a year	1,492	10	14,921	2,984	2,984	2,984	2,984	2,984	B.PP1(3)-1, B.PP1(3)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each commune	Once a month, Number of all commune is 3.	33	180	5,940	1,188	1,188	1,188	1,188	1,188	B.PP1(3)-3
No.4 Cropping Techniques of Rice and Vegetables																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each commune	Once a month, Number of all commune is 3.	55	180	9,900	1,980	1,980	1,980	1,980	1,980	B.PP1(4)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	338	5	1,691	338	338	338	338	338	A.PP1(4)-1, A.PP1(4)-2, A.PP1(4)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,851	5	19,255	3,851	3,851	3,851	3,851	3,851	B.PP1(4)-1, B.PP1(4)-2, B.PP1(4)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	After the second step training	Twice a year	1,601	10	16,013	3,203	3,203	3,203	3,203	3,203	B.PP1(4)-1, B.PP1(4)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each commune	Once a month, Number of all commune is 3.	55	180	9,900	1,980	1,980	1,980	1,980	1,980	B.PP1(4)-3
Total												180,073							

A: Program (PIIA), B: Sub-Program (PIIA), C: Project, D: Theme of Training, Unit cost includes cost for printing of materials, stationeries, meal and transport of trainees and so on.

Financial Resources		Project Menu Type	C	D	Training Program	Step of Cascade Level	Trainer	Target	Timing	Number of Training	Cost			Schedule					Number of Training Material in Annex
A	B										Unit	Qty.	Total	2013	2014	2015	2016	2017	
											BIF ('000)	Times	BIF ('000)						
Program 1: Production and Sustainable Food Security																			
SP 3: Intensification of Agricultural Production (plants and animals)																			
4. Seed Solidarity Chain																			
No.1 Creation, Management, Accounting and Annual Plan of an Association																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	Before second step training	Once a year	333	5	1,665	333	333	333	333	333	A.PP1(1)-1, A.PP1(1)-2, A.PP1(1)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	Before third step training	Once a year	3,728	5	18,641	3,728	3,728	3,728	3,728	3,728	B.PP1(1)-1, B.PP1(1)-2, B.PP1(1)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	Before sowing	Once a year	1,547	5	7,734	1,547	1,547	1,547	1,547	1,547	B.PP1(1)-1, B.PP1(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
No.7 Multiplication of Selected Seed																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	51	480	24,480	4,896	4,896	4,896	4,896	4,896	B.PP4(1)-3, B.PP4(2)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	349	5	1,747	349	349	349	349	349	A.PP4(1)-1, A.PP4(1)-2, A.PP4(1)-3, A.PP4(2)-1, A.PP4(2)-2, A.PP4(2)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	4,127	5	20,634	4,127	4,127	4,127	4,127	4,127	B.PP4(1)-1, B.PP4(1)-2, B.PP4(1)-3, B.PP4(2)-1, B.PP4(2)-2, B.PP4(2)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	Before sowing	Three times a year	1,724	15	25,862	5,172	5,172	5,172	5,172	5,172	B.PP4(1)-1, B.PP4(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	51	480	24,480	4,896	4,896	4,896	4,896	4,896	B.PP4(1)-3, B.PP4(2)-3
Total												154,044							
5. Livestock Promotion																			
No.1 Creation, Management, Accounting and Annual Plan of an Association																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	333	5	1,665	333	333	333	333	333	A.PP1(1)-1, A.PP1(1)-2, A.PP1(1)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,728	5	18,641	3,728	3,728	3,728	3,728	3,728	B.PP1(1)-1, B.PP1(1)-2, B.PP1(1)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	After the second step training	Once a year	1,547	5	7,734	1,547	1,547	1,547	1,547	1,547	B.PP1(1)-1, B.PP1(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
No.8 Livestock Promotion																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP5(1)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	328	5	1,642	328	328	328	328	328	A.PP5(1)-1, A.PP5(1)-2, A.PP5(1)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,616	5	18,079	3,616	3,616	3,616	3,616	3,616	B.PP5(1)-1, B.PP5(1)-2, B.PP5(1)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	After the second step training	Once a year	1,497	5	7,483	1,497	1,497	1,497	1,497	1,497	B.PP5(1)-1, B.PP5(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP5(1)-3
Total												112,845							

A: Program (PIA), B: Sub-Program (PIIA), C: Project, D: Theme of Training, Unit cost includes cost for printing of materials, stationeries, meal and transport of trainees and so on.

Financial Resources		Project Menu Type	C	D	Training Program	Step of Cascade Level	Trainer	Target	Timing	Number of Training	Cost			Schedule					Number of Training Material in Annex
A	B										Unit BIF ('000)	Qty. Times	Total BIF ('000)	2013	2014	2015	2016	2017	
Program 1: Production and Sustainable Food Security																			
SP 4: Development of Fishing and Fish Farming																			
		March			6. Pisciculture Promotion												No correspondence		
SP 5: Development of Fishing and Fish Farming																			
		March															No correspondence		
Program 2: Professionalization of Producers and Promoting Innovation																			
SP 6: Organization of Producers and their Capacity Building																			
		March			7. Capacity Building for Farmers Organization												This is covered by other trainings.		
SP 7: Development of Local Services and Innovation Project																			
		March															No correspondence		
SP 8: Rural Finance Project																			
		March			8. Improvement of Access to Microfinance												No correspondence		
SP 9: Research / Development																			
		March															No correspondence		
Program 3: Development of Industries and Agribusiness																			
SP 10: Experts Sectors																			
		March															No correspondence		
SP 11: Cash Crops and Animals																			
9. Agricultural Products Processing																			
No.1 Creation, Management, Accounting and Annual Plan of an Association																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	333	5	1,665	333	333	333	333	333	A.PP1(1)-1, A.PP1(1)-2, A.PP1(1)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,728	5	18,641	3,728	3,728	3,728	3,728	3,728	B.PP1(1)-1, B.PP1(1)-2, B.PP1(1)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	After the second step training	Three times a year	1,547	15	23,201	4,640	4,640	4,640	4,640	4,640	B.PP1(1)-1, B.PP1(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
No.9 Food Processing																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	42	480	20,160	4,032	4,032	4,032	4,032	4,032	B.PP6(1)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	339	5	1,697	339	339	339	339	339	A.PP6(1)-1, A.PP6(1)-2, A.PP6(1)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,882	5	19,408	3,882	3,882	3,882	3,882	3,882	B.PP6(1)-1, B.PP6(1)-2, B.PP6(1)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	After the second step training	Five times a year	1,615	25	40,374	8,075	8,075	8,075	8,075	8,075	B.PP6(1)-1, B.PP6(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	42	480	20,160	4,032	4,032	4,032	4,032	4,032	B.PP6(1)-3
Total												174,106							

A: Program (PIA), B: Sub-Program (PIA), C: Project, D: Theme of Training, Unit cost includes cost for printing of materials, stationeries, meal and transport of trainees and so on.

Financial Resources		Project Menu Type	C	D	Training Program	Step of Cascade Level	Trainer	Target	Timing	Number of Training	Cost			Schedule					Number of Training Material in Annex
A	B										Unit	Qty.	Total	2013	2014	2015	2016	2017	
Program 3: Development of Industries and Agribusiness																			
SP 12: Rural Infrastructure																			
10. Marketing Promotion																			
No.1 Creation, Management, Accounting and Annual Plan of an Association																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	333	5	1,665	333	333	333	333	333	A.PP1(1)-1, A.PP1(1)-2, A.PP1(1)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,728	5	18,641	3,728	3,728	3,728	3,728	3,728	B.PP1(1)-1, B.PP1(1)-2, B.PP1(1)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	After the second step training	Three times a year	1,547	15	23,201	4,640	4,640	4,640	4,640	4,640	B.PP1(1)-1, B.PP1(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
No.10 Marketing Promotion																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	34	480	16,320	3,264	3,264	3,264	3,264	3,264	B.PP7(1)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	333	5	1,665	333	333	333	333	333	A.PP7(1)-1, A.PP7(1)-2, A.PP7(1)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,728	5	18,641	3,728	3,728	3,728	3,728	3,728	B.PP7(1)-1, B.PP7(1)-2, B.PP7(1)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	After the second step training	Once a year	1,547	5	7,734	1,547	1,547	1,547	1,547	1,547	B.PP7(1)-1, B.PP7(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	34	480	16,320	3,264	3,264	3,264	3,264	3,264	B.PP7(1)-3
Total													132,988						
11. Handicraft Industry Promotion																			
No.1 Creation, Management, Accounting and Annual Plan of an Association																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	Before second step training	Once a year	333	5	1,665	333	333	333	333	333	A.PP1(1)-1, A.PP1(1)-2, A.PP1(1)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	Before third step training	Once a year	3,728	5	18,641	3,728	3,728	3,728	3,728	3,728	B.PP1(1)-1, B.PP1(1)-2, B.PP1(1)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	In Dry season	Three times a year	1,547	15	23,201	4,640	4,640	4,640	4,640	4,640	B.PP1(1)-1, B.PP1(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP1(1)-3
No.11 Handy Craft Promotion																			
					Planning & Coordination	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP8(1)-3
					Execution	First	DPAE officials	Officials in commune, 6 persons	After decided the site	Once a year	329	5	1,647	329	329	329	329	329	A.PP8(1)-1, A.PP8(1)-2, A.PP8(1)-3
					Execution	Second	Officials in commune	Officials in zone and colline, 146 persons	After the first step training	Once a year	3,636	5	18,182	3,636	3,636	3,636	3,636	3,636	B.PP8(1)-1, B.PP8(1)-2, B.PP8(1)-3
					Execution	Third	Officials in zone and colline	One association in all colline, Number of all collines is 65.	In Dry season	Once a year	1,506	5	7,529	1,506	1,506	1,506	1,506	1,506	B.PP8(1)-1, B.PP8(1)-3
					Monitoring & Evaluation	-	Non	All relevant officials in each level, Province: 2 persons, commun: 6 persons, zone: 16 persons, colline: 130 persons	Monthly visit to candidate site in each zone	Once a month, Number of all zones is 8. All zone consists of 65 collines.	30	480	14,400	2,880	2,880	2,880	2,880	2,880	B.PP8(1)-3
Total													128,464						
SP 13: Reform of DPAE																			
Z No correspondence																			
Program 4: Improvement of the Institution Frame																			
SP14 Improvement of the frame and condition of labor																			
12.Capacity Building for Local Officers and Technicians																			
This is covered by other trainings.																			
Grand Total ('000)													1,124,758						

A: Program (PIA), B: Sub-Program (PIA), C: Project, D: Theme of Training, Unit cost includes cost for printing of materials, stationeries, meal and transport of trainees and so on.

Chapter 7 Pilot Project for Validation of Draft Action Plan

7.1 Contents

The Project Team selected pilot projects from the proposed projects in the Draft Action Plan. The Draft Action Plan was formulated on the basis of the hypothesis that people’s main livelihood can be classified into three (3) types; 1) Marsh Agriculture Type, 2) Colline Agriculture Type and 3) Off-farm Type. Thus, we set projects menu corresponding to above three types.

The pilot project menu titled “Marsh Development” from projects described in the Draft Action Plan is chosen for Marsh Agriculture Type. Further, “Environment Protection”, “Soil Fertility Improvement”, “Selected Seed Solidarity Chain” and “Livestock Promotion” were chosen as pilot project menu for Colline Agriculture Type. “Agricultural Products Processing Promotion”, “Marketing Promotion” and “Handicraft Industry Promotion” were set as pilot project menu for Off-farm Type, because people who don’t possess farmland or have less land also can gain benefit from these projects.

Apart from the categorization based on livelihood, there is another classification from the view point of peace consolidation. As the Project aims reconciliation and reconstruction of community in the medium term, not only the aspect of livelihood improvement but also the aspect of peace consolidation to vulnerable people like widows, orphans, ex-combatants and so on, should be included in the criteria for selection of target associations. But circumstances are different according to a pilot project. In case of marsh development, the target must include all beneficiaries who cultivate in the marsh for livelihood improvement. In Colline Agriculture Type and Off-farm Type, associations supporting and/ or including vulnerable people were selected, while there are livelihood improvement activities and more public activities. The figure below shows classification of pilot projects from the view point of peace consolidation.

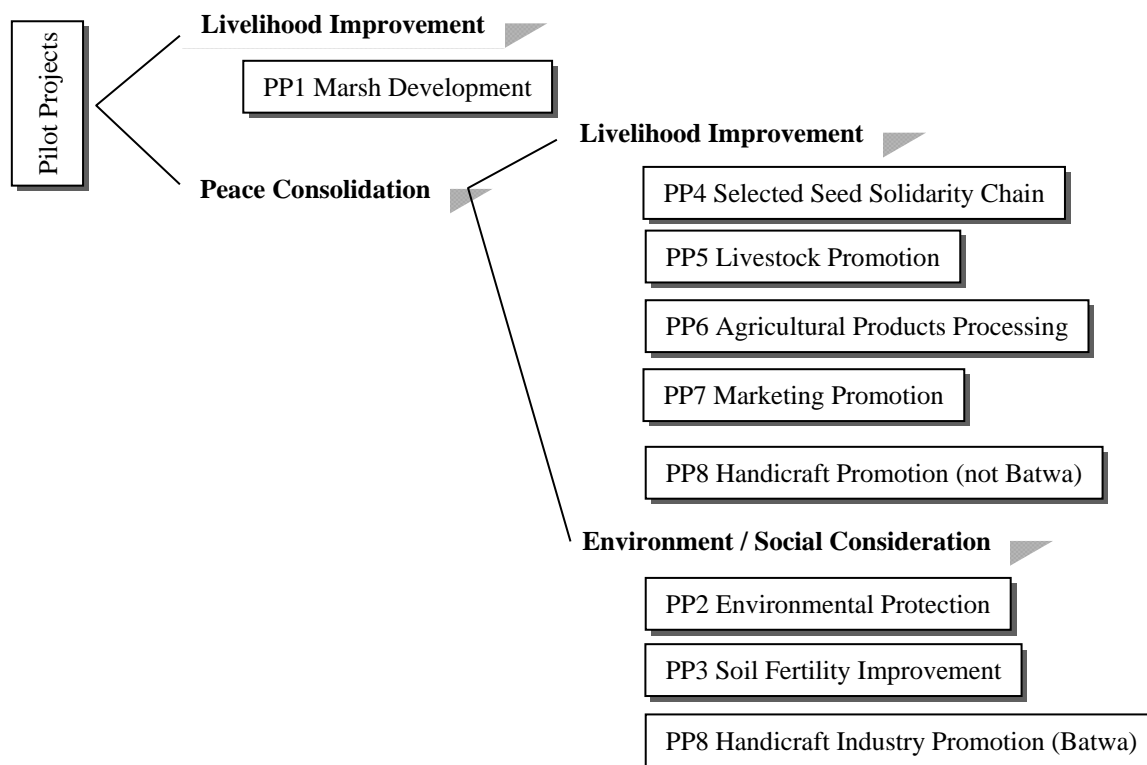


Figure 7.1 Classification of Pilot Projects from Social Consideration

Capacity development for local officers was carried out in stepwise trainings called “cascade training”.

Firstly, DPAE staff was trained in various fields by external trainers, and then, local staffs (zone and colline agricultural officers, colline chiefs, CDC members) were trained by DPAE staffs who were trainees of the initial training. Capacity development for association members was implemented through each pilot project.

Based on the above, contents of pilot projects are tabulated as below.

Table 7.1 Contents of Pilot Projects

Equivalent in PNIA Program	Equivalent in PNIA Sub-Program	Type	Project Menu in Draft Action Plan	Title of Pilot Project
Program 1	SP 2	Marsh Agricultural Type	3 Marsh Development	PP1 Marsh Development 1.1 Feasibility Study of Marsh Development 1.2 Environmental Impact Study 1.3 Marsh Development 1.4 Establishing and Strengthening the Water Management Units 1.5 Promotion of Rice Production during the Dry Season in Marsh 1.6 Promotion of Vegetable Production during the Rainy Season in Marsh
			1 Environment Protection	PP2 Environmental Protection 2.1 Grass Fixing in Contour Line 2.2 Afforestation in Colline 2.3 Nursery Construction 2.4 Environmental Awareness Seminar 2.5 Promotion of Fruit Tree Production
	SP 1	Colline Agricultural Type	2 Soil Fertility Improvement	PP3 Soil Fertility Improvement 3.1 Distribution of Chemical Fertilizer 3.2 Compost Production 3.3 Enhancing the Effectiveness of the Fertilizer Use by Mixing Chemical Fertilizer and Organic Manure
			4 Selected Seed Solidarity Chain	PP4 Selected Seed Solidarity Chain 4.1 Dissemination of Selected Seed 4.2 Strengthening the Seed Multiplication System 4.3 Seed Storage Construction
			5 Livestock Promotion	PP5 Livestock Promotion 5.1 Dissemination of Livestock 5.2 Strengthening the forage production 5.3 Strengthening the animal health
SP 3	Colline Agricultural Type	9 Agricultural Products Processing Promotion	PP6 Agricultural Products Processing Promotion 6.1 Establishment and Strengthening the Association 6.2 Agricultural Processing Training 6.3 Processing Machine Install	
		10 Marketing Promotion	PP7 Marketing Promotion 7.1 Market Research for Marketing of the Cash Crops 7.2 Establishment of the Marketing Information Providing System 7.3 Improvement of Access to Market	
		11 Handicraft Promotion	PP8 Handicraft Promotion 8.1 Establishment and Strengthening Association 8.2 Handicraft Training 8.3 Machine Installation	

7.2 Flow of Implementation and Information of PP

The initial draft plan of Pilot Projects was formulated in October 2012 and approved by JCC in November 2012. In order to explain the plan to communes, series of meetings were conducted in 3 communes. After obtaining their understanding, target associations were selected by colline officials including colline agricultural officers and then, series of meetings were held to explain each pilot project to each association. In parallel with implementation of cascade training, preparation was carried out and pilot projects were started in February 2013.

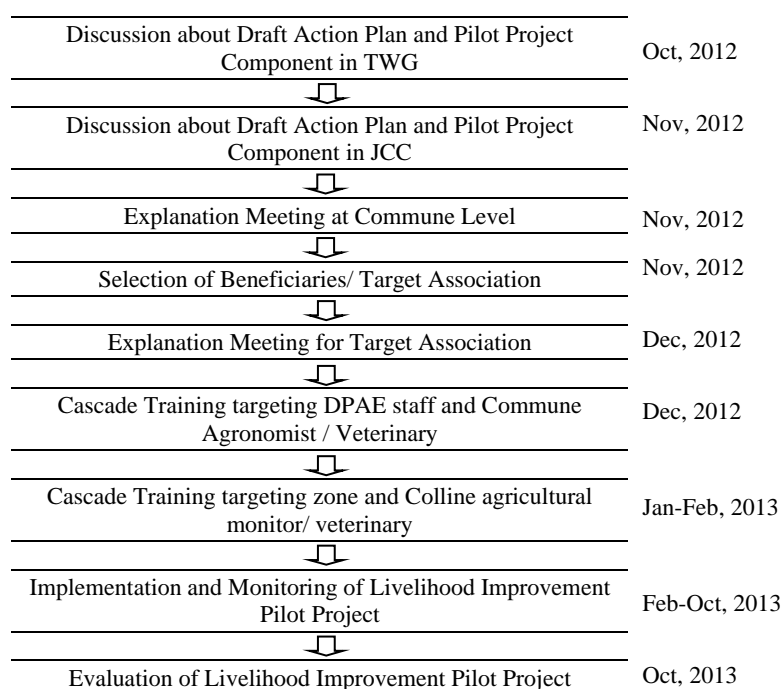


Figure 7.2 Flow of Implementation of Pilot Projects

The table below shows information of pilot projects. Type of pilot projects, collines in each commune, input provided and name of associations.

Table 7.2 Information of Pilot Projects

* Inputs and their quantities in the table are for each site.

Type	PP	Item	Sites (Name of marsh or colline) (and Associations)		
			Makebuko	Itaba	Bukirasazi
Marsh	1. Marsh: Phase 1		Nyamusuwaga	Rurembera	Kibuye
		Input	- Feasibility Study, - Irrigation Facility - Multipurpose Storage - Huller Machine + apparatus - Maintenance tools - Parcel Inventory		
		Training	1. Association management 2. Cooperative management 3. Organization management & maintenance 4. Watershed protection 5. Cropping techniques 6. Huller machine use		
		Trial	1. Rice trial 2. Vegetable trial		
	1. Marsh: Phase 2		Nyakigezi	Mutukura-Kamirange	Gishanga 1
		Input	- Feasibility Study - Irrigation Facility - Parcel Inventory		
	Training	- Organization management & maintenance			
Colline	2. Environment		Karoba (Dusubize Hamwe)	Mugomera (Haguruka Dukore)	Ruhinda (Dusubize Hamwe Dufashe Impfuvi)
		Input	- Banagrass seedling (12,000pc) - Grevillea seedling (480pc) - Calliandra seedling (4,800pc) - Avocad seedling (ave. 100pc) - Orange seedling (ave. 100pc) - Caring tools		
	Training	1. Association management 2. Environment protection 3. Seedling preparation & tree plantation			

Type	PP	Item	Sites (Name of marsh or colline) (and Associations)		
			Makebuko	Itaba	Bukirasazi
Colline	3. Soil			Rukobe I (<i>Turwanye Inzara</i>)	Rukoki (<i>Twiziganirize</i>)
		Input	- Potato (1,000kg) - Beans seed (40kg) - DAP (150kg), KCL (30kg), Manure (2.5t(=1 truck)*6)		
		Training	1. Association management 2. Soil fertility improvement 3. Compost making 4. Mixing chemical and organic fertilizer		
	Harvest			Potato 1,682kg	Potato 1,655kg
				Beans 166kg	Beans 26kg
	4. Seed		Nyamagandika (<i>Kerebuka</i>)	Kagoma (<i>Dutembere</i> <i>Mugufasha Impfuyi</i>)	Nyambuye (<i>Twikenure</i>)
		Input	- Potato (200kg) - Beans seed (9kg) - Cassava cutting (500pc) - Banana seedling (ave. 76pc) - DAP (33kg), KCL (20kg), UREA (5kg), Manure (2.5t(=1 truck)*4)		
		Training	1. Association management 2. Multiplication of selected seed 3. Demonstration of sowing 4. Seed selection		
	Harvest		Potato 1,341kg	Potato 1,185kg	Potato 494kg
			Beans 149kg	Beans 180kg	Beans 86kg
	5. Livestock		Muhororo (<i>Tuuzze Ikvi</i>)		
		Input	- 4 cows - Starter kit (medicine, concentrates)		
		Training	1. Association management 2. Livestock promotion, breeding techniques		
Off-farm	6. Processing		Mwaro-Mavuvu (<i>Hozimpfuyi</i>)	Gisikara (<i>Dukutsikivi</i>)	Ruvumu (<i>Ntidukumirane</i>)
		Input	- Workshop		
			Mixer (for sweet potato), Cooking tools	Milling machine	Top attaching presser, Processing tools
	Training	1. Association management			
		2. Food processing		2. Food processing	
	7. Marketing		Makebuko (<i>Avodep</i>)	Gihamagara (<i>Tugumye Urugo</i>)	Bukirasazi (<i>Dutature Amatati</i>)
		Input	- Storage - Bicycle (4pc) - Signboard - Path clearing tools		
		Training	1. Association management		
	8. Handicraft	For Non-Batwa	Mwaro-Ngundu	Macu	Kibere
			<i>Carpentry</i> (<i>Garukira Impfuyi</i>)	<i>Tile</i> (<i>Twiyubakireneza</i>)	<i>Brick</i> (<i>Duteze Imbere</i> <i>Umutumba Wacu</i>)
			Input	- Workshop	
	Training	Circular saw, Wood lathe	Wheelbarrow (3pc), Clay: 150,000 BIF	Brick presser, Wheelbarrow (3pc), Clay: 300,000 BIF	
		1. Association management			
For Batwa		Ceramic		Ceramic	
	Input	- Workshop, Pottery wheel, Wheelbarrow (3pc), Clay: 250,000 BIF			
	Training	1. Association management			
		2. Ceramic making		2. Ceramic making	

7.3 Verification Items

7.3.1 Basic Policy of Formulation of Draft Action Plan

(1) Promotion of Cooperative Activities for Recovery of Community

Cooperative activities were almost collapsed due to prolonged conflicts. In the target areas, the community is composed of very diverse people like aggressors/ victims during the conflict, widows and orphans, veterans, minority Batwa etc. Taking into consideration such situation, communities should be rebuilt through promotion of collaborative activities for community coherence by population and inclusion of the people in need of special attention to communities should be facilitated. To evaluate this, the various factors shall be observed through pilot projects and such factors are participation rate in the meeting, decision making process, parties, participation rate in the activities, implementation situation of the activities. Detailed explanation is summarized in Table 7.2.

(2) Implementation of Pilot Project Based on Principle of Equity

In parallel with implementation of marsh development as a pilot project, it was important to support people who did not possess land in marsh through improvement of colline type agriculture, as well as people who had no source of income from agriculture through improvement of livelihood. Hence the emphasis was such that sense of inequality among people should not be created during the implementation of the Project.

In addition, it was necessary to provide assistance to vulnerable people (widows, persons living with disabilities, etc.) and those who were not engaged in agriculture and livestock, so project components apart from agriculture and livestock i.e. crafts, pottery, etc. should be provided to avoid the disparities. To promote understanding among all communities and for supporting collective activities, pilot projects to be implemented by both i.e. agricultural producers and people living on non-agricultural sources, should be proposed. Detailed explanation is summarized in Table 7.2.

(3) Improvement of Road as a Starting Point for the Development of Communities and Development of a Sustainable Maintenance System

Improving access condition, particularly the rehabilitation and improvement of roads, was an important element to dramatically improve the outcomes of a project of community development. In Buraza commune, the poor condition of the Provincial Road 212 became one of the main reasons for hindrance in the development, and it was assumed that the rehabilitation of the road will greatly contribute to future community development of the commune. In addition, the Provincial Road 212 bears highly public character, as it connects many collines and Buraza commune to the market and the national road, and provides benefits of reaching to all population of the area. The establishment of maintenance system based on population participation is very important. Such an action was suitable as an initial process of organizing people and it would become base for implementation of community development activities.

Further, for sustainable use of laterite paved road, daily maintenance is required, and continuous explanations for awareness and sensitization about the Project were important to the surrounding villages from the planning stage. Therefore, in collaboration with local administrations, a maintenance system lead by the people themselves should be established and technical capacities of officials should be improved in order to instruct local residents. Detailed explanation is summarized in Table 7.2.

(4) Conflict Prevention Mechanism

Burundi is in transition from conflict phase to development phase, but its surrounding environment is unpredictable. Moreover, even in the province of Gitega, under the given conditions such as the

movement of IDPs, and various groups of people living in the areas affected by the conflict, it is highly effective to implement projects by paying attention to the perspectives whether a project encourages negative impact (do no harm principle), and / or diminish or eliminate such a factor (do maximum good principle).

The PNA (Peace-building Needs and Impact Assessment, "Analysis of needs and effects for peace-building") at national and project level will be conducted and information should be obtained in this regard. The results of PNA shall be accommodated and reflected in the design and implementation of the Project. At project level, during the implementation of pilot project, the factors examined were the reflection of needs from persons who in need of special attention, prevention of land conflict through evaluating decision making process, and advice/ opinions from local officers. In addition, land issues are crucial monitoring factors to be observed where pilot projects are held. Detailed explanation is summarized in Table 7.2.

(5) Capacity Building to Promote Sustainable Development of the Community

Through processes of community development starting from colline profiling, government officers and technical staffs need to be involved in planning and project implementation activities to build and enhance their capacity. Even after formulation of the Action Plan and the Manual, PCDC ought to be facilitated continuously, so that the counterparts and staffs of related organizations should have chances to practice with their own initiatives and their ownership should be fostered.

In parallel with the On the Job Training (OJT) carried out by the Project Team, various types of training will be conducted to administrative and technical staffs of governments. One of the aims of training is to consolidate a relationship between local administrations and sector ministries. Since different actors have different roles for community development, staffs in the central level should be trained for planning and policy making and staffs in the field level should be trained for technical skills.

The capacity building programs were conducted in Japan and in third countries, as well as inside of the host country. The selected persons from administrative or technical staff with appropriate position and capacity will work as instructors for future courses in the field. In addition, a system to implement appropriate training for government staffs outside the target areas of the Project should be also established. Detailed explanation is summarized in Table 7.2.

Table 7.3 Basic Policy for Formulation of Draft Action Plan (DAP)

DAP	Items to be Verified (Expected Outcome)	Indicators	Evaluation
<p>Basic Policy for Formulation of DAP</p> <p>① Promotion of Cooperative Activities for Recovery of Community</p> <p>② Pilot Projects Based on Principle of Equity</p> <p>③ Improvement of Road as a Starting Point for the Development of a Communities and Development of a Sustainable Maintenance System</p> <p>④ Conflict Prevention</p> <p>⑤ Capacity Building to Promote Sustainable Development of the Communities</p>	<p>Basic Policy for Formulation of DAP</p> <p>① Cooperative Activities are strengthened through implementation of pilot project.</p> <p>② The Project will benefit people in need of special attention who are target association.</p> <p>③ People living collines adjacent to the road will benefit by improvement of the transportation access through road rehabilitation and keep maintenance of the road sustainably.</p> <p>④ The Project will consider reflection of needs from persons who in need of special attention, prevention of land conflict.</p> <p>⑤ The local officers increase ability in formulation / implementation / monitoring and evaluation of plan.</p>	<p>① For target association/ beneficiaries</p> <ul style="list-style-type: none"> ✓ Participation rate in the meeting ✓ Decision making process ✓ Participation rate in the activities ✓ Implementation situation of the activities <p>② Participation rate in the activities of pilot project, and urgent pilot project of road rehabilitation</p> <p>③ For people living collines adjacent to the road</p> <ul style="list-style-type: none"> ✓ Implementation of the activities ✓ Attribution ✓ Participation rate of the maintenance training ✓ Participation rate of the maintenance ④ Decision making process, advice / opinions from local officers <p>⑤ For local officers</p> <ul style="list-style-type: none"> ✓ Degree of understanding of training they took ✓ Situation of work described in DAP ✓ Spontaneous advice, follow-up 	<p>① In target association/ beneficiaries,</p> <ul style="list-style-type: none"> ✓ High participation rate in the meeting ✓ High consideration for fair division of benefits in decision making ✓ High participation rate in the activities ✓ Good implementation situation of the activities <p>Those mean cooperative activities are strengthened.</p> <p>② Benefiting to people in need of special attention though off-farm pilot project and road rehabilitation and improve their livelihood.</p> <p>③ Benefiting local people through creating job opportunities by employment in the rehabilitation activities and high degree of participation to maintenance trainings and activities</p> <p>④ In decision making process, consideration for person who in need of special attention and land conflict are made well. Also, local officers consider well about those described above and provide advice.</p> <p>⑤ For Local officers</p> <ul style="list-style-type: none"> ✓ High Degree of understanding of training they took ✓ Good Situation of work described in DAP ✓ Frequently provision of spontaneous advice, follow-up <p>Those mean increase in ability of local officers</p>

All above illustrate each point of basic policy of Draft Action Plan with evaluation of them.

7.3.2 Measures for Promoting PCDC

(1) Consideration for People in Need of Special Attention

People in need of special attention (i.e. IDPs, widows and orphans) need to be actively included in development initiatives in the conflict affected country, since they are inclined to lose opportunities for livelihood improvement for several reasons. Draft Action Plan was designed to consider the following points to involve the people in need; 1) policy of support for people in need of special attention; 2) inclusiveness of people in need of special attention in cooperative activities and strengthening support for those people through off-farm activities. The Draft Action Plan therefore required affirmative selection of people in need of special attention as beneficiaries of “Off-farm” projects. In this Project, therefore “Off-farm” pilot projects are applied to collines with high percentage of people engaging in non-agriculture sectors.

In order to assess the inclusiveness of people in need of special attention, the Project examines from the point of view that to what extent socially vulnerable people are involved in associations’ activities. The Project expects off-farm pilot projects will benefit people in need of special attention who are members of target associations or who are assisted by target associations. The Project will evaluate each of off-farm pilot projects based on the below-mentioned criteria;

- i) People in need of special attention in the target associations;
 - ✓ Policy of assistance for people in need of special attention described in DAP is highly reasonable,
 - ✓ Participation rate in the meeting,
 - ✓ Inclusiveness in decision making,
 - ✓ Participation rate in the activities,
 - ✓ Implementation status of the activities.

- ii) People who are assisted by target association;
 - ✓ Policy of assistance for people in need of special attention described in DAP is highly reasonable,
 - ✓ Expansion of assistance will be confirmed,
 - ✓ Frequency of assistance will increase,

The indicators of this item are listed in the table.

(2) Improvement of Agricultural Production

Lessons learned from the pilot projects will contribute to better project design of PCDC. Especially, in a short term, the Project expects that outcomes like improved techniques and knowledge acquired from the pilot projects will enhance better development outcomes for agricultural projects to be implemented in PCDC. The Project presumes that if target associations show better understanding and practice of improved agricultural technique, the better outcomes (e.g. increased yield) the target associations obtain. The Project monitors understanding of improvements based on the result of farming study; progress of farming practice; and other improvements observed within the projects period.

(3) Capacity Building Activities Conducted at the First Stage of the Project

From the onset of formulating process of community development plan, government officers and technical staffs need to be involved in planning and project implementation process not only to make it feasible, but also to build their capacity. Even after the formulation of the Action Plan and the Manual, PCDC should be facilitated continuously, so that counterparts and staffs of related organizations should have chances to practice with their own initiatives and fostered ownership.

The pilot projects are aiming to achieve the following expected outcomes;

- i) Necessary technique for the projects will be acquired by local officers in the province and communes.
- ii) Necessary technique for implementation of the projects will be acquired by local officers in zones and collines.
- iii) Cascaded training system for transferring necessary technique from local officers in provincial level to beneficiaries will be strengthened.
- iv) Central officers will utilize capacity development program to be finalized in the end of the Project and training system in MINAGRIE/DPAE will be strengthened.

The Project evaluates the following points in order to assess the progress of the outcome. The Project considers that the below-mentioned subjects will represent highly established training system in MINAGRIE/DPAE, if the local officers 1) highly understand the contents of cascaded training; 2) fulfill the role described in Draft Action Plan; 3) frequently give spontaneous advices and follow-up the activities; and 4) highly understand the capacity development program held by MINAGRIE/DPAE. The indicators for this item shall be mentioned in the Table 7.3.

Table 7.4 Measure for Promoting PCDC

DAP	Items to be Verified (Expected Outcome)	Indicators	Evaluation
<p>Countermeasure</p> <p>① Consideration for People in need of special attention</p> <p>✓ Policy of support for people in need of special attention</p> <p>✓ Inclusiveness of people in need of special attention in cooperative activities and strengthening support for those people through Off-farm activities</p>	<p>Countermeasure</p> <p>① Off-farm pilot project will benefit people in need of special attention who are member of target association or those assisted by target association.</p>	<p>① In Off-farm activities pilot project; For people in need of special attention</p> <ul style="list-style-type: none"> ✓ Attribution ✓ Participation rate in the meeting ✓ Inclusiveness in decision making ✓ Participation rate in the activities ✓ Implementation situation of the activities <p>People who are assisted by target association</p> <ul style="list-style-type: none"> ✓ Attribution ✓ Details of Assistance ✓ Frequency of Assistance 	<p>① Benefits to people in need of special attention through Off-farm activities pilot project shall be evaluated through followings;</p> <p>For people in need of special attention;</p> <ul style="list-style-type: none"> ✓ Policy of assistance for people in need of special attention described in DAP have high adequacy ✓ High participation rate in the meeting ✓ High inclusiveness in decision making ✓ High participation rate in the activities ✓ Good implementation status of the activities <p>People who are assisted by target association</p> <ul style="list-style-type: none"> ✓ Policy of assistance for people in need of special attention described in DAP have high adequacy ✓ Expansion of assistance will be confirmed ✓ Frequency of assistance will increase
<p>② Improvement of agricultural project described in PCDC</p> <p>③ Cascade training will be taken at the first stage of the project</p>	<p>② Improvement Points will contribute to effect of agricultural project.</p> <p>③ i) Necessary technique for the project will be acquired by local officers in province and commune. ii) Necessary technique for implementation of the project will be acquired by local officers in zone and colline. iii) Cascade training system for transferring necessary technique from local officers in provincial level to beneficiaries will be strengthened. iv) Central officers will utilize capacity development program to be finalized in the end of the Project and training system in MINAGRIE/DPAE will be strengthened.</p>	<p>② High degree of understanding; High progress of practice; of technique with improvement based on agricultural survey</p> <p>③ For local officers;</p> <ul style="list-style-type: none"> ✓ Degree of understanding of cascade training ✓ Status of filling the role of local officers described in Draft Action Plan ✓ Spontaneous advice, follow-up ✓ Degree of understanding of officer in MINAGRIE on capacity development program 	<p>② High degree of understanding and practice of technique with improvement based on agricultural survey show contribution of those points to expected outcome of the project.</p> <p>③ For local officers;</p> <ul style="list-style-type: none"> ✓ High degree of understanding of cascade training ✓ Good status of filling the role of local officers described in Draft Action Plan ✓ Frequent spontaneous advice, follow-up ✓ High degree of understanding of officer in MINAGRIE on capacity development program will show high degree of establishment of training system in MINAGRIE/DPAE.

7.4 Monitoring Structure

Pilot projects are being monitored by officers of MINAGRIE, administrators of Gitega Province and the Project Team.

Government officials from MINAGRIE establish the monitoring structure; Zone Agronomist is in charge of collecting monitoring reports from each of the collines every week. After receiving reports from Zone Agronomist, the Commune Agronomist submits monthly monitoring report to the Chief of DPAE in the monthly meeting convened at the MINAGRIE. Colline Chief and CDC, on the administrative side, regularly monitor activities of target associations. They are responsible for reporting to the commune administration through Zone Chief. For collecting information, government officials from the both lines ideally hold information sharing sessions in weekly security meeting. Lastly, the Project Team monitors the entire process of pilot project implementation structure in the figure below.

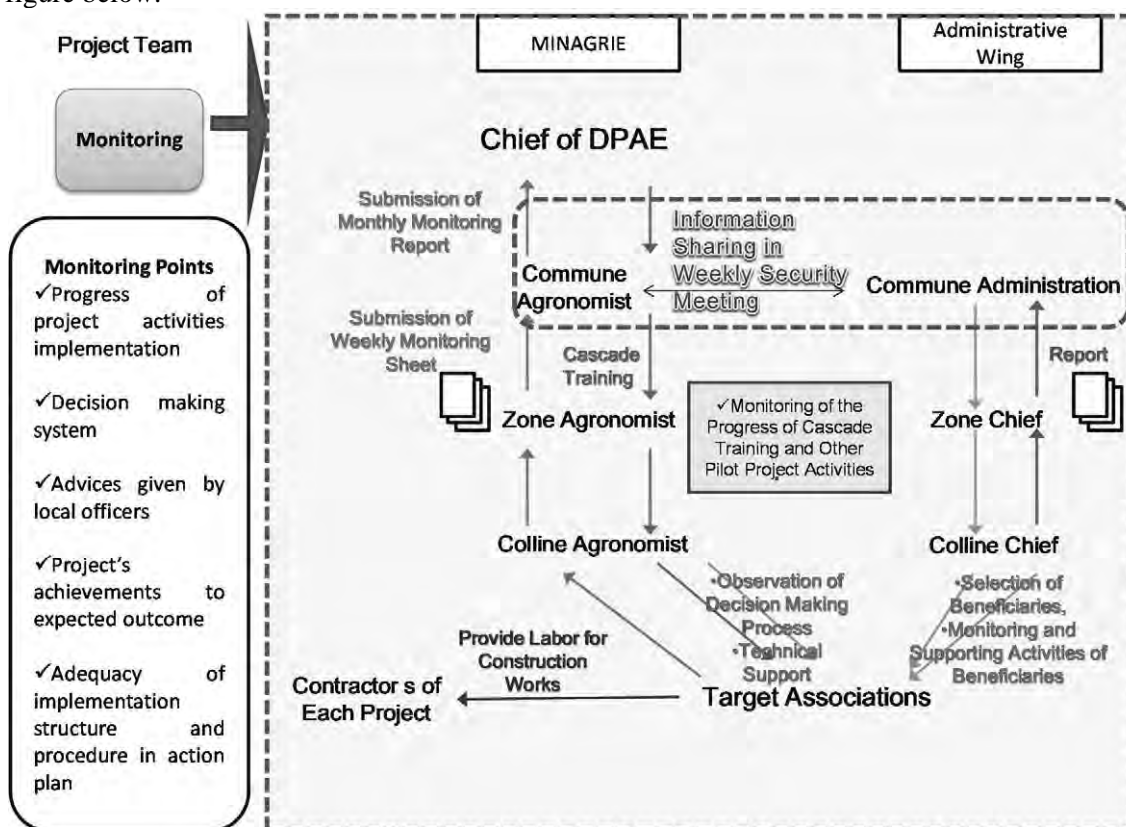


Figure 7.3 Monitoring Structure of Pilot Projects

7.4.1 Monitoring Items of Each Project

Since pilot projects are carried out to verify the items explained above, they should be monitored during implementation of pilot projects. But targets of verification items vary according to purposes so that each pilot project has several verification items with different purposes. Relationships between verification items and pilot projects are sorted in the table below.

Table 7.5 Targets of Verification Items

Level	Verification Item	Target Pilot Project
Basic Policy	1. Cooperative activity	All projects
	2. Equity	Off-farm pilot projects
	3. Road improvement	Road rehabilitation
	4. Conflict prevention	All projects
	5. Capacity building	Capacity building of government staff (all projects)
Measures	1. People in need	Off-farm pilot projects
	2. Agricultural production	Marsh & colline agriculture type pilot projects
	3. Capacity building	Capacity building of local people (all projects)

Table 7.6 Verification Items of Each Pilot Project

Type	Projects	Verification Item							
		Policy					Measures		
		1 Coop.	2 Equity	3 Road	4 Confl.	5 Capa.	1 In need	2 Agri.	3 Capa.
Marsh Agriculture PP	1. WUA	○			○	○		○	○
	2. Rice	○			○	○		○	○
	3. Vegetable	○			○	○		○	○
Colline Agriculture PP	1. Environment	○			○	○		○	○
	2. Soil	○			○	○		○	○
	3. Seed	○			○	○		○	○
	4. Livestock	○			○	○		○	○
Off-Farm PP	1. Processing	○	○		○	○	○		○
	2. Marketing	○	○		○	○	○		○
	3. Handicraft	○	○		○	○	○		○
Road Rehabilitation			○	○	○			○	

Item “Pilot Projects Based on Principle of Equity” (Equity) brought off-farm pilot projects targeting association including socially vulnerable people with less land as members or supporting such people. This item will be verified through achievement to expected outcome of each off-farm type pilot project.

Item “Improvement of agricultural project described in PCDC” (Agricultural Production) shall be verified through achievement to expected outcome of each marsh agricultural type and colline agricultural type pilot project.

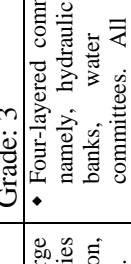
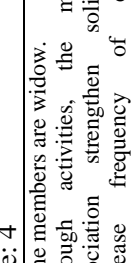
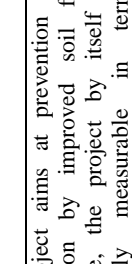
Therefore, 1) Promotion of Cooperative Activities through Implementation of pilot project, 2) Conflict Prevention Mechanism (In off-farm pilot projects, “Conflict Prevention Mechanism/Consideration for People in need of special attention”), 3) Capacity Building for Local Officers, 4) Capacity Building for Associations’ members were picked up as monitoring item from next section.

7.5 Summary of Results of Pilot Project

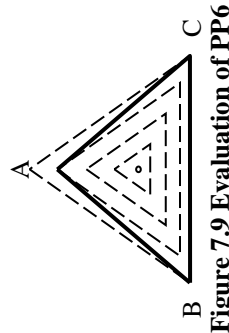
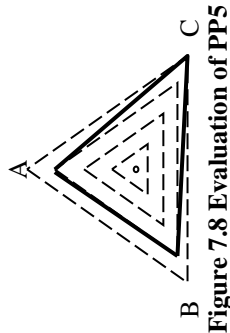
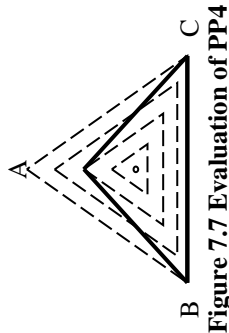
7.5.1 Summary of Overall Results

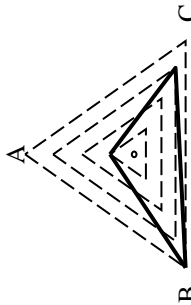
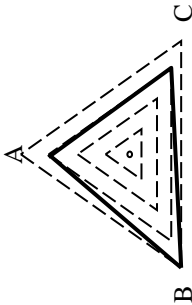
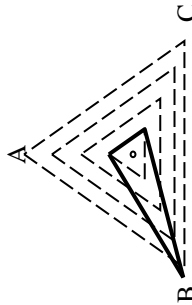
Results of pilot project are evaluated by using 5 grades in the aspects of economic impact, social consideration and coherence of association. Maximum positive grades is 5 and minimum is 1. The summary is described in the following table and detailed results are explained from 7.6.

Table 7.7 Summary of Results of Pilot Projects

PP	Evaluation			Figure
	A. Economic Impact	B. Social Consideration	C. Coherence of Association	
PP1: Marsh Development	<p>Grade: 4</p> <ul style="list-style-type: none"> ♦ Apart from the rice sales, association members engaged in this project will gain profit from rice milling activities and rice bran sales. Benefit will be utilized for the project management of Marsh committee members. 	<p>Grade: 2</p> <ul style="list-style-type: none"> ♦ Marsh development involved a large number of beneficiaries. The beneficiaries are specified by the geographical condition, so there is no discrimination among them. 	<p>Grade: 3</p> <ul style="list-style-type: none"> ♦ Four-layered committees were established namely, hydraulic blocks, left and right banks, water intakes, and marsh committees. All hydraulic blocks were registered in each commune as an association. The marsh committee is in charge of storage management, milling activity, and facility maintenance. 	 <p>Figure 7.4 Evaluation of PP1</p>
PP2: Environment Protection	<p>Grade: 2</p> <ul style="list-style-type: none"> ♦ The association is ready to sell seedling. However, the price of seedling is around 50 BIF and this amount cannot cover input. It is necessary to consider promotion of impact for environmental protection with other activities in the midterm. 	<p>Grade: 4</p> <ul style="list-style-type: none"> ♦ Some members are widow. ♦ Through activities, the members of association strengthen solidarity and increase frequency of collaborative activities. ♦ Necessary inputs were distributed in fair and transparent way and no conflicts occur on distribution of materials. 	<p>Grade: 4</p> <ul style="list-style-type: none"> ♦ Participation rate in the activities is good. ♦ The members received inputs and technical training and opportunity of collective work was increased. Hard works such as contour ditch digging were carried out by all members. ♦ In addition, monitoring committee for nursery bed was established by themselves and system for supervision on afforestation and nursery was formulated. 	 <p>Figure 7.5 Evaluation of PP2</p>
PP3: Soil Fertility Improvement	<p>Grade: 3</p> <ul style="list-style-type: none"> ♦ This project aims at prevention of soil degradation by improved soil fertility. Therefore, the project by itself is not necessarily measurable in terms of profitability. Sales profit from the vegetable seeds is fluctuated according to the climate of the year, market price and other factors. 	<p>Grade: 5</p> <ul style="list-style-type: none"> ♦ Some members are widows and IDPs. ♦ Association members consider fair division of inputs. ♦ Contribution to association is fair among members including socially vulnerable members. 	<p>Grade: 4</p> <ul style="list-style-type: none"> ♦ Participation rate in the activities is good. ♦ The members received inputs and technical training, and opportunity of collective work was increased. After technical training on compost making and effective application of fertilizer, association members teach techniques each other and participate in planting and weeding activities. 	 <p>Figure 7.6 Evaluation of PP3</p>

Evaluation			
PP	A. Economic Impact	B. Social Consideration	C. Coherence of Association
	<p>Grade: 3</p> <ul style="list-style-type: none"> Although benefit is rather limited as other on-farm pilot projects, seed solidarity chain, which guarantees sustainability of agricultural activity, is functioning and vegetables (potatoes and beans) are sold at last. If qualified selected seeds push up agricultural activities, the project contributes to not only to the increased agricultural productivity, but also income generation of the local people. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Some members are widows and IDPs. The members distributed seeds to other associations after they secured seeds for themselves, and sold remaining. Solidarity chain which gives seeds to other association was applied. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Participation rate in the activities is high. The members received inputs and technical training, and opportunity of collective work was increased. After technical training on sowing rate and application amount of fertilizer, association members teach techniques each other. Committees for management of seed storage and monitoring were established, and they registered seed and collected store fee weekly.
PP4: Selected Seed Solidarity Chain	<p>Grade: 4</p> <ul style="list-style-type: none"> Livestock breeding can be alternative core business for the farmers as it gets growing. With the solidarity chain of milk cow and milk producing, association can obtain rather stable profit throughout a year. If association members improve milking capacity they can earn more profit. 	<p>Grade: 4</p> <ul style="list-style-type: none"> Some members are widows and IDPs. Association considers well for fair division, and no conflicts happened. Solidarity chain which gives calves to other association was applied. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Participation rate in the activities is high. A calendar for all activities was authorized among members and they take care cows well by rotation. Salinity committee was established and started to check animal health.
PP5: Livestock Promotion	<p>Grade: 4</p> <ul style="list-style-type: none"> Associations have already started to sell their products and could get small benefit. (Milling) As needs for the milling machines have been observed in the pilot project, reducing the operational cost is the key for sustainability of this activity (Donut Making) Donut business can be a good sideline business for female workers, when it gets on the track (Banana wine) This activity is also characterized as a sideline business as well. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Some members are widows, IDPs and orphans. Widows' participation rate in the activities is high. Through activities, members of association strengthened solidarity and increased frequency of collaborative activities. They support activities for vulnerable people such as small land holders. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Participation rate in the activities is high. Action plan on agro-alimentary processing business of association was prepared and elaborated by themselves. And they started collaborative activities.
PP6: Agricultural Products Processing Promotion			



Evaluation		C. Coherence of Association		Figure
PP	A. Economic Impact	B. Social Consideration	C. Coherence of Association	Figure
PP7: Marketing Promotion	<p>Grade: 3</p> <p>This project is directly related to the livelihood improvement of those who engage in agricultural activities. However, considering the possible shipping volume and store facilities, effect of value-addition by shipping adjustment is still limited.</p>	<p>Grade:5</p> <ul style="list-style-type: none"> Some members are IDPs and widows. IDPs members' participation rate in the activities is high and they are active. Through activities, members of association strengthen solidarity and increase frequency of collaborative activities. 	<p>Grade: 4</p> <ul style="list-style-type: none"> Participation rate in the activities is good. Action plan on storage business of association was prepared and elaborated. They started collaborative activities. Decision making system is well established and cash flow of storage business is managed. 	 <p>Figure 7.10 Evaluation of PP7</p>
PP8: Handicraft Industry Promotion (not Batwa)	<p>Grade: 4</p> <ul style="list-style-type: none"> Profitability of the off-farm activities vary according to the respective pilot projects. Generally, however, people can earn stable income during agricultural off-peak season. (Tile making) Tile making is considered as a side business in agricultural off-season for farmers. However, if working ratio is improved, association members can obtain sufficient amount of money. (Brick making) Brick making is also considered as a side business in agricultural off-season for farmers. (Carpentry work) Carpentry work is the single most profit making activity of all the pilot projects and economic impact on the workers are considered to be very high. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Some members are widows, IDPs and handicapped persons. IDP and widows' participation rate in the activities is high. Through activities, members of association strengthen solidarity and increase frequency of collaborative activities. They support activities for vulnerable people such as orphans and farmers who do not have own field. 	<p>Grade: 4</p> <ul style="list-style-type: none"> Participation rate in the activities is good. Action plan on handicraft business of association was prepared and elaborated by themselves, and they started collaborative activities. 	 <p>Figure 7.11 Evaluation of PP8 (not Batwa)</p>
PP8: Handicraft Industry Promotion (Batwa)	<p>Grade: 2</p> <ul style="list-style-type: none"> Towa pottery business is rather niche business and demand stimulation of the products are required. As the unit price of the products is very cheap, it is difficult to boost the benefit from the pilot project. In order to diversify the products, Twa attempted value addition of their traditional pottery products by coloring them. Marketing of the products (acquiring market needs, sales strategy etc.) is a key for the growth of income. 	<p>Grade: 5</p> <ul style="list-style-type: none"> Batwa is poor living on self-sufficient and target to be supported. Through activities, members of association strengthen solidarity and increase frequency of collaborative activities. 	<p>Grade: 2</p> <ul style="list-style-type: none"> Batwa do not have custom of collective work and association was newly established for this pilot project. Participation rate in the activities was not good at the beginning. However, because of official registration as an association, members were motivated for activity. At the beginning, they did not like collective work. However, they became active gradually and participation rate became higher. 	 <p>Figure 7.12 Evaluation of PP8 (Batwa)</p>

7.5.2 Summary of Economic Impact

Economic impacts for all pilot projects are summarized below. Note that, initial costs are not included in calculation, since it is quite difficult for local people to cover these costs at present. Labor fee for association members is not included in calculation as well, because activities are carried out for their livelihood improvement.

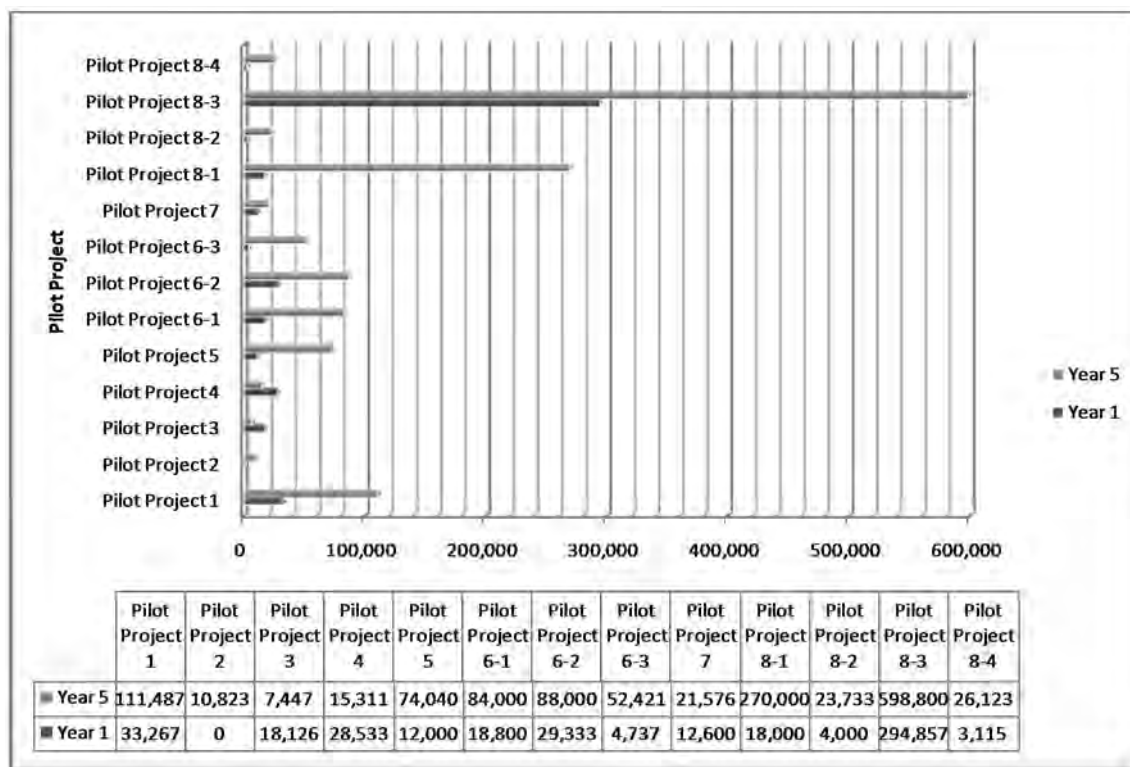


Figure 7.13 Estimated Income per Person


As for the agriculture project, milling activities in pilot project for marsh development can generate additional source of income for the subsistence rice farmers, despite that it is difficult to cover all the living cost by itself. Also, livestock activities (PP5) will create opportunities for breeders to earn a living; presumably, they can earn more if they overcome technical challenges in breeding milk cows, milking, selling and processing milk products.

Regarding the off-farm pilot project, carpentry (PP8-3) can be the single project which can generate sufficient income for those who engage in the work, thanks for rather strong demand for furniture and high unit cost of each item. As for other off-farm activities, food processing pilot projects and handicraft promotion activities offer some opportunities for income generation not only for farmers, but also for those who are in the socially and physically vulnerable positions. Milling activities (PP6-1), donuts making (PP6-2) and banana wine brewing (PP6-3) produce slim but sufficient profit, although it is fairly difficult to replace for other activities as permanent work. Tile making (PP8-1) and brick making (PP8-2), though they are only practiced in agricultural off-peak season, can be stable income source, if workers increase the operating time, considering the needs for these products. Pottery work (PP8-4) also creates some income earning opportunities as well as social platform for Tuwa people. However, in order for the products to be commercially distributed to the market, strategic marketing planning should be required.

Environmental protection (PP2) and soil fertility project (PP3) are the projects aiming at conservation of environment and improvement of agricultural productivity. The projects by themselves are not necessarily measurable in terms of profitability.

7.6 Pilot Projects at Marsh Agriculture Type

7.6.1 Pilot Project 1: Marsh Development

<p>PP1: Marsh Development Equivalent in PNIA Program 1: The durable increase of the production and the food security Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands</p>		
Target area	<p>Phase 1 (as urgent pilot project of marsh development + beneficiary support); Nyamsuwaga marsh in Makebuko, Rurembera marsh in Itaba, Kibuye marsh in Bukirasazi</p> <p>Phase 2 (pilot project of marsh development); Nyakigezi marsh in Makebuko, Mutukura- Kamirange marsh in Itaba, Gishanga1 marsh in Bukirasazi</p>	 <p>Formulating marsh development committee at newly constructed facility.</p>
Background Purposes	<p>Marshes have high potential as farmland, so marsh development will contribute to achieve regional food security and livelihood improvement of the people through production increase with appropriate farming practices on rice and vegetable. On the other hand, from a viewpoint of community regeneration which the Project is aiming, maintenance of irrigation facilities and water management will facilitate community activities and contribute to community regeneration through arising people's sense of togetherness.</p> <p>This pilot project will contribute to increase the rice and vegetable production by providing irrigation facilities at first. In Phase 1 of marsh development, irrigation facility was constructed in 3 marshes (Nyamuswaga, Rurembera and Kibuye) as a part of the urgent pilot project and various technical supports to beneficiaries followed. In Phase 2, irrigation facility was constructed in 3 marshes (Nyakigezi, Mutukura- Kamirange and Gishanga1) as a part of the pilot project but technical supports were not provided due to time constraints of the entire project.</p> <p>The technical supports to beneficiaries aimed production increase through adapting improved farming practices. Additionally, they will contribute to strengthen implementation capacity and technical skills of Commune Agronomists and Colline agricultural monitors.</p>	
Contents		
<p>< 1.1 Feasibility Study of Marsh Development ></p> <ol style="list-style-type: none"> 1 Selection of target marshes through discussion among stake holders 2 Holding sensitization meetings with beneficiaries with representatives from stake holders 3 Selection of a consultant to conduct a feasibility study 4 Evaluation and acceptance of the results of feasibility study by technical staff of MINAGRIE <p>< 1.2 Environmental Impact Assessment ></p> <ol style="list-style-type: none"> 1 Study of the natural condition at present 2 Holding sensitization meetings with local people 3 Evaluation of positive and negative impacts of the project to the natural condition 4 Study of the remedial measures to minimize influences of the project 5 Submission of the assessment report to the Ministry of Environment for approval <p>< 1.3 Marsh Development ></p> <ol style="list-style-type: none"> 1 Selection of a contractor to implement construction works for irrigation facilities based on the results of the feasibility study 2 Implementation of the construction works by the contractor with supervision of the donor, MINAGRIE or DPAAE 3 Consideration to create job opportunities for local people during construction 4 Final inspection of the completed facilities and handover facilities 		

<p>PP1: Marsh Development Equivalent in PNIA Program 1: The durable increase of the production and the food security Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands</p>			
<p>< 1.4 Slope protection > 1 Selection of protection area based on the results of the feasibility study 2 Holding sensitization meeting with beneficiaries to awareness of slope protection 3 Procure fixing grass and training on how to fix grasses by contour line 4 Evaluation of condition of fixed grasses with officials of MINAGRIE, DPAAE, Commune, Colline</p> <p>< 1.5 Establish and Strengthen Water Users Association (WUA) > 1 Holding group formation meeting and selection of leaders 2 Formulation of a regulation to designate roles and responsibilities of members and leaders, a way of selection of board members, duties and penalties for maintenance of irrigation facilities, etc. 3 Holding of training to leaders for management of organization and maintenance of facilities 4 Supporting the process by colline chief, agronomists and officials of a commune</p> <p>< 1.6 Rice Production Promotion during Rainy Season > 1 Coordination of Stakeholders on Rice production 2 Selection of trial farm and farmers working on trial farm 3 Preparation of cropping calendar 4 Procurement and distribution of inputs 5 Provision of technical guidance and field practice 6 Conduct site visit/exchange visit to advanced area of rice cultivation 7 Monitoring of activity by Monitoring committee organized for the program</p> <p>< 1.7 Vegetable Production Promotion during Dry Season > 1 Coordination of Stakeholders on Vegetable production 2 Selection of trial farm and farmers working on trial farm 3 Preparation of cropping calendar 4 Procurement and distribution of inputs 5 Provision of technical guidance and field practice 6 Conduct site visit/exchange visit to advance area of vegetable cultivation 7 Monitoring of activity by Monitoring committee organized for the program</p>			
Structure of Implementation	<p>The diagram illustrates the implementation structure. At the top, the Contractor and Project Team oversee the Implementation. Below them, the Chief of DPAAE (division of Training, Technical, Extension, Research and Development and Support of OPA) and the Chief of DPAAE (division of vegetable production) are shown. The Chief of DPAAE (vegetable production) is responsible for supervising seed procurement. The Commune Agronomist and Commune Administration are linked by 'Sharing Information'. The Commune Agronomist oversees the Zone Agronomist, who in turn oversees the Colline Agronomist. The Commune Administration oversees the Zone Chief, who oversees the Colline Chief. The Colline Chief oversees the CDC. The Target Association is at the bottom, receiving input from the Colline Agronomist and Colline Chief. Key activities include: 'Hold Monthly Meeting / Monitor Progress', 'Supervise Distribution of Seedlings and grass / Hold Weekly Meeting / Supervise Progress', 'Supervise Procurement of Seed', 'Supervise Distribution of Seedlings / Hold Weekly Security Meeting / Supervise Progress', 'Demonstration of planting of seedlings, grass fixing, contour making / Follow-up of activities', 'Observing Selection', 'Selection of beneficiaries / Monitoring of Activities of beneficiaries', and 'Grow seedlings of tree for agro-forestry, Afforestation and Fruit production / Construction of Nursery, Fixing grass in contour line'.</p>		
Input	<p><Materials> -Irrigation facilities -Storage and office</p>	<p><Personnel resource> -DPAAE staffs -Commune technical and</p>	<p><Others> -Feasibility study and Environmental impact assessment</p>

PP1: Marsh Development			
Equivalent in PNIA Program 1: The durable increase of the production and the food security			
Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands			
	-Agricultural equipment (Milling machine, Office furniture, scales, shovels and compactors, etc) - Agricultural input (Rice and vegetable seed, fertilizer, chemical, etc)	administration staffs -Zone chief and agronomist -Colline technical and administration staffs - Colline chief and CDC members -Farmers (for demonstration, water user association) -JICA Study team and Contractor	-Training (management of committee, management and operation of facilities, Rice and Vegetable production, Huller machine management and operation) -Seminar -Sensitization meeting - Regular meeting
Expected Outcome		Result	
i) To be provided irrigation facilities		i) Irrigation facilities were constructed at Nyamusuwaga, Rurembera and Kibuye marsh in Phase 1 of marsh development, as a part of urgent pilot project on November 2012 with participation of local administration and beneficiary organization as procedures explained in Chapter 8. The same methodology was applied for Phase 2 and irrigation facilities were constructed at Nyakigezi, Mutukura-Kamirange and Gishanga1 marsh.	
ii) To be Selected good quality seeds suitable for soil characteristic and environment		ii) Procedure of variety selection was followed by undertaking interview to research organization (ISABU) about suitable variety on rice and then decided four varieties. Selected rice seeds were analyzed by ONCCS laboratory to qualify the seed quality. Selection of vegetables was made through discussion between project team and beneficiaries. Recommended varieties of vegetable were decided by obtaining advice from DPAE crop officers. Selection of demonstration site and farmers were done through participation of Marsh committee members, Colline chief, Colline agricultural monitors, CDC members.	
iii) To be introduced appropriate farming practices to selected good quality seeds		iii) In general, members of association and the selected farmers were trained (theoretical training, study tour and field practices) on the improved farming practices of rice and vegetables through the adaptability trial. As for the rice cultivation practices, project introduced dike construction in order to control water and to apply fertilizer. Trained farmers understood the farming practices they learned and selected farmers could increase their rice production.	
iv) To be strengthened water user association to secure basic production and to conduct systematic operation and maintenance of irrigation		iv) Marsh committee members and hydraulic block committee members were trained about organization management and facility maintenance. Most of members understood the importance of these activities. The status and rules were prepared by Marsh Committee members supported by MINAGRIE. The status of hydraulic committee was approved by the Commune administration as an association. Monitoring committee was established to supervise activities of marsh committee. Beneficiaries have started maintenance activities in hydraulic block.	
v) To be introduced post-harvest practices and to reduce harvest losses		v) Beneficiaries were trained on the optimal harvest time to reduce production by rats and birds' damage, shattering due to over matured. Training on milling machine operation was conducted theoretically and practically. After training, the project made follow-up training and monitoring regularly.	
vi) To be introduced appropriate storage techniques on Rice and to be reduced storage		vi) Beneficiaries were trained on the importance of rice drying and optimal moisture content of rice (13 % moisture) and how to preserve	

PP1: Marsh Development																			
Equivalent in PNIA Program 1: The durable increase of the production and the food security																			
Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands																			
loss and quality degradation	rice at the storage in good condition. Storage management system was established and marsh committee members received training on accounting and management system. For the vegetables, they are not harvested.																		
vii) To be systematically conducted a series of activities of 1 to 5 through the marketing-aware	vii) This pilot project through activities of i) to v) initiated the introduction of selected suitable varieties, good prospection of accessibility of quality seed, and improved farming practices. In the future, beneficiaries need technically and systematically follow-up in order to increase the production, to establish extension system and to find sales rout for extra rice by increasing of production.																		
	2012										2013								
Month	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
<1.1 Feasibility Study of Marsh Development >																			
1 Selection of target marshes through discussion among stake holders	■																		
2 Holding sensitization meetings with beneficiaries with representatives from stake holders		■	■																
3 Selection of a consultant to conduct a feasibility study			■																
4 Evaluation and acceptance of the results of feasibility study by technical staff of MINAGRIE																			
<1.2 Environmental Impact Assessment >																			
1 Study of the natural condition at present	■	■																	
2 Holding sensitization meetings with local people		■																	
3 Evaluation of positive and negative impacts of the project to the natural condition					■														
4 Study of the remedial measures to minimize influences of the project					■														
5 Submission of the assessment report to the Ministry of Environment for approval					■														
<1.3 Marsh Development >																			
Month (2012/2013)	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
1 Selection of a contractor to implement construction works for irrigation facilities based on the results of the feasibility study				■	■														
2 Implementation of the construction works by the contractor with supervision of the donor, or local officials					■	■	■	■	■										
3 Consideration to create job opportunities for local people				■															

PPI: Marsh Development																			
Equivalent in PNIA Program 1: The durable increase of the production and the food security																			
Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands																			
during construction																			
4 Final inspection of the completed facilities and handover facilities																			
< 1. 4 Slope protection >																			
1 Selection of protection area based on the results of the feasibility study																			
2 Holding sensitization meeting with beneficiaries to awareness of slope protection																			
3 Procure fixing grass and training on how to fix grasses by contour line																			
4 Evaluation of condition on fixed grasses with officials of MINAGRIE, DPAAE, Commune, Colline																			
<1.5 Establish and Strengthen Water Users Association (WUA) >																			
1 Holding group formation meeting and selection of leaders																			
2 Formulation of a regulation and responsibilities of members and leaders for maintenance of irrigation facilities, etc.																			
3 Holding of training to leaders for management of organization and maintenance of facilities																			
4 Supporting the process by colline chief, agronomists and officials of communes																			
< 1.6 Rice Production Promotion during Rainy Season>																			
Month	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
1 Coordination of Stakeholders on Rice production																			
2 Selection of trial farm and farmers working on trial farm																			
3 Preparation of cropping calendar																			
4 Procurement and distribution of inputs																			
5 Provision of technical guidance and field practice																			
6 Conduct site visit/exchange visit to advanced area of rice cultivation																			
7 Monitoring of activity by Monitoring committee organized for the program																			
< 1.7 Vegetable Production Promotion during Dry Season >																			
Month	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
1 Coordination of																			

PP1: Marsh Development																
Equivalent in PNIA Program 1: The durable increase of the production and the food security																
Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands																
Stakeholders on Vegetable production																
2 Selection of trial farm and farmers working on trial farm																■
3 Preparation of cropping calendar																■
4 Procurement and distribution of inputs																■
5 Provision of technical guidance and field practice																■ ■ ■ ■ ■
6 Conduct site visit/exchange visit to advance area of vegetable cultivation																■
7 Monitoring of activity by Monitoring committee organized for the program																
Monitoring Result	<p>1) Promotion of Cooperative Activities through Implementation of Pilot Project</p> <ul style="list-style-type: none"> ✓ Marsh development involved many beneficiaries, therefore it is difficult to inform and gather all beneficiaries at once. Hence, participation rate in the activities is lower than Colline agriculture type and off-farm type. ✓ Demonstration plot, storage management, milling activity, and facility maintenance activity could be organized through marsh committee. These activities are still on the way, marsh committee try to manage through the communication. ✓ Specially, facility maintenance activity is essential to keep good condition of facility so that marsh committee tries to mobilize beneficiaries through hydraulic committees. <p>2) Conflict Prevention Mechanism</p> <ul style="list-style-type: none"> ✓ Board members of the association at all levels were elected by secret votes of all related collines' representatives. ✓ Basically, marsh committee and hydraulic committee have regular communication meeting to prevent any source of conflict. <p>Note: Case of Conflict of Financial and Organization As for the accountability of organization, monitoring committee was established to control the committee management. On the other hand, Board members need more training on management and operation to organization.</p> <p>3) Capacity Building of Local Officers</p> <ul style="list-style-type: none"> ✓ Regarding training program, C/P, DPAAE, and Commune officers had trained about necessary information and knowledge. After training, they had more opportunity to teach beneficiaries through the field visit. ✓ Regarding Colline agricultural monitors, they also could instruct beneficiaries about farming practices through the field visit. On the other hand, they need more practical training on association management. <p>4) Capacity Building for Associations' Members</p> <ul style="list-style-type: none"> ✓ A large number of representatives of marsh beneficiaries were trained theoretically and practically through the training sessions, study tour and field practices at the demonstration plots. ✓ Beneficiaries were motivated through the several meetings and their results were shown at each stage. <p>The understanding of the technique transferred to beneficiaries was measured by hearing test to 5 members of association as follows about Rice cultivation, Maintenance of irrigation facility, and vegetable cultivation; -Rice cultivation-</p>															

PP1: Marsh Development			
Equivalent in PNIA Program 1: The durable increase of the production and the food security			
Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands			
Question to measure degree of understanding	Percentage of Correct Answer (%)		
	M kebuko	Itaba	Bukirasaz
	N amsuwaga	Rure bera	Kibuye
1. Two advantages of improved practices of nursery raising and stage which is ready to transplant is.	90	90	80
2. Purpose of leveling and dyking	95	100	95
3. Purpose of weeding and number of time and strategic period	80	75	80
4. Advantage of milling machine comparing to mortar.	80	90	90
5. Advantage of shared storage.	60	60	80
Difference between the Association and Cooperation (about activities)			
-Maintenance of Irrigation facility-			
Question to measure degree of understanding	Percentage of Correct Answer (%)		
	Makebuko	Itaba	Bukirasazi
	Nyamsuwaga	Rurembera	Kibuye
1. What are the main structures to protect in a developed marsh?	90	70	100
2. The size of irrigation facilities depend on the area to irrigate. They are cleaned when needed. What are the recommended tools? Why is it recommended such tools?	57	61	77
3. Give three examples of structures found on irrigation canals? What is their role?	69	54	77
4. What are outstanding problems in the case where hydro-agricultural structures are not properly cleaned?	60	48	60
5. You have studied that the marsh can be irrigated if the organization is well done. How do they organize for all rice farmers manage to irrigate in the same irrigation period?	50	54	71
-Vegetable cultivation-			
Question to measure degree of understanding	Percentage of Correct Answer (%)		
	Makebuko	Itaba	Bukirasazi
	Nyamsuwaga	Rurembera	Kibuye
1. What are the major importances of cultivating vegetable as that seen in previous trainings?	48	73	50
2. At which stage the vegetable plants are ready to be transplanted and why? Please give the answer for the 3 vegetable varieties we are promoting.	60	51	38
3. As a vegetable grower who had been well trained, what are the 2 major types of farming practices in order to have a good cabbage apple?	32	41	20
4. 1) As you had made yourself red onion plantation what is the new strategies of manure fertilizing are you going to use in an order to have no problems of rooting?	31	42	22
4. 2) To remove soil of red or white onion bulb is necessary. What can be the problem if the action is done before maturity or the onion itself?	4	33	25
5. The vegetable mulching especially of tomatoes is much recommended; what	43	40	37

PP1: Marsh Development				
Equivalent in PNIA Program 1: The durable increase of the production and the food security				
Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands				
	are those advantages for that vegetable variety?			
	6. 1) What are the dangerous diseases do you know for the 3 vegetable varieties we are promoting?	21	29	17
	6. 2) What are the good treatment (chemical products or practices) do you think is better to use for effective production?	24	37	17
Operation and Maintenance System	<ul style="list-style-type: none"> ✓ Commune administration has responsibility to support activities of marsh committee and facility maintenance activities. ✓ Marsh committees pay some tax to commune (administration) so that they receive support for their activities and facility maintenance from commune. ✓ Kibuye marsh committee purchased milling machine using benefit from their activities and they will plan milling business in off-season of rice. ✓ DPAE support farmers to give collect and useful information about input, such as quality seed when farmers purchase them. ✓ Maintenance of irrigation facility is organized by hydraulic block committee and conducted regularly in each marsh. ✓ Colline chief and CDC members, (involved Zone chief and assistant) sensitize beneficiaries to promote slope protection activities. 			
Reflection in Draft Action Plan	<ul style="list-style-type: none"> ✓ It is necessary and essential to follow-up milling machine operation as it takes much time for operators to get used to operate machine. ✓ It is necessary to follow-up association management, especially, accounting management. This activity is needed more transparency than other activities for all beneficiaries. ✓ DPAE, MINAGRIE officials should be sensitized to more involve the project management at early stage of the project. ✓ As for the capacity development, continuous trainings on land preparation such as leveling, diking and other farming practices are necessary to beneficiaries. ✓ To implement facility maintenance activities should be started at early stage, therefore, project (execution organization) needs to secure sufficient amount of inputs for maintenance activity. 			
Cash Flow of the Project	<ul style="list-style-type: none"> ✓ Apart from the rice sales, association members engaged in this project gain profit from rice milling activities and rice bran sales. Since number of beneficiaries is large, benefit will not be distribute to them but utilized for operation and management of marsh committee members. B/C of 1.77 is expected and the net benefit of 1.6 million BIF is expected since the 2nd year, so it will contribute to sustainable management. 			

PP1: Marsh Development
Equivalent in PNIA Program 1: The durable increase of the production and the food security
Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands

Pilot Project 1: Marsh Development

Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit-Cost	Per person
1	(Strengthen Association)					
	Training on Association Management					
	Accounting	200,000 BIF				
	Organization management	200,000 BIF				
	Operation & Maintenance (Irrigation facility)	200,000 BIF				
	Operation & Maintenance (Warehouse, Machine)	200,000 BIF				
	Total	800,000 BIF				
	(Rice cultivation trial: 450m²/marsh)					
	Training on Rice cultivation	200,000 BIF				
	Input:					
	Seed (60kg/ha seed ratio)	21,600 BIF				
	Fertilizer (DAP,KCL,Urea)	241,000 BIF				
	Farming tools (Rice bag, plastic bag, tarpaulin, weighing scale,Rope)	48,900 BIF				
	Pesticide/ Herbicide (0.75L/marsh)	8,250 BIF				
	Signboard	18,000 BIF				
	Quality inspection (MINAGRIE)	47,500 BIF				
	Total	585,250 BIF				
	Facility					
Rice Storage	22,151,000 BIF					
Milling machine	6,500,000 BIF					
Operational equipment (Fule, engin oil, Installation fee, etc)	8,240,633 BIF					
Milling activity kit (Scale, backed, Basket)	28,000 BIF					
Office equipment (Table, Chair, Bench)	45,000 BIF					
Total	14,813,633 BIF					
(Vegetable cultivation Trial : 25a/marsh)						
Training on Vegetable cultivation	200,000 BIF					
Input:						
Seed (Cabbage, Onion, Tomato)	203,500 BIF					
Fertilizer (DAP,KCL,Urea)	197,300 BIF					
Chemical (pesticide/herbicide) 1	5,000 BIF					
Chemical (pesticide/herbicide) 2	3,600 BIF					
Farming tools (Watering can, Rope, Rake)	33,000 BIF					
Income:						
Selling production at market Cabbage, Onion, Tomato				0 BIF		
Total	642,400 BIF					
(Slope Protection)						
Training on grass fixing	200,000 BIF					
Seedling of grass	1,000,000 BIF					
Transport	300,000 BIF					
Materials (sticks, ropes)	0 BIF					
Surveying (Engineer/assistant, rental charge of leveler)	252,000 BIF					
Total	1,752,000 BIF					
Total	18,593,283 BIF					
Rice: Repairment of Machine (Spare parts for Machine)			790,000 BIF			
Fuel			91,000 BIF/month			
Operator salary			20,000 BIF/month			
Guardman salary			40,000 BIF/month			
Total			941,000 BIF/month			
Income:						
Milling fee (Price)				50 BIF/kg		
Estimated Milling Amount				5,000 kg/month		
Total				250,000 BIF/month		
Rice bran (selling)						
Price				100 BIF/kg		
Total				50,000 BIF/month		
Total in Year 1		18,593,283 BIF	2,602,000 BIF	3,600,000 BIF	998,000 BIF	33,267
2	(RICE) Repairment of Machine		52,400 BIF/month			
	Fuel		91,000 BIF/month			
	Operator salary		20,000 BIF/month			
	Guardsman salary		40,000 BIF/month			
	Total			203,400 BIF/month		
	Income:					
(RICE) Milling Fee				50 BIF/kg		
Price				5,600 kg/month		
Estimated Milling Amount						
Total				280,000 BIF/month		
(RICE) By-product Selling						
Rice bran				100 BIF/kg		
Price				56,250 BIF/month		
Total						
Total			2,440,800 BIF	4,035,000 BIF	1,594,200 BIF	53,140
Total in Year 2			2,440,800 BIF	4,320,000 BIF	1,879,200 BIF	62,640
Total in Year 3			2,440,800 BIF	4,750,000 BIF	2,309,200 BIF	76,973
Total in Year 4			2,440,800 BIF	5,189,000 BIF	2,748,200 BIF	91,607
Total in Year 5			2,440,800 BIF	5,189,000 BIF	2,748,200 BIF	91,607
Total			12,365,200 BIF	21,894,000 BIF	9,528,800 BIF	1,191,100
					B/C= 1.771	

PP1: Marsh Development
Equivalent in PNIA Program 1: The durable increase of the production and the food security
Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands

<Reference>

Results of Rice and Vegetable cultivation trial

<Rice cultivation>

1. General information

Demonstration plots; Demonstration plots were selected in three (3) sites in each marsh, up-stream, middle-stream, and down-stream. Plot size per variety is 25m² (5m x5m).

Input; Seed rice (L18, V564, V1380, FAC 904, Local variety), Fertilizer (Urea, DAP, KCL) *Note: Farmers prepared manure by themselves.

Sowing ratio: 60kg/ha, Fertilizer application ratio: 65kg/ha of DAP, 60kg/ha of KCL, 64kg/ha of Urea

Chemical: (Kitazin: Fungicide) is 1L/ha with 500L of water.

Table1. Detail of Input Amount

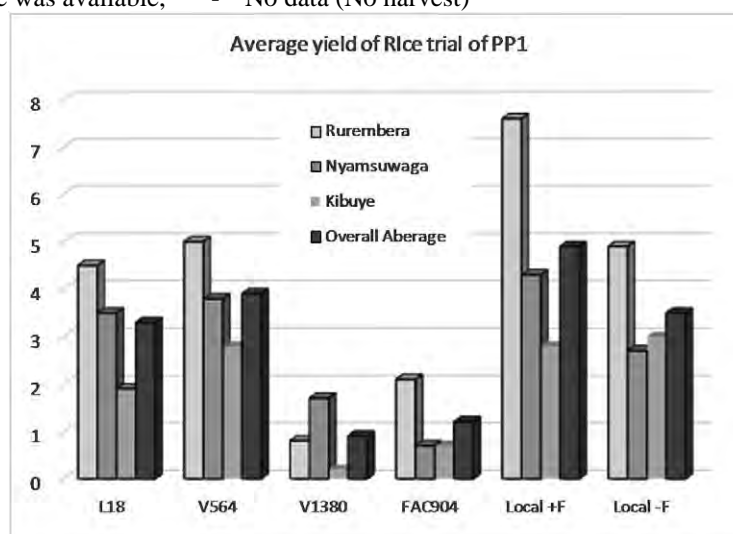
Plot size(m ²) (25m ² x 6varieties)	Seed (g) x 6 varieties	DAP (kg)	KCL (kg)	UREA (kg)	Kitazin (ml)
150	900	4.9	3.8	7.5	2

Table2. Yield in Varieties (unit: t/ha)

Marsh	Site	Variety					
		L18	V564	V1380	FAC904	Local +F	Local -F
Rurembera	Up	4.6	4.7	1.1	-	8.6	3.8
	Middle	4.4	5.5	0.4	2.6	7.9	5.3
	Down	4.6	4.9	-	1.6	6.3	5.5
	Average	4.5	5.0	0.8	2.1	7.6	4.9
Nyamuswaga	Up	2.6	3.5	0.9	0.2	4	3.8
	Middle	3.8	3.8	1.1	0.8	4.2	0.4
	Down	4.1	4.1	3.2	1.1	4.8	4
	Average	3.5	3.8	1.7	0.7	4.3	2.7
Kibuye	Up	-	0.54	-	0.01 [*]	-	0.07
	Middle	1.4	3.5	0.12 [*]	0.27 [*]	0.2	-
	Down	2.4	4.5	0.23	0.74	5.3	6
	Average	1.9	2.8	0.2	0.7	2.8	3.0
Overall Average		3.3	3.9	0.9	1.2	4.9	3.5

Note: +F: With fertilizer, -F: Without fertilizer

* Only one sample was available, “ - “ No data (No harvest)



PP1: Marsh Development

Equivalent in PNIA Program 1: The durable increase of the production and the food security

Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands

2. Observation

Rurembera is the first experience to grow rice and farmers made much effort (such as weeding) than other two marshes. Yield in Kibuye was quite lower than other marshes due to the poor management and delaying of harvest time.

Average yield of L18 was 3.3t/ha, and V654 was 3.9t/ha, as these two varieties did not have big gap among sites and marshes. It means that these varieties are suitable to this area. On the other hand, V1380 and FAC 904 did not have good growth, average yield was 0.9t/ha (V1380) and 1.2t/ha (FAC904). They were same as current yield in these areas (1.1t/ha in Itaba commune). After flowering stage, they had many empty grains and immaturity grains increased. And also these varieties took long time to mature. Therefore, the project team selected L18 and V564 as recommendable varieties.

As for the local variety, average yield of Local+F was 4.9t/ha, it was the highest among varieties. If farmers can use enough amount of fertilizer and follow the appropriate farming practices (ex. suitable planting space, pest and disease control, water management, weeding, etc), this variety can give good production to farmers.

<Vegetable cultivation>

1. General information

Demonstration plots: Demonstration plots were in three (3) sites in each marsh. Ten (10) farmers* were selected in each marsh including rice trial farmers.

Input: Vegetable seed (Cabbage, Tomato, Onion), Fertilizer (Urea, DAP, KCL), Chemicals (pesticide, fungicide, etc)

Note: * Some farmers were replaced or dropped out.

Seed ratio and Fertilizer application ratio of vegetables are shown the following table.

Table3. Recommendable seed ratio and amount of fertilizer

	Seed (kg/ha)	DAP (kg/ha)	KCL (kg/ha)	Urea (kg/ha)
Cabbage	0.4	100	100	200
Tomato	0.3	100	100	200
Onion	4	200	400	400

And amount of input and results of the trial are shown the following table.

PPI: Marsh Development
Equivalent in PNIA Program 1: The durable increase of the production and the food security
Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands

Table4. Amount of Input in each marsh

Vegetable	Marsh	Site	Nursery area (m2)	Seed (g)	Cultivated area (m2)	DAP (kg)	KCL (kg)	Urea (kg)	Yield (kg/a)	
Cabbage	Rurembera	Up	2.4	19.5	491	4.91	4.91	9.82	357.5	
		Middle	2.1	16.4	265	2.65	2.65	5.3	405.0	
		Down	3	23.7	432	4.32	4.32	8.64	357.5	
		Ave.							373.3	
	Nyamuswaga	Up	2.4	19.5	362	3.62	3.62	7.24	313.3	
		Middle	2.2	17.8	447	4.47	4.47	8.94	362.5	
		Down	2.2	17.9	451	4.51	4.51	9.02	297.5	
		Ave.							324.4	
	Kibuye	Up	1.5	12.3	309	3.09	3.09	6.18	356.7	
		Middle	1.6	12.8	323	3.23	3.23	6.46	377.5	
		Down	3	24.2	303	3.03	3.03	6.06	272.5	
		Ave.							335.6	
	Cabbage Average									344.4
	Onion	Rurembera	Up	1.5	5.2	260	2.6	2.6	5.2	360.0
			Middle	1.3	4.4	220	2.2	2.2	4.4	392.5
Down			1.8	6.4	320	3.2	3.2	6.4	310.0	
Ave.									354.2	
Nyamuswaga		Up	1.5	5.2	260	2.6	2.6	5.2	352.5	
		Middle	1.4	4.8	240	2.4	2.4	4.8	392.5	
		Down	1.4	4.8	240	2.4	2.4	4.8	177.5	
		Ave.							307.5	
Kibuye		Up	0.9	3.3	165	1.65	1.65	3.3	282.5	
		Middle	1	3.4	170	1.7	1.7	3.4	397.5	
		Down	1.9	6.5	325	3.25	3.25	6.5	317.5	
		Ave.							332.5	
Onion Average									331.4	
Tomato		Rurembera	Up	1.6	8.2	269	2.69	2.69	5.38	267.7
			Middle	1.4	6.9	225	2.25	2.25	4.5	276.6
	Down		2	10	236	2.36	2.36	4.72	198.9	
	Ave.								247.7	
	Nyamuswaga	Up	1.6	8.2	198	1.98	1.98	3.96	205.5	
		Middle	1.5	7.5	244	2.44	2.44	4.88	277.6	
		Down	1.5	7.5	246	2.46	2.46	4.92	173.6	
		Ave.							218.9	
	Kibuye	Up	1	5.2	169	1.69	1.69	3.38	225.9	
		Middle	1.1	5.4	134	1.34	1.34	2.68	219.2	
		Down	2	10.2	165	1.65	1.65	3.3	189.7	
		Ave.							211.6	
	Tomato Average									226.1
	Grand Total			46.8	277.2	7469	74.69	74.69	149.38	

*Note: 1a=10 x 10m²

Average yield of each vegetable by marsh is shown in the right table and the following graph.

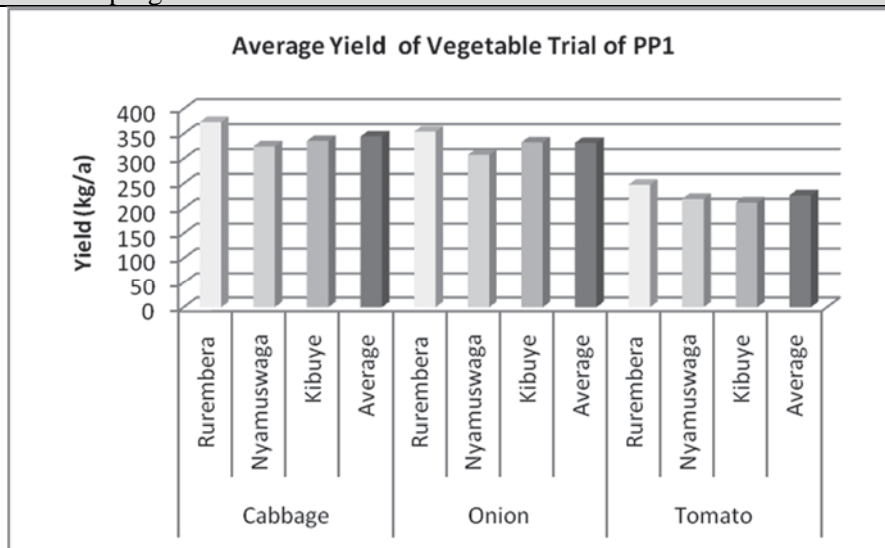
Table5. Average yield of each vegetable

Vegetable	Marsh	Yield (kg/a)
Cabbage	Rurembera	373.3
	Nyamuswaga	324.4
	Kibuye	335.6
	Average	344.4
Onion	Rurembera	354.2
	Nyamuswaga	307.5
	Kibuye	332.5
	Average	331.4
Tomato	Rurembera	247.7
	Nyamuswaga	218.9
	Kibuye	211.6
	Average	226.1

PP1: Marsh Development

Equivalent in PNIA Program 1: The durable increase of the production and the food security

Equivalent in PNIA Sub-program 2: Extension and rehabilitation of the wetlands




2. Observation

Average yield of cabbage was 344.4kg/a, growth and yield of cabbage was not big differences among marshes. As for onion, average yield was 331.4kg/a, and Rurembera got the highest yield and it was 354.2kg/a. For tomato, average yield was 226.1kg/a, and Rurembera got the highest yield and it was 247.7kg/a. Some sites (down-stream in Nyamsuwaga and Kibuye) were very poor growth at early stage due to moisture damage. Additionally, since rainy season had started at the harvest time, such sites were damaged by rain, therefore, onion and tomato were attacked by fungus disease. As for the recommendation of vegetable cultivation in dry season, farmers should choose well drained area, like higher place in the marsh. Or in case of poor drained field, making ridge is effective to avoid moisture damage.

7.7 Pilot Projects at Colline Agriculture Type

7.7.1 Pilot Project 2: Environmental Protection

PP2: Environment Protection	
Equivalent in PNIA Program 1: The durable increase of the production and the food security	
Equivalent in PNIA Sub-program 1: Protection of productive capital	
Target area	<p>Karoba colline in Makebukko, Mugomera colline in Itaba, Ruhinda colline in Bukirasazi (Agriculture in Colline)</p>  <p style="text-align: center;">Women digging contour lines</p>
Background/ Purposes	<p>For Colline farming, farmers possess only small piece of land and they cultivate more than twice in a year, therefore, it is said “over cultivation”. Generally, chemical fertilizer and organic manure are not affordable for farmers, because of the high cost of chemical fertilizer and lack of domestic animals for making compost. Therefore, farmers try mixed cropping and continuous cropping instead of chemical fertilizer and manure. For these reasons, degradation of soil became remarkable problem.</p> <p>On the other hand, government promotes the extension activities on environment conservation. Seedlings for afforestation are not sufficient to supply to farmers due to the lack of supplying system of materials. For that reason, afforestation areas in colline haven’t been expanded since donors’ support had been started.</p> <p>This PP will contribute to expand the afforestation areas and contour line planting at the target area to adapt these techniques to association members through the activities. And project will be smoothly carried out by Commune officials and other organizations improved capacity of implementation and their techniques.</p>
Contents	
<p>< 2.1 Contour Digging and Forage Grass Fixing in Contour Line ></p> <p>Main procedure of the activity</p> <ol style="list-style-type: none"> 1. Kick off MTG/Workshop), Selection of Beneficiary and Kind of Grass 2. Guidance/Training on contour digging 3. Procurement of Materials and Distribution 4. Demonstration at the field 5. Monitoring and Evaluation <p>< 2.2 Afforestation in Colline></p> <p>Main procedure of the activity</p> <ol style="list-style-type: none"> 1. Kick off MTG/Workshop, Selection of Beneficiary and Variety of Tree 2. Land acquisition for afforestation 3. Guidance/Training on afforestation 4. Procurement of Materials and Distribution 5. Demonstration at the field 6. Monitoring and Evaluation <p>< 2.3 Nursery Construction ></p> <p>Main procedure of the activity</p> <ol style="list-style-type: none"> 1. Kick off MTG/Workshop), Selection of Beneficiary and Variety of Tree /Fruits 2. Land acquisition for Nursery Construction 3. Guidance/Training on nursery 4. Procurement of Materials and Distribution 5. Demonstration at the field 	

PP2: Environment Protection Equivalent in PNIA Program 1: The durable increase of the production and the food security Equivalent in PNIA Sub-program 1: Protection of productive capital			
6. Monitoring and Evaluation < 2.4 Environmental Awareness Seminar > Main procedure of the activity 1 Considering contents of seminar (General contents; contour digging, how to protect soil from wind and soil erosion, fight against bush fire) 2 Mobilization of population by chief of colline 3 Conducing seminar at each colline < 2.5 Fruit Tree Production Promotion > Main procedure of the activity 1. Kick off MTG/Workshop), Selection of Beneficiary and Kind of Fruits 2. Guidance/Training on Fruit Production 3. Procurement of Materials and Distribution 4. Demonstration at the field 5. Monitoring and Evaluation			
Structure of Implementation	<p>The diagram illustrates the implementation structure. At the top, the Contractor and Project Team oversee Implementation. Below them are two Chief of DPAA roles: one for Training, Extension, Research, and Support of OPA, and another for vegetable production. These oversee Commune Agronomist and Commune Administration. The Commune Agronomist oversees Zone Agronomist, who in turn oversees Colline Agronomist. The Commune Administration oversees Zone Chief, who oversees Colline Chief. The Colline Agronomist and Colline Chief both oversee the Target Association. The Target Association is responsible for growing seedlings and constructing nurseries. Various tasks and responsibilities are listed for each level, such as 'Hold Monthly Meeting', 'Supervise Procurement of Seed', 'Cascade Training', and 'Demonstration of planting of seedlings'.</p>		
Input	<Materials> -Seedling of grass, tree, and fruits -Agricultural equipment	<Personnel resource> -DPAA staffs -Commune technical and administration staffs -Colline technical and administration staffs -Farmers (Association) -JICA Study team and Contractor	<Others> -Training -Seminar
Expected Outcome	Result		
i) Beneficiaries understand importance of environmental protection and practice ii)-v) with ownership ii) Beneficiaries understand and practice digging contour and fix grasses in contour in their farm.	i) Beneficiaries understood importance of environmental protection and they have willingness to prevail seedlings of tree for agro-forestry/fruit production/afforestation all over the colline. ii) Beneficiaries understood importance of contour digging against soil degradation and all members help		


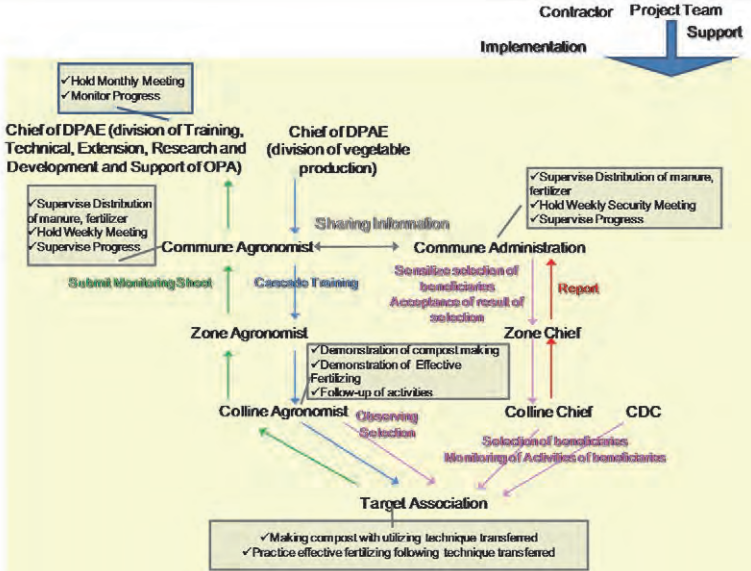
PP2: Environment Protection													
Equivalent in PNIA Program 1: The durable increase of the production and the food security													
Equivalent in PNIA Sub-program 1: Protection of productive capital													
iii) Beneficiaries introduce agro-forestry in their farm.	each other and dig contour line in each member's field.												
	iii) Beneficiaries understood importance of agro-forestry and plant and grow gravillea and calliandra in their field.												
	iv) Grass for fixing is grown in their own land, and seedlings of agro-forestry tree are under growing in nurseries.												
iv) Grass for fixing in contour and tree for agro-forestry are produced and supplied within colline.	iv) Beneficiaries understood importance of fruit production and plant and grow orange and avocado in their field.												
	v) Beneficiaries understood importance of fruit production and plant and grow orange and avocado in their field.												
	v) Beneficiaries understood importance of fruit production and plant and grow orange and avocado in their field.												
	2012		2013										
Month	11	12	1	2	3	4	5	6	7	8	9	10	
< 2.1 Contour Digging and Forage Grass Fixing in Contour Line >													
1. Kick off MTG/Workshop), Selection of Beneficiary and Kind of Grass	■												
2. Guidance/Training on contour digging				■									
3. Procurement of Materials and Distribution				■					■				
4. Demonstration at the field				■						■			
5. Monitoring and Evaluation	■	■	■	■	■	■	■	■	■	■	■	■	■
< 2.2 Afforestation in Colline>													
1. Kick off MTG/Workshop, Selection of Beneficiary and Variety of Tree	■												
2. Land acquisition for afforestation			■	■									
3. Guidance/Training on afforestation				■	■								
4. Procurement of Materials and Distribution					■								
5. Demonstration at the field		■											
6. Monitoring and Evaluation	■	■	■	■	■	■	■	■	■	■	■	■	■
< 2.3 Nursery Construction >													
1. Kick off MTG/Workshop), Selection of Beneficiary and Variety of Tree /Fruits	■												
2. Land acquisition for nursery construction			■	■									
3. Guidance/Training on nursery				■	■								
4. Procurement of Materials and Distribution							■	■					
5. Demonstration at the field									■	■			
6. Monitoring and Evaluation	■	■	■	■	■	■	■	■	■	■	■	■	■
< 2.4 Environmental Awareness Seminar >													
1 Considering contents of seminar									■	■			
2 Mobilization of population by chief of colline									■	■			
3 Conducting seminar at each colline										■			
< 2.5 Fruit Tree Production Promotion >													
1. Kick off MTG/Workshop), Selection of Beneficiary and Kind of Fruits	■												
2. Land acquisition for afforestation			■	■									
3. Guidance/Training on nursery				■	■								
4. Procurement of Materials and					■								

PP2: Environment Protection																																													
Equivalent in PNIA Program 1: The durable increase of the production and the food security																																													
Equivalent in PNIA Sub-program 1: Protection of productive capital																																													
Distribution																																													
5. Demonstration at the field																																													
6. Monitoring and Evaluation																																													
Monitoring Result		<p>1) Promotion of Cooperative Activities through Implementation of Pilot Project</p> <ul style="list-style-type: none"> ✓ Participation rate in the activities is good. Through activities, the members of association strengthen solidarity and increase frequency of working together. ✓ About consideration of fair division among beneficiaries, distribution of materials was conducted in fair and transparent way and no conflicts occur. <p>2) Conflict Prevention Mechanism</p> <ul style="list-style-type: none"> ✓ Association Members are poor and have small assets, therefore, no conflicts occur on share of assets. ✓ For distribution, chief of colline, Colline agricultural monitor and CDC members supervise distribution of materials and prevent conflict on division. <p>3) Capacity Building of Local Officers</p> <ul style="list-style-type: none"> ✓ Currently, training program for environmental protection technique targeting local officers is not established. For training conducted targeting local officers, degree of understanding of training measured by test is high, but they need practice of transferred technique in the field. ✓ About role described in draft action plan, DPAA staff well contributed to supervision of procurement for quality control and preparation of module for training. Colline agricultural monitor also well functioned in demonstration. ✓ For spontaneous action of local officers, colline instructors monitored activities well and Mugomera colline instructors protect land where seedlings were planted from destruction by cow. <p>4) Capacity Building for Associations' Members</p> <p>For understanding of the technique transferred to beneficiaries was measured by hearing test to 2 members of association as follows;</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Question to measure degree of understanding</th> <th colspan="3">Number of people who understand more than 50%</th> <th rowspan="2">Answer given by association members</th> </tr> <tr> <th>Makebuko Karoba</th> <th>Itaba Mugomera</th> <th>Bukirasazi Ruhinda</th> </tr> </thead> <tbody> <tr> <td>How to prepare nurseries for fruits seedlings and seedlings</td> <td>2 out of 2 (Both are CDC members)</td> <td>2 out of 2</td> <td>2 out of 2</td> <td>✓ Plowing scheduled place → installing shade → watering</td> </tr> <tr> <td>Activity in Nursery of seedlings of tree for agro-forestry, afforestation and fruit production</td> <td>2 out of 2 (ditto)</td> <td>2 out of 2</td> <td>2 out of 2</td> <td>✓ Monitoring, Watering, Weeding</td> </tr> <tr> <td>Why the umbrage is necessary for seedlings in nursery or out of it?</td> <td>2 out of 2 (ditto)</td> <td>2 out of 2</td> <td>2 out of 2</td> <td>✓ To avoid sunlight and heavy rain for seedlings ✓ Keep moisture</td> </tr> <tr> <td>How to protect the soil for cultivation</td> <td>2 out of 2 (ditto)</td> <td>2 out of 2</td> <td>2 out of 2</td> <td>✓ Making contour line ✓ Fertilize soil with manure</td> </tr> <tr> <td>How to fix tripsacum laxum (one of grass)</td> <td>2 out of 2 (ditto)</td> <td>2 out of 2</td> <td>2 out of 2</td> <td>✓ Making contour and fix there ✓ Spacing 40cm X 40cm ✓ planted in line arranged in quincunx on double row.</td> </tr> </tbody> </table>											Question to measure degree of understanding	Number of people who understand more than 50%			Answer given by association members	Makebuko Karoba	Itaba Mugomera	Bukirasazi Ruhinda	How to prepare nurseries for fruits seedlings and seedlings	2 out of 2 (Both are CDC members)	2 out of 2	2 out of 2	✓ Plowing scheduled place → installing shade → watering	Activity in Nursery of seedlings of tree for agro-forestry, afforestation and fruit production	2 out of 2 (ditto)	2 out of 2	2 out of 2	✓ Monitoring, Watering, Weeding	Why the umbrage is necessary for seedlings in nursery or out of it?	2 out of 2 (ditto)	2 out of 2	2 out of 2	✓ To avoid sunlight and heavy rain for seedlings ✓ Keep moisture	How to protect the soil for cultivation	2 out of 2 (ditto)	2 out of 2	2 out of 2	✓ Making contour line ✓ Fertilize soil with manure	How to fix tripsacum laxum (one of grass)	2 out of 2 (ditto)	2 out of 2	2 out of 2	✓ Making contour and fix there ✓ Spacing 40cm X 40cm ✓ planted in line arranged in quincunx on double row.
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PP2: Environment Protection	
Equivalent in PNIA Program 1: The durable increase of the production and the food security	
Equivalent in PNIA Sub-program 1: Protection of productive capital	
Operation and Maintenance System	<ul style="list-style-type: none"> ✓ Colline agricultural monitor follow-up practice of technique transferred by beneficiaries. ✓ Commune agronomist, chief of colline, Colline agricultural monitor and CDC support establishment of operation and management system of seedlings for soil protection by beneficiaries.
Reflection in Draft Action Plan and Manual	<ul style="list-style-type: none"> ✓ It is necessary to consider availability of appropriate materials and enough man power for contour digging, when selecting target association. It is better to utilize labor from outside of the association with some money, for example, 3000BIF/half day for 6m contour line digging. ✓ For afforestation, planting trees in association common land limits soil protection effect of afforestation, and it is necessary for commune administration to provide more space from public land for planting seedlings of afforestation trees. ✓ Most of people don't know importance of fruit production and its market value, also they don't have access to seedlings of fruit in commune market because of small demand for fruit in commune level. Sensitization about fruit production is necessary. ✓ Colline instructors lack of knowledge on technique concerning environmental protection.
Cash Flow of the Project	<ul style="list-style-type: none"> ✓ This pilot project aims at improving environmental condition through preventing soil erosion and planting trees; therefore, it will contribute to people's life in the long run and it is not necessarily profitable. In fact, the cost is more than the benefit at present, but improvement of skill and efficiency may break even. Net benefit for five years of this project is 1,189,000BIF.

PP2: Environment Protection						
Equivalent in PNIA Program 1: The durable increase of the production and the food security						
Equivalent in PNIA Sub-program 1: Protection of productive capital						
Pilot Project 2 Environmental Protection: Karoba(Makebuko), Mugomera(Itaba), Ruhinda(Bukirasazi)						
Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit-Cost	Per person
1	(Contour line digging)					
	Training on grass fixing in contour line	100,000 BIF				
	Input:					
	Seedling: Banagrass	1,800,000 BIF				
	Seedling:					
	Transport (Fuel)	300,000 BIF				
	Shovel (10pce/association)	75,000 BIF				
	Pickaxes (3pce/association)	22,500 BIF				
	Total	2,297,500 BIF				
	(Afforestation and Nursery construction)					
Training on Afforestation/Nursery construction/ fruit tree	100,000 BIF					
Input:						
Seedling: Eucalyptus	50,000 BIF					
Seedling: Grevillea	150,000 BIF					
Seedling: Calliandre	720,000 BIF					
Seed: Eucalyptus	32,500 BIF					
Seed: Grevillea	30,000 BIF					
Seed: Calliandre	6,500 BIF					
Watering can *2	15,000 BIF					
Spade *1	4,500 BIF					
Material for mulching (items:)						
Rope	0 BIF					
Sticks	0 BIF					
Plastic sac (for nursery pot)	20,000 BIF					
Transport (Fuel)	300,000 BIF					
Total	1,428,500 BIF					
(Seminar)						
Environmental awareness seminar :traine	100,000 BIF					
Total	100,000 BIF					
(Fruit tree: Agro-forestry)						
Input:						
Seeding: Avocado	150,000 BIF					
Seedling: Orange	150,000 BIF					
Seedling: Japanese Plume	150,000 BIF					
Fertilzier	20,000 BIF					
Transport (Fuel)	2,400,000 BIF					
Total	2,870,000 BIF					
Total in Year 1	6,696,000 BIF			BIF	0 BIF	0
2	(Contour line digging)					
	Seedlings (for extention of length)		0 BIF			
	Seedlings (for extention of length)		0 BIF			
	Total		0 BIF			
	(Afforestation and Nursery construction)					
	Input:					
	Seedling: Eucalyptus		15,000 BIF			
	Seedling: Grevillea		15,000 BIF			
	Seed: Eucalyptus		16,250 BIF			
	Seed: Grevillea		15,000 BIF			
Seed:Cariandre		3,250 BIF				
Seed						
Plastic sac (for nursery pot)		20,000 BIF				
Income:						
Selling Seedlings: Eucalyptus			4,500 BIF			
Total in Year 2			199,500 BIF	199,500 BIF	0 BIF	0
Total in Year 3		0 BIF	199,500 BIF	232,500 BIF	33,000 BIF	1,065
Total in Year 4			84,500 BIF	337,500 BIF	253,000 BIF	8,161
Total in Year 5			84,500 BIF	420,000 BIF	335,500 BIF	10,823
SUM			568,000 BIF	1,189,500 BIF	621,500 BIF	20,048
					B/C=	2.094


7.7.2 Pilot Project 3: Soil Fertility Improvement

PP3: Soil Fertility Improvement Equivalent in PNIA Program 1: The durable increase of the production and the food security Equivalent in PNIA Sub-program 1: Protection of productive capital	
Target area	Muhororo colline in Makebuko, Rukobe I colline in Itaba, Rukoki colline in Bukirasazi (Colline Agriculture type)
	 <p style="text-align: center;">Making compost</p>
Background/ Purposes	<p>Extension of soil degradation around colline included in marsh area. On the other hand, government has been promoting the extension activities on soil conservation and farmers become understanding the importance of soil conservation. Meanwhile, stable fertilizer supply system has not been established and suitable rotation cropping system and effective fertilizer application rate have not been decided Generally, small scale farmers cultivate more than twice a year, it is over cultivation. Chemical fertilizer and organic manure are not affordable for farmers, because of high cost and shortage of compost materials. Therefore, farmers try to save dosage of chemical fertilizer and manure by mixing cropping and continuous cropping. It causes the expaso that soil conservation activities are stagnated.</p> <p>This PP will contribute to promote and expand the compost making technique, suitable application rate of fertilizers, and suitable cropping pattern to target association and farmers. And also, implementing capacity and technical skills of Commune officials and Colline Instructors will be improved so that project will be smoothly carried out by them.</p>
Contents	
< 3.1 Strengthening Compost Production >, < 3.2 Strengthening the Effectiveness of Fertilizer > Main procedure of the activity	
1. Kick off MTG/Workshop, Selection of Beneficiary 2. Guidance/Training on improvement of soil fertility 3. Procurement of Materials and Distribution 4. Demonstration at the field 5. Monitoring and Evaluation	
Structure of Implementation	

PP3: Soil Fertility Improvement																															
Equivalent in PNIA Program 1: The durable increase of the production and the food security																															
Equivalent in PNIA Sub-program 1: Protection of productive capital																															
	<p>2) Conflict Prevention Mechanism</p> <ul style="list-style-type: none"> ✓ Association members consider fair division of materials ✓ About consideration for person in need of special attention, socially vulnerable members in target association feel handicap and hesitate to raise their opinions even though another association members enhance their opinions. ✓ Contribution to association is fair among members including socially vulnerable members. <p>3) Capacity Building of Local Officers</p> <ul style="list-style-type: none"> ✓ Rukobe colline instructors prevent associations' crops from destruction by cow. ✓ In Rukoki, target association includes Colline agricultural monitor as member and he led another members with technique. ✓ Mixture of chemical fertilizer and manure is demonstrated by colline instructors. <p>4) Capacity Building for Associations' Members</p> <p>For understanding of the technique transferred to beneficiaries was measured by hearing test to 2 members of association as follows;</p> <table border="1"> <thead> <tr> <th rowspan="3">Question to measure degree of understanding</th> <th colspan="2">Number of people who understand more than 50%</th> <th rowspan="3">Answer given by association members</th> </tr> <tr> <th>Itaba</th> <th>Bukirasazi</th> </tr> <tr> <th>Rukobe 1</th> <th>Rukoki</th> </tr> </thead> <tbody> <tr> <td>Methods to protect and to improve soil fertility</td> <td>2 out of 2*1</td> <td>2 out of 2*2</td> <td> <ul style="list-style-type: none"> ✓ Contour digging and fixing grass ✓ Application of organic manure ✓ Utilize crop residues for compost making, not burning in the field </td> </tr> <tr> <td>Way of fighting against soil acidity</td> <td>2 out of 2</td> <td>1 out of 2</td> <td> <ul style="list-style-type: none"> ✓ Application of lime </td> </tr> <tr> <td>How to fertilize soil without fierce of livestock</td> <td>2out of 2</td> <td>2 out of 2</td> <td> <ul style="list-style-type: none"> ✓ Making three composters. ✓ Rotation of crop </td> </tr> <tr> <td>Why burning herbs in full field is bad?</td> <td>2out of 2</td> <td>2out of 2</td> <td> <ul style="list-style-type: none"> ✓ Killing insects and other microorganisms that are very important in the process of fertilization </td> </tr> <tr> <td>Acts which reduce soil fertility</td> <td>2out of 2</td> <td>2 out of 2 (however, no mention about details)</td> <td> <ul style="list-style-type: none"> ✓ Burning crop residues in the field ✓ Continuous cropping without rotation ✓ Not making fallow land </td> </tr> </tbody> </table> <p>*1; Leader and deputy secretary of target association *2; Vice leader cum colline council member and deputy secretary of target association</p>	Question to measure degree of understanding	Number of people who understand more than 50%		Answer given by association members	Itaba	Bukirasazi	Rukobe 1	Rukoki	Methods to protect and to improve soil fertility	2 out of 2*1	2 out of 2*2	<ul style="list-style-type: none"> ✓ Contour digging and fixing grass ✓ Application of organic manure ✓ Utilize crop residues for compost making, not burning in the field 	Way of fighting against soil acidity	2 out of 2	1 out of 2	<ul style="list-style-type: none"> ✓ Application of lime 	How to fertilize soil without fierce of livestock	2out of 2	2 out of 2	<ul style="list-style-type: none"> ✓ Making three composters. ✓ Rotation of crop 	Why burning herbs in full field is bad?	2out of 2	2out of 2	<ul style="list-style-type: none"> ✓ Killing insects and other microorganisms that are very important in the process of fertilization 	Acts which reduce soil fertility	2out of 2	2 out of 2 (however, no mention about details)	<ul style="list-style-type: none"> ✓ Burning crop residues in the field ✓ Continuous cropping without rotation ✓ Not making fallow land 		
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Operation and Maintenance System	<ul style="list-style-type: none"> ✓ Colline agricultural monitor follow-up practice of technique transferred by beneficiaries. ✓ Commune agronomist, chief of colline, Colline agricultural monitor and CDC supervise maintenance of compost and efficient application of fertilizers for soil protection by beneficiaries. 																														
Reflection in Draft Action Plan and Manual	<ul style="list-style-type: none"> ✓ More sensitization on compost making is necessary for target association members, because some members yet didn't understand worth to make compost, some consider compost making consumption of time and labor. ✓ It is necessary to follow-up technique on application of fertilizer. ✓ Utilization of mixing manure and chemical fertilizer technique e used for soil fertility and fighting against soil erosion and fighting against bush fire should be sensitized. Fertilization. ✓ train how to against weed keep in contour digging 																														

PP3: Soil Fertility Improvement						
Equivalent in PNIA Program 1: The durable increase of the production and the food security						
Equivalent in PNIA Sub-program 1: Protection of productive capital						
Cash Flow of the Project	✓	This pilot project aims at improving agricultural productivity through improvement of soil fertility. Therefore, the projects by themselves are not necessarily measurable in terms of profitability. In this simulation, association members are supposed to sell 40 percent of the cultivated vegetable a year. (Supposedly, twice as much the vegetables are cultivated as the original quantity.) B/C of 1.32 is expected. Also, less than 300,000 BIF of net benefit, some 7,500 BIF/person/year, is expected. However, benefit from selling vegetables depends on productivity of the vegetables seeds. Sales profit from the vegetables seeds are fluctuated according to the climate of the year, market price and other factors.				
Pilot Project 3 Soil Fertility : Rukobe(Itaba), Rukoki(Bukirasazi)						
Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit-Cost	Per person
1	(Compost making)					
	Training on compost making and how to apply manure	100,000 BIF				
	Input:					
	Spade	160,000 BIF				
	Bucket	150,000 BIF				
	Total	410,000 BIF				
	(Enhancing the effectiveness of fertilizer use)					
	Input:					
	Manure	2,250,000 BIF				
	DAP	300,000 BIF				
KCL	60,000 BIF					
Seed of Irish potato :	2,000,000 BIF					
Seed of Beans : Climbing	37,500 BIF					
Seed of Beans :Semi Climbing	22,500 BIF					
Transportation (for Manure)	300,000 BIF					
Chemical: Ridomil	15,000 BIF					
Total	4,985,000 BIF					
Income:						
Irish potato: 1000BIF (Market price)				660,000 BIF		
Beans: Climbing: 800BIF (Market price)				16,000 BIF		
Beans: Semi Climbing: 800BIF (Market price)				12,800 BIF		
Total				688,800 BIF		
Total in Year 1		5,395,000 BIF		688,800 BIF	688,800 BIF	18,126
2	(Enhancing the effectiveness of fertilizer use)					
	Input:					
	DAP		300,000 BIF			
	KCL		60,000 BIF			
	Seed of Irish potato		1,000,000 BIF			
	Seed of Beans : Climbing		37,500 BIF			
	Seed of Beans :Semi Climbing		22,500 BIF			
	Chemical: Ridomil		15,000 BIF			
	Total		1,435,000 BIF			
	Income:					
Irish potato: 1000BIF (Market price)				800,000 BIF		
Beans: Climbing: 500BIF (Market price)				10,000 BIF		
Beans: Semi Climbing: 500BIF (Market price)				900,000 BIF		
Total				1,710,000 BIF		
Total in Year 2			1,435,000 BIF	1,710,000 BIF	275,000 BIF	7,237
3	Total in Year 3		1,435,000 BIF	1,718,000 BIF	283,000 BIF	7,447
4	Total in Year 4		1,435,000 BIF	1,718,000 BIF	283,000 BIF	7,447
5	Total in Year 5		1,435,000 BIF	1,718,000 BIF	283,000 BIF	7,447
	Grand Total	5,395,000 BIF	5,740,000 BIF	7,552,800 BIF	1,812,800 BIF	47,705
					B/C=	1.316

7.7.3 Pilot Project 4: Selected Seed Solidarity Chain

PP4: Selected Seed Solidarity Chain Equivalent in PNIA Program 1: The durable increase of the production and the food security Equivalent in PNIA Sub-program 3: Intensification of the agricultural production (vegetables and animals)		
Target area	Kagoma colline in Itaba, Nyambuye colline in Bukirasazi (Colline Agriculture type)	 <p style="text-align: center;">Seed Multiplication</p>
Background/ Purposes	<p>In the target area, farmers keep production as a seed for next cropping season's. These seeds are not produced in the procedure of home seed-raising method, so that quality control of seed is quite difficult and quantity of seed is not stable because of depending on the production in the year. In addition, farmers are not able to keep seeds in good condition for the next season due to deteriorating seed quality by insect damage, lack of suitable storage technique, and lack of knowledge on storage. On the other hand, good quality seeds and improved seeds are distributed by DPAE through donor's support. However, target areas and providing rate are limited and extension of multiplication technique has not been applicable for farmers, seed distribution system has not been established. For these reasons, qualified seeds are insufficient to distribute to farmers who want to.</p> <p>Through the project, cultivation techniques of selected seed will be improved and increase the yield of seed. Also, seed solidarity chain system will be established and operated by beneficially.</p> <p>This PP will contribute to improve and expand the techniques for selected seed production and to increase the production. And then, seed solidarity chain system will be established and operated by beneficiaries. Implementing capacity and technical skills of Commune officials and Colline Instructors will be improved so that project will be smoothly carried out by them.</p>	
Contents		
<p>< 4.1 Dissemination of Selected Seed > Main procedure of the activity 1. Kick off MTG/Workshop, Selection of Beneficiary 2. Guidance/Training on growing selected seed 3. Procurement of Materials and Distribution 4. Demonstration at the field 5. Monitoring and Evaluation</p> <p>< 4.2 Seed Storage Construction > Main procedure of the activity 1. Kick off MTG/Workshop, Selection of Beneficiary 2. Guidance/Training on seed storage 3. Acquisition land for seed storage 4. Construction of Seed Storage 5. Seminar on sensitization on operation and maintenance of seed storage 6. Establishment of seed solidarity chain system 7. Monitoring and Evaluation</p>		

PP4: Selected Seed Solidarity Chain												
Equivalent in PNIA Program 1: The durable increase of the production and the food security												
Equivalent in PNIA Sub-program 3: Intensification of the agricultural production (vegetables and animals)												
Structure of Implementation												
Input	<p><Materials></p> <ul style="list-style-type: none"> - Fertilizer and manure - Selected seed - Materials for construction of seed storage 	<p><Personnel resource></p> <ul style="list-style-type: none"> - DPAE staffs - Commune technical and administration staffs - Colline technical and administration staffs - Farmers (Association) - JICA Study team and Contractor - Supervisor of construction of seed storage 	<p><Others></p> <ul style="list-style-type: none"> - Training 									
Expected Outcome	Result											
1. Beneficiaries select improved variety suitable for soil and environment	✓ For selection of variety, DPAE staff of division of vegetable production selected seed variety considering followings; climate, soil suitability and resistance to disease, growth period according to season.											
2. Beneficiaries introduce and practice necessary technique for cultivating selected variety	✓ Firstly, beneficiaries didn't know how to grow selected seed and how to sow and didn't have observation of selection. Through training and field work, beneficiaries gain skill on cultivation of selected seed and seed selection technique. Comparing surrounding farmers, production is good for potato. For beans, purity of crops astonished beneficiaries and surrounding people because most of people mix some kind of variety of seed unintentionally.											
3. Beneficiaries introduce and practice preservation technique suitable for selected variety	✓ DPAE staff showed technique on preservation of seed and beneficiaries followed.											
4. Production, storage, distribution and return of improved seed are strengthened systematically.	✓ Sensitization of selection and seed-solidarity chain was conducted.											
	✓ Management committee members (8) for operation and maintenance of seed storage were elected by association members with some criteria.											
	✓ Monitoring committee members (8) were elected, which were composed of elected association members, elected CDC members, Colline agricultural monitor, ACSA and chief of colline.											
	✓ Second beneficiaries were elected by CDC members, Colline agricultural monitor, ACSA and chief of colline.											
	✓ Second beneficiaries received harvested selected seed (potato, bean) from first target beneficiaries.											
Month	2012	2013										
	11	12	1	2	3	4	5	6	7	8	9	10
< 4.1 Dissemination of Selected Seed >												
1. Kick off MTG/Workshop, Selection	█											

PP4: Selected Seed Solidarity Chain																																											
Equivalent in PNIA Program 1: The durable increase of the production and the food security																																											
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2. Guidance/Training on seed storage				---																																							
3. Acquisition land for seed storage				-----																																							
4. Construction of Seed Storage					-----																																						
5. Seminar on sensitization on operation and maintenance of seed storage	-----																																										
6. Establishment of seed solidarity chain system											---																																
7. Monitoring and Evaluation	-----																																										
Monitoring Result	1) Promotion of Cooperative Activities through Implementation of Pilot Project																																										
	<ul style="list-style-type: none"> ✓ Participation rate in the activities is good. ✓ Collaboration among members of association became better from training, they share transferred technique each other; sowing rate, application amount of fertilizer, etc. 																																										
	2) Conflict Prevention Mechanism																																										
	<ul style="list-style-type: none"> ✓ Some socially vulnerable members feel complex and other members encourage them to remove complex. Their income will be improved through sales of seed. 																																										
	3) Capacity Building of Local Officers																																										
	<ul style="list-style-type: none"> ✓ DPAAE staff instructed Colline agricultural monitor on technique on preservation of seed, and cultivation of selected seed. ✓ Colline agricultural monitor demonstrated technique on cultivation of selected seed and preservation of selected seed to target beneficiaries. 																																										
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PP4: Selected Seed Solidarity Chain					
Equivalent in PNIA Program 1: The durable increase of the production and the food security					
Equivalent in PNIA Sub-program 3: Intensification of the agricultural production (vegetables and animals)					
	Difference between seed sold in market and selected seed ; Potato	2 out of 2	2 out of 2	2out of 2	✓ Selected seeds are well protected and in good conditions
	*1; Leader and deputy secretary of target association *2; Secretary cum colline council member and deputy secretary of target association				
Operation and Maintenance System	<ul style="list-style-type: none"> ✓ Colline agricultural monitor follow-up practice of technique transferred by beneficiaries. ✓ DPAE staff of vegetable production division, commune agronomist and Colline agricultural monitor help establishment of seed storage operation and maintenance system and seed solidarity chain system. ✓ Chief of colline, Colline agricultural monitor and CDC members supervise operation and maintenance of seed storage. ✓ Commune administration supervises solidarity chain system through chief of colline and CDC members. 				
Reflection in Draft Action Plan and Manual	✓ Respect cropping calendar for planting/ sowing selected seed.				
Cash Flow of the Project	✓ Storage and sales of the seed is the major source of income for this pilot project. Seed solidarity chain is functioning and part of the vegetables (potatoes) is sold. The net benefit of 1.93 million BIF, about 65,000 BIF/person /year, is expected. If selected seeds push up agricultural activities, the project contributes to income generation of the local people.				

PP4: Selected Seed Solidarity Chain


Equivalent in PNIA Program 1: The durable increase of the production and the food security

Equivalent in PNIA Sub-program 3: Intensification of the agricultural production (vegetables and animals)

Pilot Project 4 Selected Seed Solidarity Chain

Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit-Cost	Per person
1	Training on Seed Multiplication	100,000 BIF				
	Transportation of seed/seedlings	300,000 BIF				
	Training on Operation and Maintenance of Seed Storage	15,000 BIF				
	Total	415,000 BIF				
	Storage	15,850,000 BIF				
	<i>Agricultural Inputs</i>					
	Seed/Seedlings					
	Potato	400,000 BIF				
	Beans	13,500 BIF				
	Cassava	100,000 BIF				
Banana	114,000 BIF					
DAP	66,667 BIF					
KCL	40,000 BIF					
Urea	10,000 BIF					
Manure	4,500,000 BIF					
Spraying Equipment	12,000 BIF					
Pesticide (Redomil)	15,000 BIF					
Balance Scale	14,000 BIF					
Guardman Salary	20,000 BIF					
Total	21,375,167 BIF	0 BIF/month				
Sales of Vegetables						
Potato				200,000 BIF/year		
Beans				44,000 BIF/year		
Storage fee				64 BIF/kg		
				800 kg/month		
Total				51,000 BIF/month		
Total in Year 1		21,790,167 BIF	0 BIF	856,000 BIF	856,000 BIF	28,533
2	<i>Agricultural Inputs</i>					
	DAP		66,667 BIF			
	KCL		40,000 BIF			
	Urea		10,000 BIF			
	Manure		375,000 BIF			
	Spraying Equipment		12,000 BIF			
	Pesticide (Redomil)		4,500 BIF			
	Guardman Salary			20,000 BIF/month		
	Total			528,167 BIF		
	Sales of Vegetables					
Potato				200,000 BIF/year		
Beans				44,000 BIF/year		
Cassava				4,500 BIF/year		
Banana				41,000 BIF/year		
Storage fee				64 BIF/kg		
				900 kg/month		
Total				57,375 BIF/month		
Total in Year 2		21,790,167 BIF	748,167 BIF	978,000 BIF	229,833 BIF	7,661
3	Total in Year 3	21,790,167 BIF	748,167 BIF	1,054,500 BIF	306,333 BIF	10,211
4	Total in Year 4	21,790,167 BIF	1,051,167 BIF	1,131,000 BIF	79,833 BIF	2,661
5	Total in Year 5	21,790,167 BIF	748,167 BIF	1,207,500 BIF	459,333 BIF	15,311
	SUM	108,950,833 BIF	3,295,667 BIF	5,227,000 BIF	1,931,333 BIF	64,378
				B/C=	1.586	

7.7.4 Pilot Project 5: Livestock Promotion

<p>PP5: Livestock Promotion Equivalent in PNIA Program 1: The durable increase of the production and the food security Equivalent in PNIA Sub-program 3: Intensification of the agricultural production (vegetables and animals)</p>	
<p>Target area</p>	<p>Muhororo colline in Makebuko (Colline Agriculture type)</p>  <p>Breeding Calf</p>
<p>Background/ Purposes</p>	<p>In the target area, solidarity chain system of livestock has not been established, because it was not target area of PARSE project, which established “solidarity chain committee” and systemize monitoring, breeding and provision of livestock in target area. Now PARSE project had stopped distribution of livestock, and now concentrate on capacity building of ACSA, and agro-pastoral farmers in collaboration with FFS (Farmers Field School) by FAO for strengthening existing solidarity chain system. Thus, it is necessary to provide technical support for establishment of solidarity chain in the target colline.</p> <p>And to keep livestock, enough amount of forage is necessary, however, it is difficult for most of agro-pastoral farmers to plant necessary amount of forage grass in the limited size of land, therefore, technique transfer on improvement of yield of forage grass is strongly required.</p> <p>Also, animal health service providing system is important to make “solidarity chain” function. ACSA take major role in providing animal health service to population, however, procurement of medicine, diagnostic of livestock are conducted partly in inefficient way, because the number of agro-pastoral farmers per ACSA is more than 300. Therefore, it is necessary to systemize animal health service providing system through improvement of current system and transfer technique to agro-pastoral farmers to make them capable for health care of their livestock. In the near future, animal health service providing system centered in veterinary pharmacy center will be established, that activities were proposed in PCDC of all three target commune of the Project. Though there is still no veterinary pharmacy in target three communes, this pilot project focus on strengthening and improving existing service provision by ACSA.</p> <p>Through the project, solidarity chain system will be established and production of forage will increase. Also, animal health service providing system will be strengthened operated by ACSA. At the same time, technical skills and implementation capacity of commune agronomist and colline instructors will be improved so that project will be smoothly carried out by them.</p>
<p>Contents</p>	
<p>< 5.1 Dissemination of Livestock > Main procedure of the activity</p> <ol style="list-style-type: none"> 1. Kick off MTG/Workshop, Selection of Kind of Livestock 2. Guidance/Training on Livestock 3. Construction of Cowshed 4. Selection of Variety/Procurement of Livestock and Other Materials and Distribution 5. Establishment of Management System 6. Establishment of Solidarity Chain System 7. Monitoring and Evaluation <p>< 5.2 Strengthening Forage Production > Main procedure of the activity</p> <ol style="list-style-type: none"> 1. Kick off MTG/Workshop, Selection of Kind of Grass 	

<p>PP5: Livestock Promotion Equivalent in PNIA Program 1: The durable increase of the production and the food security Equivalent in PNIA Sub-program 3: Intensification of the agricultural production (vegetables and animals)</p>			
<p>2. Guidance/Training on Forage Production 3. Procurement of Materials and Distribution 4. Demonstration at the field 5. Monitoring and Evaluation</p> <p><5.3 Strengthening Animal Health System> Main procedure of the activity</p> <p>1. Kick off MTG/Workshop 2. Guidance/Training on Animal Health 3. Construction of Animal Health Center 4. Procurement of Pharmacies and Distribution 5. Establishment of Animal Health Committee 6. Monitoring and Evaluation</p>			
Structure of Implementation			
Input	<p><Materials></p> <ul style="list-style-type: none"> - Seedlings of Forage - Cow - Feeding materials - Animal Pharmacies - Materials for cow shed - Materials for animal health centers 	<p><Personnel resource></p> <ul style="list-style-type: none"> -DPAE staffs -Commune technical and administration staffs -Colline technical and administration staffs -Farmers (Association) -JICA Study team and Contractor 	<p><Others></p> <ul style="list-style-type: none"> -Training
Expected Outcome	<p>1. Colline which was not target area of PARSE project also introduced Solidarity Chain of livestock.</p>		
Result	<ul style="list-style-type: none"> ✓ The Project selected colline, where PARSE project was not conducted. The Project procured already pregnant four (4) ✓ Next beneficiaries (association) was elected through following procedure; <ul style="list-style-type: none"> ✓ Make list of candidate association who conduct livestock → four (4) associations ✓ Election of second beneficiaries from candidate four (4) associations by Chief of colline, ACSA, CDC members, committee members of target association and committee of candidate association ✓ Commune veterinary, commune administrator, and actors above visit four (4) candidate beneficiaries and confirm situation of management of livestock and select one (1) association as second beneficiaries. ✓ Next beneficiary will receive cattle after maximum two years. 		


PP5: Livestock Promotion												
Equivalent in PNIA Program 1: The durable increase of the production and the food security												
Equivalent in PNIA Sub-program 3: Intensification of the agricultural production (vegetables and animals)												
2. Animal Health system for Solidarity Chain is strengthened.	<ul style="list-style-type: none"> ✓ ACSA periodically checks health condition of provided cows. If ACSA cannot control, commune veterinary, DPAE livestock promotion service, provincial veterinary will intervene. ✓ Also, Animal health committee among target association members was established and they charge in management of health condition of cow. ✓ For medicine, the Project provided starting kit and ACSA keep that medicine in the office constructed. After used up medicine starting kit, target association will purchase medicine for their livestock. ✓ Association members have to buy medicine after starting kit. 											
3. System for environmental protection by fixing grass (against soil erosion), soil fertility improvement by utilizing fierce of livestock, livestock integrated farming system are established.	<ul style="list-style-type: none"> ✓ 2,000 seedlings of banagrass were planted and covered 33a in public land and expand area to 65a. ✓ 22.5 ton of fierce of cow was accumulated in compost pit, it will produce 7.5 ton of manure. 											
	2012		2013									
Month	11	12	1	2	3	4	5	6	7	8	9	10
< 5.1 Dissemination of Livestock >												
1. Kick off MTG/Workshop, Selection of Kind of Livestock	■											
2. Guidance/Training on Livestock	■											
3. Construction of Cowshed	■											
4. Selection of Variety/Procurement of Livestock and Other Materials and Distribution	■											
5. Establishment of Management System	■											
6. Establishment of Solidarity Chain System	■											
7. Monitoring/Evaluation	■											
< 5.2 Strengthening Forage Production >												
1. Kick off MTG/Workshop, Selection of Kind of Grass	■											
2. Guidance/Training on Forage Production	■											
3. Procurement of Materials and Distribution	■											
4. Demonstration at the field	■											
5. Monitoring and Evaluation	■											
< 5.3 Strengthening Animal Health >												
1. Kick off MTG/Workshop	■											
2. Guidance/Training on Animal Health	■											
3. Construction of Animal Health Center	■											
4. Procurement of Pharmacies and Distribution	■											
5. Establishment of Animal Health Committee	■											
6. Monitoring and Evaluation	■											

PP5: Livestock Promotion																
Equivalent in PNIA Program 1: The durable increase of the production and the food security																
Equivalent in PNIA Sub-program 3: Intensification of the agricultural production (vegetables and animals)																
Monitoring Result	<p>1) Promotion of Cooperative Activities through Implementation of Pilot Project</p> <ul style="list-style-type: none"> ✓ Activities Calendar is established by association to maintain cow (feeding, checking health, etc.) and members well maintain cow by turns. <p>2) Conflict Prevention Mechanism</p> <ul style="list-style-type: none"> ✓ Income from cow possibly bring conflicts if money management system is not established well, therefore, organization management training was conducted for association members. Association considers well for fair division, and no conflicts happened. <p>3) Capacity Building of Local Officers</p> <ul style="list-style-type: none"> ✓ ACSA, commune veterinary and commune administration collaborate well with target association and monitor status of maintenance of cow well. ✓ Especially, ACSA well supervise health condition of provided cow and follow-up target association. <p>4) Capacity Building for Associations' Members</p> <p>For understanding of the technique transferred to beneficiaries was measured by hearing test to 2 members of association as follows;</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Question to measure degree of understanding</th> <th style="width: 33%;">Number of people who understand more than 50%</th> <th style="width: 33%;">Answer given by Association Members</th> </tr> </thead> <tbody> <tr> <td>Signs of a Healthy Animal</td> <td>0 out of 2^{*1}</td> <td> <ul style="list-style-type: none"> ✓ animal eats well, ✓ always moving ✓ temperature is not very high ✓ hairs are covered on the skin </td> </tr> <tr> <td>Symptom of Animal Sick</td> <td>1 out of 2</td> <td> <ul style="list-style-type: none"> ✓ Hair is not neatly arranged ✓ Temperature is very high ✓ Doesn't run </td> </tr> <tr> <td>Kinds of worms which often attack animals</td> <td>2 out of 2</td> <td> <ul style="list-style-type: none"> ✓ Ascaris ✓ Tenia </td> </tr> <tr> <td>Diseases which attack the animal's skin</td> <td>2 out of 2</td> <td> <ul style="list-style-type: none"> ✓ Urukushi ✓ Umukurutu </td> </tr> </tbody> </table> <p>*1; Leader of association and deputy leader of association</p>	Question to measure degree of understanding	Number of people who understand more than 50%	Answer given by Association Members	Signs of a Healthy Animal	0 out of 2 ^{*1}	<ul style="list-style-type: none"> ✓ animal eats well, ✓ always moving ✓ temperature is not very high ✓ hairs are covered on the skin 	Symptom of Animal Sick	1 out of 2	<ul style="list-style-type: none"> ✓ Hair is not neatly arranged ✓ Temperature is very high ✓ Doesn't run 	Kinds of worms which often attack animals	2 out of 2	<ul style="list-style-type: none"> ✓ Ascaris ✓ Tenia 	Diseases which attack the animal's skin	2 out of 2	<ul style="list-style-type: none"> ✓ Urukushi ✓ Umukurutu
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Symptom of Animal Sick	1 out of 2	<ul style="list-style-type: none"> ✓ Hair is not neatly arranged ✓ Temperature is very high ✓ Doesn't run 														
Kinds of worms which often attack animals	2 out of 2	<ul style="list-style-type: none"> ✓ Ascaris ✓ Tenia 														
Diseases which attack the animal's skin	2 out of 2	<ul style="list-style-type: none"> ✓ Urukushi ✓ Umukurutu 														
Operation and Maintenance System	<ul style="list-style-type: none"> ✓ Commune veterinaries, chief of colline, ACSA and CDC support establishment of operation and management system of livestock in association and solidarity-chain system. ✓ Commune administration supervises solidarity chain system through chief of colline and CDC members. 															
Reflection in Draft Action Plan and Manual	<ul style="list-style-type: none"> ✓ Accompanying kit, medicine and feeding materials shall be procured and on time. ✓ For construction of shed for cow, male cows should be separated from female cow. Another building shall be built for separation. 															
Cash Flow of the Project	<ul style="list-style-type: none"> ✓ Livestock breeding can be alternative core business for the farmers as it gets growing. With the solidarity chain of milk cow and milk producing, association can obtain rather stable profit throughout a year. The net benefit of 16million BIF, 43,200 BIF/person/year on average is expected. At this moment, 3-5 little of milk a cow are produced per day and sold at the market close to the cowshed. If association members improve milking capacity (e.g. 5-10 litter of milk per cow), they can earn more profit. 															

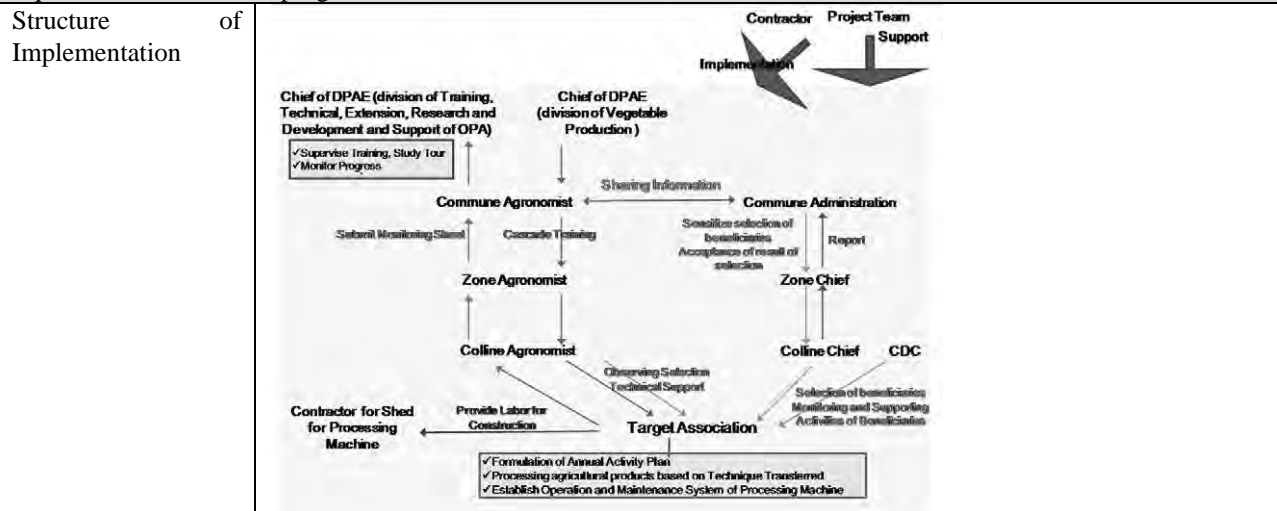
PP5: Livestock Promotion						
Equivalent in PNIA Program 1: The durable increase of the production and the food security						
Equivalent in PNIA Sub-program 3: Intensification of the agricultural production (vegetables and animals)						
Pilot Project 5 Livestock Promotion						
Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit-Cost	Per person
1	Training on Livestock Promotion	100,000 BIF				
	Cow (4 cows)	3,790,000 BIF				
	Transportation of cow	300,000 BIF				
	Construction of Shed for Cow	9,137,000 BIF				
	Total	13,327,000 BIF				
	<i>Feeding</i>					
	Forage grass	850,000 BIF				
	Concentrates					
	Cotton cake for cattle (27kg*850F)	22,950 BIF				
	(Salt)Block for licking(4 pieces * 6000F)	24,000 BIF				
	Palm cake for cattle (50kg*350F)	17,500 BIF				
	Maze bran (65kg*350F)	22,750 BIF				
	Bone meal (2kg*700F)	1,400 BIF				
	Kitchen salt (2kg*700F)	1,400 BIF				
	Lime (2kg*500F)	1,000 BIF				
Wheat bran (40kg*350F)	14,000 BIF					
Rice bran (30kg*130F)	3,900 BIF					
<i>Veterinary Products</i>						
Butalex (2boxes*35,000F)	70,000 BIF					
Oxy 20% (2boxes*4,500F)	9,000 BIF					
Analgin (2boxes*4,500F)	9,000 BIF					
Berenil (5sacs*500F)	2,500 BIF					
Multivitamin (2boxes*5000F)	10,000 BIF					
<i>Others</i>						
Guardman salary			30,000 BIF/month			
Total		1,059,400 BIF	30,000 BIF/month			
	Milk			60,000 BIF/month		
	Manure			20,000 BIF/month		
	Total			60,000 BIF/month		
	Total in Year 1	14,386,400 BIF	360,000 BIF	720,000 BIF	360,000 BIF	12,000
2	<i>Feeding</i>					
	Forage grass		850,000 BIF			
	Concentrates					
	Cotton cake for cattle (27kg*850F)		22,950 BIF			
	(Salt)Block for licking(4 pieces * 6000F)		24,000 BIF			
	Palm cake for cattle (50kg*350F)		17,500 BIF			
	Maze bran (65kg*350F)		22,750 BIF			
	Bone meal (2kg*700F)		1,400 BIF			
	Kitchen salt (2kg*700F)		1,400 BIF			
	Lime (2kg*500F)		1,000 BIF			
	Wheat bran (40kg*350F)		14,000 BIF			
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Analgin (2boxes*4,500F)		9,000 BIF				
Berenil (5sacs*500F)		2,500 BIF				
Multivitamin (2boxes*5000F)		10,000 BIF				
<i>Others</i>						
Guardman salary			30,000 BIF/month			
Total			1,059,400 BIF			
	Cow(4 cows)			2,000,000 BIF		
	Milk			112,500 BIF/month		
	Manure			20,000 BIF/month		
	Total			112,500 BIF/month		
	Total in Year 2	14,386,400 BIF	2,478,800 BIF	3,350,000 BIF	871,200 BIF	29,040
3	Total in Year 3	14,386,400 BIF	2,526,800 BIF	3,350,000 BIF	823,200 BIF	27,440
4	Total in Year 4	14,386,400 BIF	2,478,800 BIF	4,700,000 BIF	2,221,200 BIF	74,040
5	Total in Year 5	14,386,400 BIF	2,478,800 BIF	4,700,000 BIF	2,221,200 BIF	74,040
	SUM	71,932,000 BIF	10,323,200 BIF	16,820,000 BIF	6,496,800 BIF	216,560
				B/C=	1.629	

7.8 Pilot Projects at Off-farm Type

7.8.1 Pilot Project 6: Agricultural Products Processing Promotion

PP6: Agricultural Products Processing Promotion Equivalent in PNIA Program 12: The draw plates development / agro-business Equivalent in PNIA Sub-program 12: The rural infrastructures	
Target area	Mwaro-Mavuvu colline in Makebukoko commune, Gisikara colline in Itaba commune, Ruvumu colline in Bukirasazi commune (Off-farm type Colline)
	 <p style="text-align: center;">Banana wine made by the activity</p>
Background/ Purposes	<p>There have been many socially vulnerable people in the Study area affected by the conflict. Among them, there are many people who do not or almost not have arable lands for crop production in the area. Therefore, promotion of activities has been necessary for such kind of people in order to increase their livelihood.</p> <p>In addition, supports to them may be possible through associations' activities which do not utilize fields, because there are many associations that support socially vulnerable people such as orphans and widows through their activities.</p> <p>PCDC aimed at activating agricultural processing activities in commune, however, these projects has not yet been conducted.</p> <p>In this PP, agricultural products processing association will be established and strengthened as independent organization, training on agro-alimentary processing will be provided to the association and also session on operation and maintenance of processing machine will be conducted with the machine installment.</p> <p>This PP aims to verify suitable way to establish and strengthen agricultural processing association, transfer technique, install processing machine and establish operation and management system. Through this verification, possibility of improving the living of member of association, supporting social vulnerable people also will be verified. Additionally, technical skills and implementing capacity of commune agronomist and Colline Instructors will be improved so that project will be smoothly carried out by them.</p>
Contents	
<p>< 6.1 Establishment and capacity building of associations></p> <ol style="list-style-type: none"> 1 Selection of association which includes or helps socially vulnerable people 2 Training on association management and accounting 3 Drawing an annual action plan <p><6.2 Training on agro-alimentary processing></p> <ol style="list-style-type: none"> 1 Training on agro-alimentary processing 2 Giving technical advice on how to grow crops for processing to members of association <p>< 6.3 Installation of processing machines></p> <ol style="list-style-type: none"> 1 Procurement of food processing machine 2 Provision of training on how to use the machine and its maintenance 3 Machine maintenance by beneficiaries 	

PP6: Agricultural Products Processing Promotion
Equivalent in PNIA Program 12: The draw plates development / agro-business
Equivalent in PNIA Sub-program 12: The rural infrastructures



Input	<Materials> -Food processing machine	<Personnel resource> -DPAAE staffs -Commune technical and administration staffs -Colline technical and administration staffs - Association -JICA Study team and Contractor	<Others> -Training -Seminar
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Expected Outcome	Result
1. Associations function well as organization.	✓ Decision making system and periodical meeting were well organized. On the other hand, profit management system shall be strengthened. People need detail explanation about cash flow concerning agricultural crops processing from treasury and leader of association. Also, mutual surveillance system shall be introduced in profit management.
2. Associations introduce and practice value-adding technique on agro-alimentary crops processing.	✓ Target beneficiaries understood and practiced agro-alimentary processing technique. However, they lack knowledge of hygiene management and storage of products, therefore, such technique shall be followed up.
3. Production of processed agricultural products, preservation, marketing and selling system will be established.	✓ Target beneficiaries produced processed agricultural products well. For preservation, marketing and selling, it is necessary to be followed-up.

	2012		2013									
Month	11	12	1	2	3	4	5	6	7	8	9	10
Coordination of Stakeholders on agricultural processing promotion	—											
< 6.1 Establishment and capacity building of associations >												
Selection of association which helps socially vulnerable people	—											
Training on association management and accounting					—							
Drawing an annual action plan						—	—	—	—	—	—	—

PP6: Agricultural Products Processing Promotion																															
Equivalent in PNIA Program 12: The draw plates development / agro-business																															
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Procurement of food processing machine																															
Provision of training																															
Production																															
Machine maintenance																															
Monitoring/Evaluation																															
Monitoring Result	<p>1) Promotion of Cooperative Activities through Implementation of Pilot Project</p> <ul style="list-style-type: none"> ✓ Participation rate in the activities is good. Through activities, the members of association strengthen solidarity and increase frequency of working together. ✓ Target beneficiaries collaborated well for elaboration of their action plan on agro-alimentary processing business and support activities for vulnerable people. <p>2) Conflict Prevention Mechanism/ Consideration for People in Need of Special Attention</p> <ul style="list-style-type: none"> ✓ In Gisikara, operator of milling machine, who was employed from outside the association, escaped with money collected from one day's operation of milling machine. The Project promoted the target beneficiaries to discuss about solution and they decided to separate operator and money collector. Now target beneficiaries collect money by turns and fill cash book, and those who cannot read and write shall be accompanied by another beneficiary. Collected money shall be handed over to treasury of target beneficiaries and treasury saved money in association account weekly. ✓ In Mwaro-Mavuvu and Ruvumu, widows' participation rate in the activities is high. Also, in Gisikara, target beneficiaries provided beans to persons having less land as association activities. <p>3) Capacity Building of Local Officers</p> <ul style="list-style-type: none"> ✓ Currently, training program for agro-alimentary processing technique targeting local officers and technicians is not established. For training conducted targeting local officers and technicians, degree of understanding of training measured by test is high, but they need opportunity of practice of transferred technique. ✓ About role described in draft action plan, DPAE staff well contributed to supervision of procurement for quality control and preparation of module for training. <p>4) Capacity Building for Associations' Members</p> <p>For understanding of the technique transferred to beneficiaries and effectiveness was measured by interview to 3 members of association as follows;</p> <table border="1"> <thead> <tr> <th rowspan="3">Question to measure degree of understanding</th> <th colspan="3">Number of people who understand more than 50%</th> <th rowspan="3">Answer given by association members</th> </tr> <tr> <th>Makebuko</th> <th>Itaba</th> <th>Bukirasazi</th> </tr> <tr> <th>Mwaro-Mavuvu</th> <th>Gisikara</th> <th>Ruvumu</th> </tr> </thead> <tbody> <tr> <td>Have you understand the contents of training?</td> <td>2 out of 3</td> <td>3 out of 3</td> <td>2 out of 3</td> <td> <ul style="list-style-type: none"> ✓ All necessary materials we got ✓ How to manage treasure (accounting) ✓ How to maintain association ✓ How to make banana wine </td> </tr> <tr> <td>Can you utilize the results in the training of your activities?</td> <td>2 out of 3</td> <td>3 out of 3</td> <td>3 out of 3</td> <td> <ul style="list-style-type: none"> ✓ Use technical knowledge we learnt ✓ Increase capital to sell products ✓ How to request grant for </td> </tr> </tbody> </table>										Question to measure degree of understanding	Number of people who understand more than 50%			Answer given by association members	Makebuko	Itaba	Bukirasazi	Mwaro-Mavuvu	Gisikara	Ruvumu	Have you understand the contents of training?	2 out of 3	3 out of 3	2 out of 3	<ul style="list-style-type: none"> ✓ All necessary materials we got ✓ How to manage treasure (accounting) ✓ How to maintain association ✓ How to make banana wine 	Can you utilize the results in the training of your activities?	2 out of 3	3 out of 3	3 out of 3	<ul style="list-style-type: none"> ✓ Use technical knowledge we learnt ✓ Increase capital to sell products ✓ How to request grant for
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PP6: Agricultural Products Processing Promotion						
Equivalent in PNIA Program 12: The draw plates development / agro-business						
Equivalent in PNIA Sub-program 12: The rural infrastructures						
		Have you improved your capacity through the training?	3 out of 3	3 out of 3	2 out of 3	activities ✓ Got enough materials and knowledge ✓ Got knowledge about association management and accounting
Operation and Maintenance System	✓	Colline agricultural monitor follow-up practice of transferred technique for beneficiaries.				
	✓	Commune agronomist, chief of colline, Colline agricultural monitor and CDC support establishment of operation and management system of processing machine and processing business.				
Reflection in Draft Action Plan and Manual	✓	It is necessary to decide crops to be processed before selection of target beneficiaries to design shed for processing machine cum workspace, and calculate cost for other necessary materials. Enough space and shelves for crops to be processed is necessary for shed cum workspace.				
	✓	Follow-up after training on association management and accounting is necessary, especially accounting and income management. Frequently, lack of knowledge and practice on accounting and income management will cause misunderstanding and conflict among target association members.				
	✓	Colline instructors lack of opportunity to acquire knowledge on technique concerning agro-alimentary processing.				

Cash Flow of the Project

Milling

Pilot Project 6 Agricultural Products Processing Promotion: Milling Activities

Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit-Cost	per person
	Milling house	8,164,000 BIF				
	Training on Association Management	1,000,000 BIF				
	Milling Machine	5,000,000 BIF				
	Construction of Shed for Machine	6,000,000 BIF				
	Training on Operation and Maintenance of Machine	250,000 BIF				
	Total	20,414,000 BIF				
1	Repairment of Machine	93,000 BIF/m				
	Fuel		78,333 BIF/month			
	Operator salary		20,000 BIF/month			
	Guardman salary		20,000 BIF/month			
	Total	1,116,000 BIF	118,333 BIF/month			
	Milling Fee			42 BIF/kg		
	Average Price			3,750 kg/month		
	Estimated Milling Amount			157,500 BIF/month		
	Total in Year 1	21,530,000 BIF	1,420,000 BIF	1,890,000 BIF	470,000 BIF	18,800
2	Repairment of Machine		50,000 BIF/month			
	Fuel		30,000 BIF/month			
	Operator salary		40,000 BIF/month			
	Guardman salary		20,000 BIF/month			
	Total		140,000 BIF/month			
	Milling Fee			42 BIF/kg		
	Average Price			3,750 kg/month		
	Estimated Milling Amount			157,500 BIF/month		
	Total in Year 2		1,680,000 BIF	1,890,000 BIF	210,000 BIF	8,400
3	Total in Year 3		1,680,000 BIF	2,520,000 BIF	840,000 BIF	33,600
4	Total in Year 4		1,680,000 BIF	3,150,000 BIF	1,470,000 BIF	58,800
5	Total in Year 5		1,680,000 BIF	3,780,000 BIF	2,100,000 BIF	84,000
	SUM	21,530,000 BIF	8,140,000 BIF	13,230,000 BIF	5,090,000 BIF	203,600
				B/C=	1.625	

In the first year, milling activities is expecting around 50 customers per day (3kg*50customers*25 days). As far as the pilot project is evaluated, this target figure can be achievable. B/C of 1.63 is expected and the calculation estimates the net benefit of 1 to 2 million BIF, around 30,000 to 80,000 BIF/person/year. Reducing operational cost (especially fuel and repairing cost) is the key for income generation of association members.

PP6: Agricultural Products Processing Promotion
Equivalent in PNIA Program 12: The draw plates development / agro-business
Equivalent in PNIA Sub-program 12: The rural infrastructures

Donut Making

Pilot Project 6 Agricultural Products Processing Promotion: Donut Making

Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit-Cost	Per person
1	Training on Association Management	15,850,000 BIF				
	mixer for sweet potato	1,000,000 BIF				
	kitchen utensils	5,000,000 BIF				
	Construction of Shed for Machine	6,000,000 BIF				
	Total	27,850,000 BIF				
1	Sweet Potato		0 BIF/month			
	Other Materials for cooking beignet		112,000 BIF/month			
	Total		112,000 BIF/month			
1	Average Price			100 BIF/pieces		
	Estimated Processing Amount			2,000 pieces/month		
	Total			200,000 BIF/month		
	Total in Year 1	27,850,000 BIF	1,344,000 BIF	2,400,000 BIF	1,056,000 BIF	29.333
2	Sweet Potato		0 BIF/month			
	Other Materials for cooking beignet		168,000 BIF/month			
	Total		168,000 BIF/month			
	Average Price			100 BIF/pieces		
Estimated Processing Amount			3,000 pieces/month			
Total			300,000 BIF/month			
	Total in Year 2	0 BIF	2,016,000 BIF	3,600,000 BIF	1,584,000 BIF	44.000
3	Total in Year 3	0 BIF	2,688,000 BIF	4,800,000 BIF	2,112,000 BIF	58.667
4	Total in Year 4	0 BIF	3,360,000 BIF	6,000,000 BIF	2,640,000 BIF	73.333
5	Total in Year 5	0 BIF	4,032,000 BIF	7,200,000 BIF	3,168,000 BIF	88.000
	SUM	27,850,000 BIF	13,440,000 BIF	24,000,000 BIF	10,560,000 BIF	293.333
					B/C=	1.786

Donut making project is unique to some extent, since it can reach out not only female farmers, but also those who need special attention. In this project, female workers run a donut making shop. B/C of 1.79 is expected and the net benefit of 1 to 3 million BIF, 40,000 to 80,000 BIF/person/year is expected. However, evaluated by the book keeping, there is a space for improvement of financial control of cost and benefit, as the cash flow cannot be traced by their book.

Banana Wine


Pilot Project 6 Agricultural Products Processing Promotion: Banana Wine Brewing

Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit-Cost	Per person
1	Office	7,834,000 BIF				
	Training on Association Management	1,000,000 BIF				
	Processing Machine	5,000,000 BIF				
	Construction of Shed for Machine	6,000,000 BIF				
	Training on Operation and Maintenance of Machine	250,000 BIF				
	Total	20,084,000 BIF				
1	Banana		20,000 BIF/month			
	Repariment	10,000 BIF/month				
	Fuel	10,000 BIF/month				
	Bottle		2,500 BIF/month			
Guardman salary		20,000 BIF/month				
Total	240,000 BIF/month		42,500 BIF/month			
1	Average Price			1,000 BIF/bottle		
	Estimated Processing Amount			50 Bottle		
	Total			50,000 BIF/month		
	Total in Year 1	20,084,000 BIF	510,000 BIF	600,000 BIF	90,000 BIF	4.737
2	Banana		20,000 BIF/month			
	Repariment		10,000 BIF/month			
	Fuel		10,000 BIF/month			
	Bottle		5,000 BIF/month			
	Guardman salary		20,000 BIF/month			
	Total		65,000 BIF/month			
2	Milling Fee			1,000 BIF/bottle		
	Average Price			100 bottle/month		
	Total			100,000 BIF/month		
	Total in Year 2	BIF	780,000 BIF	1,200,000 BIF	420,000 BIF	22.105
3	Total in Year 3	BIF	786,000 BIF	1,320,000 BIF	534,000 BIF	28.105
4	Total in Year 4	BIF	792,000 BIF	1,440,000 BIF	648,000 BIF	34.105
5	Total in Year 5	BIF	804,000 BIF	1,800,000 BIF	996,000 BIF	52.421
	Grand Total	20,084,000 BIF	3,672,000 BIF	6,360,000 BIF	2,688,000 BIF	141.474
					B/C=	1.732

B/C of 1.73 is expected and the calculation estimates the net benefit of 0.4 to 1 million BIF, about 20,000 to 50,000 BIF/person/year. Banana wine brewing is one of the most popular small businesses in the province of Gitega.

<p>PP6: Agricultural Products Processing Promotion Equivalent in PNIA Program 12: The draw plates development / agro-business Equivalent in PNIA Sub-program 12: The rural infrastructures</p> <p>Although there might be demand for this traditional alcoholic beverage, banana wine business by itself does not make significant profit out of it as well as other activities. Therefore, this activity is also characterized as a sideline business for farmers.</p>

7.8.2 Pilot Project 7: Marketing Promotion


<p>PP7: Marketing Promotion Equivalent in PNIA Program 12: The draw plates development / agro-business Equivalent in PNIA Sub-program 12: The rural infrastructures</p>	
<p>Target area</p>	<p>Makebuko, Gihamagara, Bukirasazi colline (Off-farm type Colline)</p>  <p style="text-align: center;">Marketing promotion</p>
<p>Background/Purposes</p>	<p>There are many people who do not or almost not have arable lands for crop production. Therefore, promotion of activities has been necessary for these people in order to increase their livelihood.</p> <p>Target collines have comparatively big markets because they are center of commune. Therefore, strategically establishment of marketing and distribution system is necessary.</p> <p>In addition, PCDC aimed at activating commercial activities near central market in commune, however, these projects has not yet been conducted.</p> <p>In this PP, market research will be conducted and based on that, simple market information sharing system will be established. In parallel, footpath road will be rehabilitated to improve access to market.</p> <p>This PP aims to verify i) improving of bargaining power of producers in market, ii) the increase efficiency of distribution of agricultural products to market, iii) creation of income resource through establishment of distribution by wheelbarrow system to be operated by association.</p> <p>This PP aims to verify suitable and feasible way to establish market information providing system. PP also aims to verify improvement of accessibility to market with small input. Through this verification, possibility of improving the livelihood of association members, supporting social vulnerable people also will be verified. Additionally, technical skills and implementing capacity of commune agronomist and Colline Instructors will be improved so that project will be smoothly carried out by them.</p>
<p>Contents</p> <p>< 7.1 Market Research for Marketing of the Cash Crops and Establish Marketing Information Providing System ></p> <p>1 Training on SIP (Systemme d' Information sur la Securite Alimentaire et sur les Prix des Produits Agricoles au Burundi)</p> <p>2 Collection of Market Information</p> <p>3 Price Information Disclosure</p> <p>< 7.2 Improvement of Access to Market ></p> <p>1 Identify foot path roads to market, which need to be rehabilitated</p> <p>2 Procurement and Distribution of Materials</p> <p>3 Rehabilitation of footpath</p>	

PP7: Marketing Promotion Equivalent in PNIA Program 12: The draw plates development / agro-business Equivalent in PNIA Sub-program 12: The rural infrastructures			
Structure of Implementation			
Input	<Materials> -Storage -Bicycle -Materials for footpath rehabilitation	<Personnel resource> -DPAE staffs -Commune technical and administration staffs -Colline technical and administration staffs - Association -JICA Study team and Contractor	<Others> -Training -Study tour
Expected Outcome	Result		
1 Amount of agricultural products handled in the market increases 2. Income from selling agricultural products increase. 3. Beneficiaries and commune maintain rehabilitated access footpath to the market sustainably.	✓ In Gihamagara, association members purchased 300 kg of maize at 350 BIF/kg. ✓ In Makebuko, association members purchased 150 kg of cassava at 250 BIF/kg. This cassava will be sold after milling, and milling costs 50BIF/kg and transportation costs 50 BIF/kg, therefore, totally 350 BIF/kg. ✓ In Bukirasazi, association members plan to purchase banana and pineapple for selling at market. ✓ In Gihamagara, target association sold maize at 400BIF/kg, and gain benefits at 50 BIF/kg X 300 kg, meaning 15,000 BIF. ✓ In Makebuko, target association sold cassava flour at 500 BIF/kg, and gain benefits at 150kg X (500-350) BIF/kg, meaning 22,500 BIF. ✓ In Gihamagara, the target association rehabilitated footpath from Gihamagara to Buhevnyi zone. Now, they finished one kilometer rehabilitation. ✓ In Bukirasazi, the target association rehabilitated footpath from Bukirasazi to Nyamisure. Now, they finished rehabilitation at 3 kilometers. ✓ In Makebuko, they did not do anything. Because many members of the association are public officers, they spent their time on their job. They said that they have		

PP7: Marketing Promotion																																	
Equivalent in PNIA Program 12: The draw plates development / agro-business																																	
Equivalent in PNIA Sub-program 12: The rural infrastructures																																	
no time for that rehabilitation.																																	
	2012		2013																														
Month	11	12	1	2	3	4	5	6	7	8	9	10																					
Coordination of Stakeholders on marketing promotion	█																																
< 7.1 Market Research for Marketing of the Cash Crops and Establish Marketing Information Providing System >																																	
Training on SIP					█	█																											
Collection of Market Information							█	█	█	█	█	█																					
Price Information Disclosure									█	█	█	█																					
< 7.2 Improvement of Access to Market >																																	
Identification of footpath roads to market, which need to be rehabilitated		█																															
Procurement and Distribution of Materials				█	█																												
Rehabilitation of footpath							█	█	█	█	█	█																					
Monitoring/Evaluation		█	█	█	█	█	█	█	█	█	█	█																					
Monitoring Result	<p>1) Promotion of Cooperative Activities through Implementation of Pilot Project</p> <ul style="list-style-type: none"> ✓ Participation rate in the activities is good. Through activities, the members of association strengthen solidarity and increase frequency of working together. ✓ Target beneficiaries collaborated well for elaboration of their action plan on their storage business. <p>2) Conflict Prevention Mechanism/Consideration for People in Need of Special Attention</p> <ul style="list-style-type: none"> ✓ Decision making system is well established in target associations, and cash flow concerning storage business is well managed. ✓ In Bukirasazi and Gihamagara, IDP members' participation rate in the activities is high and active. <p>3) Capacity Building of Local Officers</p> <ul style="list-style-type: none"> ✓ Currently, training program for marketing promotion targeting local officers and technicians is not established. For training conducted targeting local officers and technicians on marketing promotion, degree of understanding of training measured by test is high, but they need opportunity of practice of transferred technique. ✓ DPAE staff took initiative to reactivate former market research and market information providing system and Colline agricultural monitor collected price information every week in the market and disclosure that information to people after data verification by DPAE staff. ✓ Commune administration identified footpath to the market to be rehabilitated through permission from commune council. <p>4) Capacity Building for Associations' Members</p> <p>For understanding of the technique transferred to beneficiaries and effectiveness was measured by interview to 3 members of association as follows;</p> <table border="1"> <thead> <tr> <th rowspan="3">Question to measure degree of understanding</th> <th colspan="3">Number of people who understand more than 50%</th> <th rowspan="3">Answer given by association members</th> </tr> <tr> <th>Makebuko</th> <th>Itaba</th> <th>Bukirasazi</th> </tr> <tr> <th>Makebuko</th> <th>Gihamagara</th> <th>Bukirasazi</th> </tr> </thead> <tbody> <tr> <td>Have you understand the contents of training?</td> <td>0 out of 3</td> <td>2 out of 3</td> <td>2 out of 3</td> <td> <ul style="list-style-type: none"> ✓ Training period was very short ✓ Understood the importance of working together ✓ How to manage association and accounting ✓ Importance of considering of families </td> </tr> <tr> <td>Can you utilize the results in the</td> <td>3 out of 3</td> <td>3 out of 3</td> <td>3 out of 3</td> <td> <ul style="list-style-type: none"> ✓ Let's work hard in order to success the project </td> </tr> </tbody> </table>												Question to measure degree of understanding	Number of people who understand more than 50%			Answer given by association members	Makebuko	Itaba	Bukirasazi	Makebuko	Gihamagara	Bukirasazi	Have you understand the contents of training?	0 out of 3	2 out of 3	2 out of 3	<ul style="list-style-type: none"> ✓ Training period was very short ✓ Understood the importance of working together ✓ How to manage association and accounting ✓ Importance of considering of families 	Can you utilize the results in the	3 out of 3	3 out of 3	3 out of 3	<ul style="list-style-type: none"> ✓ Let's work hard in order to success the project
Question to measure degree of understanding	Number of people who understand more than 50%			Answer given by association members																													
	Makebuko	Itaba	Bukirasazi																														
	Makebuko	Gihamagara	Bukirasazi																														
Have you understand the contents of training?	0 out of 3	2 out of 3	2 out of 3	<ul style="list-style-type: none"> ✓ Training period was very short ✓ Understood the importance of working together ✓ How to manage association and accounting ✓ Importance of considering of families 																													
Can you utilize the results in the	3 out of 3	3 out of 3	3 out of 3	<ul style="list-style-type: none"> ✓ Let's work hard in order to success the project 																													

PP7: Marketing Promotion							
Equivalent in PNIA Program 12: The draw plates development / agro-business							
Equivalent in PNIA Sub-program 12: The rural infrastructures							
	training of your activities?					<ul style="list-style-type: none"> ✓ Improve agriculture system using learnt knowledge ✓ Shear knowledge we learnt to other members 	
	Have you improved your capacity through the training?	2 out of 3	3 out of 3	1 out of 3		<ul style="list-style-type: none"> ✓ How to fill in the check book, and how to look for product market and way of food processing ✓ Improve association management to work together 	
Operation and Maintenance System		<ul style="list-style-type: none"> ✓ DPAE staff decide procurement place for seedlings of grass for fixing, seedlings of tree for afforestation and agro-forestry and fruit and control quality in procurement. ✓ Commune administration, Commune agronomist, chief of colline, Colline agricultural monitor and CDC members supervise distribution of seedlings and other materials to beneficiaries. ✓ Colline agricultural monitor collect market price and DPAE staff verifies these collected data. After verification, Colline agricultural monitor revealed price information in bulletin boards installed in market and storage owned by target beneficiaries. ✓ Chief of colline, Colline agricultural monitor and CDC monitor activities of target beneficiaries based on the action plan target beneficiaries elaborated. 					
Reflection in Draft Action Plan and Manual		<ul style="list-style-type: none"> ✓ Follow-up after training on association management and accounting is necessary, especially accounting and income management. Frequently, lack of knowledge and practice on accounting and income management will cause misunderstanding and conflict among target association members. 					
Cash Flow of the Project		<ul style="list-style-type: none"> ✓ This project is directly related to the livelihood improvement of those who engage in agricultural activities. However, considering the possible shipping volume and store facilities, effect of value-addition by shipping adjustment is still limited. Therefore, the growth of benefit relies on the markup (net sales amount minus net primary cost) of the agricultural products and frequency of bicycle rental. B/C of 1.15 is expected and the Project estimates net benefit is around 1 million BIF, about 20,000 BIF/person/year. 					
Pilot Project 7 Marketing Promotion							
Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit-Cost	Per person	
1	Office	7,834,000 BIF					
	Training on Association Management (accounting, business and action plan, 3 days)	750,000 BIF					
	Storage for surplus of crops	7,656,036 BIF					
	Bicycle (4 Bicycles)	800,000 BIF					
	Materials for rehabilitation of footpath	680,000 BIF					
	Total	17,720,036 BIF					
1	Maintenance of Bicycle		8,000 BIF/month				
	Procurement of Crops to be stored		345,000 BIF/month				
	Guardman salary for storage		17,500 BIF/month				
	Total		370,500 BIF/month				
1	Bicycle Rental Income			48,000 BIF/month			
	Stored Crops Sales Amounts			375,000 BIF/month			
	Total			423,000 BIF/month			
	Total in Year 1	17,720,036 BIF	4,446,000 BIF	5,076,000 BIF	630,000 BIF	12,600	
2	Maintenance of Bicycle		8,000 BIF/month				
	Procurement of Crops to be stored		402,500 BIF/month				
	Guardman salary for storage		21,500 BIF/month				
		Total		432,000 BIF/month			
	Bicycle Rental Income			57,600 BIF/month			
Stored Crops Sales Amounts			437,500 BIF/month				
	Total			495,100 BIF/month			
	Total in Year 2	0 BIF	5,184,000 BIF	5,941,200 BIF	757,200 BIF	15,144	
3	Total in Year 3	0 BIF	5,922,000 BIF	6,806,400 BIF	884,400 BIF	17,688	
4	Total in Year 4	0 BIF	6,240,000 BIF	7,191,600 BIF	951,600 BIF	19,032	
5	Total in Year 5	0 BIF	6,978,000 BIF	8,056,800 BIF	1,078,800 BIF	21,576	
	Grand Total	17,720,036 BIF	28,770,000 BIF	33,072,000 BIF	4,302,000 BIF	86,040	
					B/C=	1.150	

7.8.3 Pilot Project 8: Handicraft Industry Promotion

PP8: Handicraft Industry Promotion Equivalent in PNIA Program 12: The draw plates development / agro-business Equivalent in PNIA Sub-program 12: The rural infrastructures	
Target area	Mwaro-Ngundu colline (including Batwa village(1)) in Makebuko commune, Macu colline in Itaba commune, Kibere colline (including Batwa village(1)) in Bukirasazi commune (Off-farm type Colline)
	 <p>Pottery making as handicraft industry promotion</p>
Background/ Purposes	<p>There have been many socially vulnerable people in the Study area affected by the conflict. Among them, there are many people who do not or almost not have arable lands for crop production. Therefore, promotion of activities t has been necessary for these people in order to increase their livelihood.</p> <p>In addition, supports to them may be possible through associations' activities which do not utilize fields, because there are many associations that support socially vulnerable people such as orphans and widows through their activities.</p> <p>PCDC aimed at strengthening handicraft activities in commune, however, these projects has not yet been conducted.</p> <p>In this PP, handicraft association will be established and strengthened as independent organization, training on handicraft will be provided to the association and also session on operation and maintenance of machine will be conducted with the machine installment.</p> <p>This PP aims to verify suitable way to establish and strengthen handicraft association, transfer technique, install machine and establish operation and management system. Through this verification, possibility of improving the livelihood of association member, supporting social vulnerable people also will be verified. Additionally, technical skills and implementing capacity of Commune Agronomist and Colline Instructors will be improved so that project will be smoothly carried out by them.</p>
Contents	
<p>< 8.1 Establishment and strengthening association></p> <ol style="list-style-type: none"> 1 Selection of association which includes or helps socially vulnerable people 2 Training on association management and accounting 3 Drawing an annual action plan <p>< 8.2 Training on Handicraft Industry></p> <ol style="list-style-type: none"> 1 Training on handicraft industry 2 Training on ceramic for Batwa people <p>< 8.3 Machine installation></p> <ol style="list-style-type: none"> 1 Procurement of handicraft industry machine 2 Provision of training on how to use the machine and its maintenance 3 Monitoring of activity by Monitoring committee organized for the project 4 Machine maintenance by beneficiaries 	

PP8: Handicraft Industry Promotion Equivalent in PNIA Program 12: The draw plates development / agro-business Equivalent in PNIA Sub-program 12: The rural infrastructures			
Structure of Implementation			
Input	<Materials> -Handicraft Machine Industry	<Personnel resource> -DPAE staffs -Commune technical and administration staffs -Colline technical and administration staffs -Association -JICA Study team	<Others> -Training
Expected Outcome	Result		
1. Associations function well as organization.	✓ In Mwaro-Ngundu and Kibere, decision making system and periodical meeting were well organized. ✓ In Macu, not a few members go to Tanzania to earn money as farming labor during rainy season, therefore, only active five (5) members well participated in the meetings and activities. ✓ In Batwa community in Mwaro-Ngundu, people's group feel proud to be registered as association. ✓ In Batwa community in Kibere, firstly people don't want to be organized into association. But, several times explanation about benefit of association by commune administration and staff of Ministry of Community Development, they became positive about association activities and registered in commune.		
2. Associations introduce and practice technique on handicraft industry.	✓ Target beneficiaries understood and practiced handicraft industry technique. That is also based on some members' experience of the introduced handicraft industry.		
3. Production of products, marketing and selling will be established.	✓ In Mwaro-Ngundu beneficiaries produce furniture and in Macu, tiles are being produced. For marketing and selling, it is necessary to be followed-up. ✓ In Kibere, people don't have experience of selling bricks, therefore, they didn't feel realization about their business plan and didn't produce enough bricks for sales. It is necessary for them to produce planned quantity of bricks and sell bricks, so, earned money motivate them for		

PP8: Handicraft Industry Promotion												
Equivalent in PNIA Program 12: The draw plates development / agro-business												
Equivalent in PNIA Sub-program 12: The rural infrastructures												
	production. ✓ Batwa people don't achieve enough production of vases. They also need realization about higher profits of ceramic vases than that of their traditional pots for production of vases (for flowers).											
	2012		2013									
Month	11	12	1	2	3	4	5	6	7	8	9	10
< 8.1 Establishment and strengthening association >												
Selection of association which includes or helps socially vulnerable people	—											
Training on association management and accounting				—								
Drawing an annual action plan						—	—	—	—	—	—	—
< 8.2 Training on Handicraft Industry >												
Training on handicraft industry								—	—	—	—	
Training on ceramic for Batwa people									—	—	—	
< 8.3 Machine installation >												
Procurement of machine							—	—	—	—	—	
Provision of training									—	—	—	
Production										—	—	—
Machine maintenance										—	—	—
Monitoring/Evaluation	—	—	—	—	—	—	—	—	—	—	—	—
Monitoring Result	<p>1) Promotion of Cooperative Activities through Implementation of Pilot Project</p> <ul style="list-style-type: none"> ✓ Participation rate in the activities is good. Through activities, the members of association strengthen solidarity and increase frequency of working together. ✓ Target beneficiaries collaborated well for elaboration of their action plan on handicraft business and support activities for vulnerable people. <p>2) Conflict Prevention Mechanism/ Consideration for People in Need of Special Attention</p> <ul style="list-style-type: none"> ✓ In Macu, not a few members go to Tanzania to earn money as farming labor during rainy season, therefore, only five (5) active members participate in the activities. It is necessary to show profits of production and sales of tiles to people who go to Tanzania to motivate them for tile making. ✓ In Kibere, target beneficiaries don't feel profits of production, and they are not well motivated to produce brick. It is necessary to make them realize profit of brick making. ✓ In Mwaro-Ngundu, IDP and widows' participation rate in the activities is high. Also, in Mwaro-Ngundu, target beneficiaries plan to conduct carpentry training for orphans who need to acquire skill utilizing machine provided through the Project. Also, target beneficiaries provided school materials to orphans. ✓ In Batwa communities, target beneficiaries don't feel profits of production, and they are not well motivated to produce ceramic vases. It is necessary to make them realize profit of ceramic vases making. <p>3) Capacity Building of Local Officers</p> <ul style="list-style-type: none"> ✓ Currently, training program for handicraft industry technique targeting local officers and technicians is not established. ✓ About role described in draft action plan, DPAE staff well contributed to supervision of procurement for quality control. <p>4) Capacity Building for Associations' Members</p> <p>For understanding of the technique transferred to beneficiaries and effectiveness was measured by interview to 3 members of association as follows; Carpentry, Tile, Bricks</p>											

PP8: Handicraft Industry Promotion				
Equivalent in PNIA Program 12: The draw plates development / agro-business				
Equivalent in PNIA Sub-program 12: The rural infrastructures				
Question to measure degree of understanding	Number of people who understand more than 50%			Answer given by association members
	Makebuko	Itaba	Bukirasazi	
	Mwaro-Ngundu	Macu	Kibere	
Have you understand the contents of training?	0 out of 3	2 out of 3	2 out of 3	<ul style="list-style-type: none"> ✓ How to maintain materials ✓ How to manage association and account ✓ Got technical knowledge ✓ Importance of group working
Can you utilize the results in the training of your activities?	3 out of 3	3 out of 3	3 out of 3	<ul style="list-style-type: none"> ✓ How to operate and maintenance of machine ✓ Work together once a week ✓ How to manage accounting as keeping good condition ✓ Share learnt knowledge with other members
Have you improved your capacity through the training?	1 out of 3	3 out of 3	1 out of 3	<ul style="list-style-type: none"> ✓ How to use materials ✓ How to manage association and account ✓ Got improved technique
Ceramic (Batwa)				
Question to measure degree of understanding	Number of people who understand more than 50%		Answer given by association members	
	Makebuko	Bukirasazi		
	Mwaro-Ngundu	Kibere		
Have you understand the contents of training?	1 out of 3	2 out of 3	<ul style="list-style-type: none"> ✓ How to use machine ✓ How to manage association 	
Can you utilize the results in the training of your activities?	2 out of 3	0 out of 3	<ul style="list-style-type: none"> ✓ Got improved techniques (Mwaro-Ngundu) ✓ Lack of market (Kibere) 	
Have you improved your capacity through the training?	1 out of 3	1 out of 3	<ul style="list-style-type: none"> ✓ How to manage account ✓ How to save money in association account ✓ Got improved technical knowledge 	
Operation and Maintenance System	<ul style="list-style-type: none"> ✓ Colline agricultural monitor follow-up practice of transferred technique for beneficiaries. ✓ Commune administration, Chief of colline, Colline agricultural monitor and CDC support establishment of operation and management system of handicraft industry machine and handicraft industry business. 			
Reflection in Draft Action Plan and Manual	<ul style="list-style-type: none"> ✓ It is necessary to decide activities to be processed before selection of target beneficiaries to design shed for handicraft machine and workspace, and calculate cost for other necessary materials. ✓ Follow-up after training on association management and accounting is necessary, especially accounting and income management. Frequently, lack of knowledge and practice on accounting and income management will cause misunderstanding and conflict among target association members. 			

PP8: Handicraft Industry Promotion						
Equivalent in PNIA Program 12: The draw plates development / agro-business						
Equivalent in PNIA Sub-program 12: The rural infrastructures						
Cash Flow of the Project						
Tile Making						
Pilot Project 8 Handicraft Industry Pormotion: Tile Making						
Year	Item	Initial Cost	Operation and Maintenance	Benefit	Cost-Benefit	Per Person
1	Training on Association Management	1,000,000 BIF				
	Workshop for tile making	5,000,000 BIF				
	Shed for drying tile	1,355,900 BIF				
	Shelves	1,101,000 BIF				
	Place for clay preparation	75,000 BIF				
	Training on Burning Tile Workshop	100,000 BIF				
	Molding (rectangular type)	10,000 BIF				
	Wheelborrow	180,000 BIF				
	Total	8,821,900 BIF				
		Clay		25,000 BIF/month		
	Woods for burning tile		100,000 BIF/month			
	Total		125,000 BIF/month			
	Average Price of Tile			70 BIF/unit		
	Estimated Produced Amount of Tile			2,000 unit/month		
	Total			140,000 BIF/month		
	Total in Year 1	8,821,900 BIF	1,500,000 BIF	1,680,000 BIF	180,000 BIF	18,000
2	Clay		25,000 BIF/month			
	Woods for burning tile		100,000 BIF/month			
	Total		125,000 BIF/month			
	Average Price of Tile			70 BIF/unit		
	Estimated Produced Amount of Tile			2,200 unit/month		
	Total			154,000 BIF/month		
	Total in Year 2	0 BIF	1,500,000 BIF	1,848,000 BIF	348,000 BIF	34,800
3	Total in Year 3	0 BIF	1,500,000 BIF	2,100,000 BIF	600,000 BIF	60,000
4	Total in Year 4	0 BIF	1,500,000 BIF	2,688,000 BIF	1,188,000 BIF	118,800
5	Total in Year 5	0 BIF	1,500,000 BIF	4,200,000 BIF	2,700,000 BIF	270,000
	Grand Total	8,821,900 BIF	7,500,000 BIF	12,516,000 BIF	5,016,000 BIF	501,600
				B/C=	1.669	

Tile making is considered as a side business in agricultural off-season for farmers. In this pilot project period, they devote themselves to tile making only in the off-season. B/C of 1.67 is expected and the calculation estimates the net benefit of 0.3 to 2.7 million BIF, around 30,000 to 270,000 BIF/person/year. However, if net working ratio is improved, association members can obtain sufficient amount of money. For instance, if 5,000 tiles are burnt once a month, some 4,200,000 BIF can be obtained from this activity. Still it might be difficult to cover all the living expense solely from this activity, unless they also engage in other business.

PP8: Handicraft Industry Promotion
Equivalent in PNIA Program 12: The draw plates development / agro-business
Equivalent in PNIA Sub-program 12: The rural infrastructures

Carpentry

Pilot Project 8 Handicraft Industry Promotion: Carpentry

Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit-Cost	Per Person
1	Workshop	22,094,000 BIF				
	Training on Association Management	1,000,000 BIF				
	Shed for carpentry machine	5,000,000 BIF				
	Working Desk	150,000 BIF				
	Carpentry machine	5,000,000 BIF				
	Carpentry machine	3,500,000 BIF				
	Training on Operation and Maintenance of Carpentry Machine	150,000 BIF				
	Total	36,894,000 BIF				
	Timber		1,500,000 BIF/month			
	Transport of Timber		1,000,000 BIF/month			
	Nails		10,000 BIF/month			
	Maintenance of Carpentry Machine		30,000 BIF/month			
	Another Materials		10,000 BIF/month			
	Guardman salary for shed of machine		20,000 BIF/month			
	Total		2,570,000 BIF/month			
Average Price of Shelves			220,000 BIF/unit			
Estimated Produced Amount of Shelves			5 unit/month			
Average Price of Chiar and Table			80,000 BIF/unit			
Estimated Produced Amount of Chair and Table			25 unit/month			
Average Price of Bed			165,000 BIF/unit			
Estimated Produced Amount of Bed			2 unit/month			
Average Price of Door for Gate			30,000 BIF/unit			
Estimated Produced Amount of Door for Gate			0 unit/month			
Average Price of Door for Room			22,500 BIF/unit			
Estimated Produced Amount of Door for Room			0 unit/month			
Average Price of Frame of Window			6,000 BIF/unit			
Estimated Produced Amount of Window			0 unit/month			
Average Price of Frame of Desk for Pupils			30,000 BIF/unit			
Estimated Produced Amount of Desk for Pupils			0 unit/month			
Total			3,430,000 BIF/month			
Total in Year 1		36,894,000 BIF	30,840,000 BIF	41,160,000 BIF	10,320,000 BIF	294,857
2	Timber		1,800,000 BIF/month			
	Transport of Timber		1,000,000 BIF/month			
	Nails		10,000 BIF/month			
	Maintenance of Carpentry Machine		30,000 BIF/month			
	Another Materials		10,000 BIF/month			
	Guardman salary for shed of machine		20,000 BIF/month			
	Total		2,870,000 BIF/month			
	Average Price of Shelves			220,000 BIF/unit		
	Estimated Produced Amount of Shelves			5 unit/month		
	Average Price of Chiar and Table			80,000 BIF/unit		
	Estimated Produced Amount of Chair and Table			25 unit/month		
	Average Price of Bed			165,000 BIF/unit		
	Estimated Produced Amount of Bed			2 unit/month		
	Average Price of Door for Gate			30,000 BIF/unit		
	Estimated Produced Amount of Door for Gate			3 unit/month		
Average Price of Door for Room			22,500 BIF/unit			
Estimated Produced Amount of Door for Room			3 unit/month			
Average Price of Frame of Window			6,000 BIF/unit			
Estimated Produced Amount of Window			1 unit/month			
Average Price of Frame of Desk for Pupils			30,000 BIF/unit			
Estimated Produced Amount of Desk for Pupils			5 unit/month			
Total			3,743,500 BIF/month			
Total in Year 2		0 BIF	34,440,000 BIF	44,922,000 BIF	10,482,000 BIF	299,486
Total in Year 3		0 BIF	38,040,000 BIF	51,774,000 BIF	13,734,000 BIF	361,421
Total in Year 4		0 BIF	39,840,000 BIF	55,824,000 BIF	15,984,000 BIF	399,600
Total in Year 5		0 BIF	39,840,000 BIF	63,792,000 BIF	23,952,000 BIF	598,800
SUM		36,894,000 BIF	183,000,000 BIF	257,472,000 BIF	74,472,000 BIF	2,127,771

B/C= 1.407

Carpentry work is the single most profit making activity of all the pilot projects implemented by this project. Supported by still strong needs for the furniture and the high unit price, association members are supposed to enjoy good amount of profit, albeit the physical capacity is predetermined. B/C of 1.41 is expected and the net benefit of 10 to 20 million BIF, 3 to 6 hundred thousand BIF/person/year, is expected.

PP8: Handicraft Industry Promotion
Equivalent in PNIA Program 12: The draw plates development / agro-business
Equivalent in PNIA Sub-program 12: The rural infrastructures

Brick

Pilot Project 8 Handicraft Industry Promotion: Brick Making

Year	Item	Initial Cost	Operation and Maintenance	Benefit	Cost-Benefit	Per person
1	Training on Association Management	BIF 1,000,000 BIF				
	Shed for brick making	5,000,000 BIF				
	Clay stock yard	300,000 BIF				
	Training on Operation and Maintenance of Brick Making	100,000 BIF				
	Wheelborrow (For Transportation of Clay)	180,000 BIF				
	Total	6,580,000 BIF				
	Clay		25,000 BIF/month			
	Maintenance of Machine	20,000 BIF/month				
	Guardman salary for shed of machine		20,000 BIF/month			
	Total	20,000 BIF/month	45,000 BIF/month			
Average Price of Brick				22 BIF/unit		
Estimated Produced Amount of Brick				2,500 unit/month		
Total				55,000 BIF/month		
Total in Year 1		6,820,000 BIF	540,000 BIF	660,000 BIF	120,000 BIF	4,000
Total in Year 2		0 BIF	540,000 BIF	792,000 BIF	252,000 BIF	8,400
Total in Year 3		0 BIF	690,000 BIF	1,056,000 BIF	366,000 BIF	12,200
Total in Year 4		0 BIF	740,000 BIF	1,320,000 BIF	580,000 BIF	19,333
Total in Year 5		0 BIF	740,000 BIF	1,452,000 BIF	712,000 BIF	23,733
Grand Total		6,820,000 BIF	3,250,000 BIF	5,280,000 BIF	2,030,000 BIF	67,667

B/C= 1.625

Brick making is also considered as a side business in agricultural off-season for farmers. In order to augment the sales profit, it is required to raise operation rate of the brick stove, as the unit price of a brick should be bound by the market price. B/C of 1.58 is expected and the net benefit of 2 to 7 hundred thousand BIF, about 20,000 BIF/person/year, is expected.

Pottery (Batwa)

Pilot Project 8 Handicraft Industry Promotion: Pottery

Year	Item	Initial Cost	Operation and Maintenance	Benefit	Benefit	Per Person
1	Training on Association Management	7,834,000 BIF				
	Shed for Ceramic Machine	1,000,000 BIF				
	Clay stock yard	5,000,000 BIF				
	Shelves	150,000 BIF				
	Training on Operation and Maintenance of Ceramic Machine	100,000 BIF				
	Machine	200,000 BIF				
	Ceramic Machine	3,000,000 BIF				
	Wheelborrow (For Transportation of Clay)	180,000 BIF				
	Total	14,284,000 BIF				
	Clay		23,000 BIF/month			
maintenance of machine		30,000 BIF/month				
Total		53,000 BIF/month				
Average Price of Akazihebe (small pot for sauce)	Vases			250 BIF/unit		
Estimated Produced Amount of Akazihebe	supporter of candle			75 unit/month		
Average Price of Akobehe	Coffee cup			150 BIF/unit		
Estimated Produced Amount of Akobehe	Ashtray			75 unit/month		
Average Price of Umubindi				300 BIF/unit		
Estimated Produced Amount of Umubindi				0 unit/month		
Average Price of Pot for Flowers				350 BIF/unit		
Estimated Produced Amount of Pot for Flowers				75 unit/month		
Total				56,375 BIF/month		
Total in Year 1		14,284,000 BIF	636,000 BIF	676,500 BIF	40,500 BIF	3,115
Clay			23,000 BIF/month			
maintenance of machine			30,000 BIF/month			
Total			53,000 BIF/month			
Average Price of Akazihebe (small pot for sauce)	Vases			250 BIF/unit		
Estimated Produced Amount of Akazihebe	supporter of candle			75 unit/month		
Average Price of Akobehe	Coffee cup			150 BIF/unit		
Estimated Produced Amount of Akobehe	Ashtray			175 unit/month		
Average Price of Umubindi				300 BIF/unit		
Estimated Produced Amount of Umubindi				0 unit/month		
Average Price of Pot for Flowers				350 BIF/unit		
Estimated Produced Amount of Pot for Flowers				75 unit/month		
Total				71,275 BIF/month		
Total in Year 2		0 BIF	636,000 BIF	855,300 BIF	219,300 BIF	16,869
Total in Year 3		0 BIF	636,000 BIF	915,300 BIF	279,300 BIF	21,485
Total in Year 4		0 BIF	636,000 BIF	975,300 BIF	339,300 BIF	26,100
Total in Year 5		0 BIF	636,000 BIF	975,600 BIF	339,600 BIF	26,123
SUM		14,284,000 BIF	3,180,000 BIF	4,398,000 BIF	1,218,000 BIF	93,692

B/C= 1.383

As the unit price of the products is very cheap, it is difficult to boost the benefit from the pilot project. B/C of

PP8: Handicraft Industry Promotion

Equivalent in PNIA Program 12: The draw plates development / agro-business

Equivalent in PNIA Sub-program 12: The rural infrastructures

1.38 is expected and the net benefit of 2 to 3 hundred thousand BIF, about 25,000 BIF/person/year, is expected. In order to diversify the products, Tuwa attempted value addition of their traditional pottery products by coloring them. Yet, many of the value-added products have not been sold yet. Marketing of the products (acquiring market needs, sales strategy etc.) is a key for the growth of income.

Chapter 8 Urgent Pilot Project

Urgent Pilot Projects were implemented to bring quick impact to the targeted communes. Marsh development and road rehabilitation (of Provincial Road 212) were urgently implemented due to strong demands from local community. Both Urgent Pilot Projects are implemented in consideration of the results from social survey explained in chapter 3. As for the lessons learned from marsh development, it is reflected in chapter 5 as Action Plan for PCDC promotion, and chapter 6 as capacity development for strengthening institutional development. As for the lessons learned from the road rehabilitation, they are mainly reflected in the chapter 6 as capacity development. Lessons learned through monitoring and outputs from both Urgent Pilot Projects were reflected to the Action Plan in chapter 5 and the Manual in Annex.

8.1 Marsh Development

8.1.1 Purpose and Framework

Marshes have high potential as farmland, so marsh development will contribute to regional food security and livelihood improvement of the people through production increase. On the other hand, from a viewpoint of community regeneration which the Project is aiming, maintenance of irrigation facilities and water management will facilitate community activities and contribute to community regeneration through arising people's sense of togetherness.

Marsh development is implemented in 2 phases. The 1st phase is implemented as a part of the urgent pilot project in the dry season of 2012. The 2nd phase was implemented as a part of the ordinary pilot project after approval of JCC meeting for the Interim Report on November 2012. Both phases include 1 marsh each in 3 target communes, so 6 marshes in total are developed.

8.1.2 Outline of Marsh Development

Marsh development includes construction of irrigation facilities in marshes and establishment of Marsh Committees in each marsh. The features of each marsh selected by stakeholders are explained in the table below.

Table 8.1 Selected Marshes

Item		Makebuko		Bukirasazi		Itaba	
Marsh Name		Nyamuswaga	Nyakigezi	Kibuye	Gishanga1	Rurembera	Mutukura-Kamirange
Phase		1	2	1	2	1	2
Net Irrigated Area (ha)		44	25	31	39	19	43
Collines		Bugumbasha, Kagege, Mwaro-Ngundu, Ntina, Rweso	Karoba, Janja, Kiyange	Kibuye, Tema (Bukirasazi), Bugumbasha (Makebuko), Buhanga (Itaba)	Nyamisure, Bukirasazi, Rugabano, Kibere	Gisikara, Karemba, Macu, Mutanga	Kagoma, Rukobe1, Rukobe2, Kanyonga
Present Products	Rainy Season	Rice	Rice, beans, vegetable	Rice	Vegetable, beans, staple crops	Vegetable, beans, staple crops	Rice
	Dry Season	Vegetable, beans	Beans, staple crops	Vegetable, beans	Potato	Vegetable, beans, staple crops	Vegetable, beans

The location of marshes is shown in the figure below.



Figure 8.1 Location of Developed Marshes

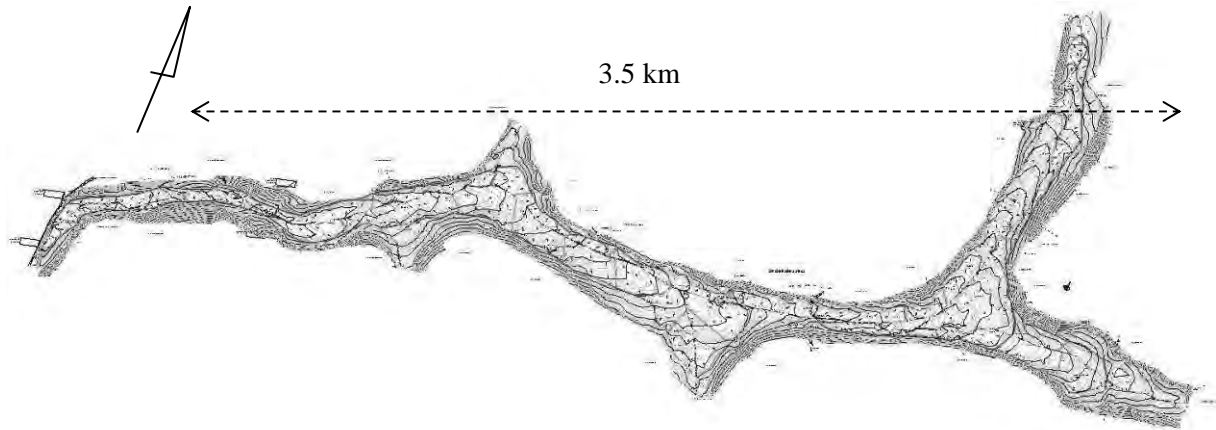


Figure 8.2 Overview of Nyamuswaga Marsh

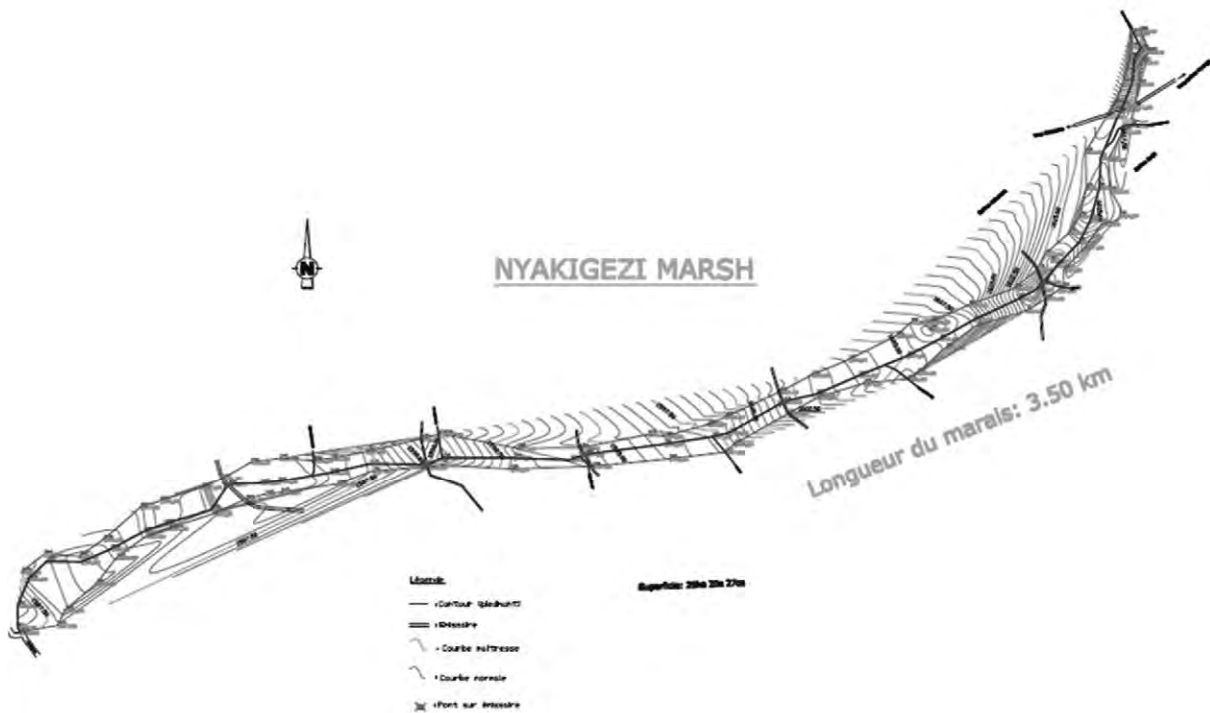


Figure 8.3 Overview of Nyakigezi Marsh

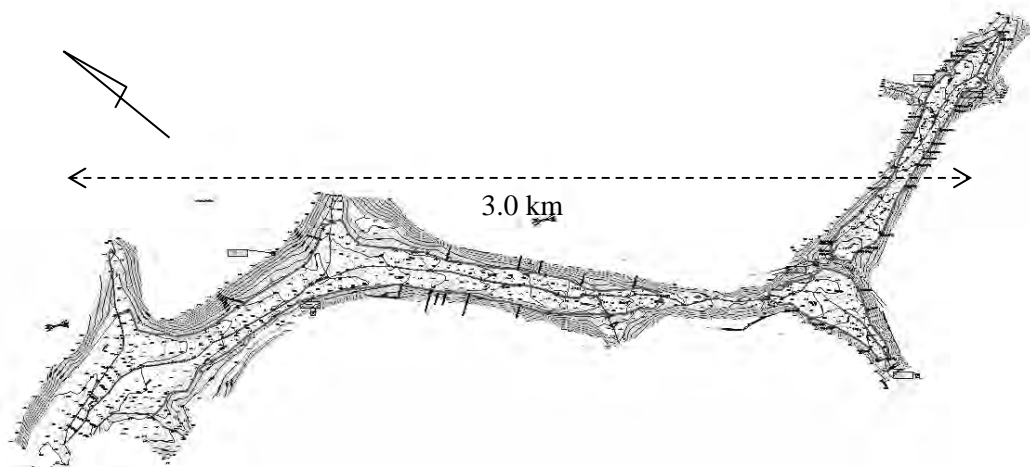


Figure 8.4 Overview of Kibuye Marsh

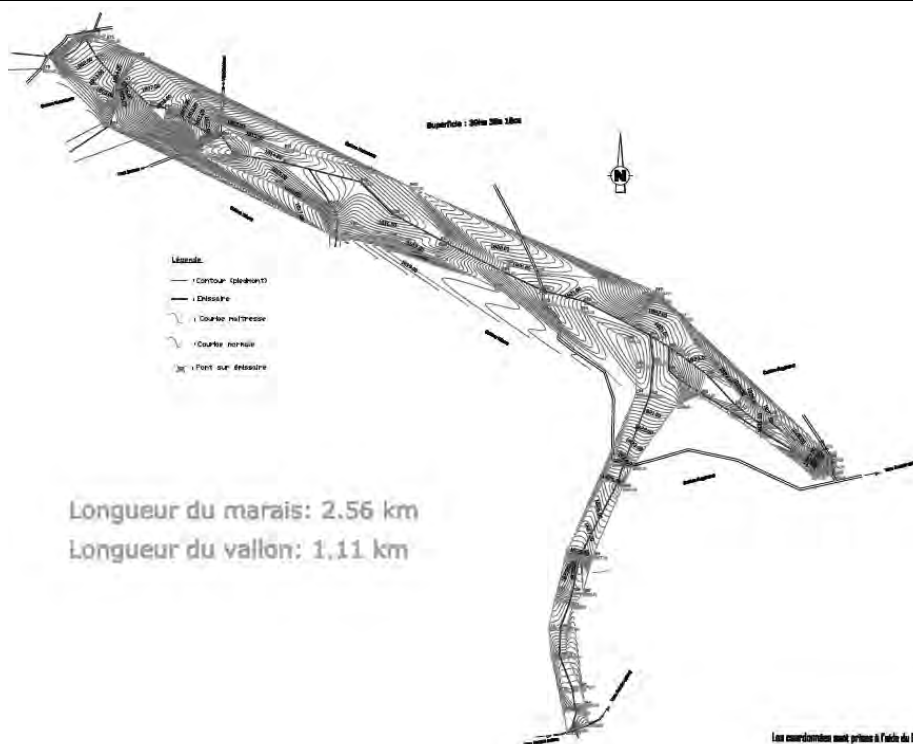


Figure 8.5 Overview of Gishanga1 Marsh

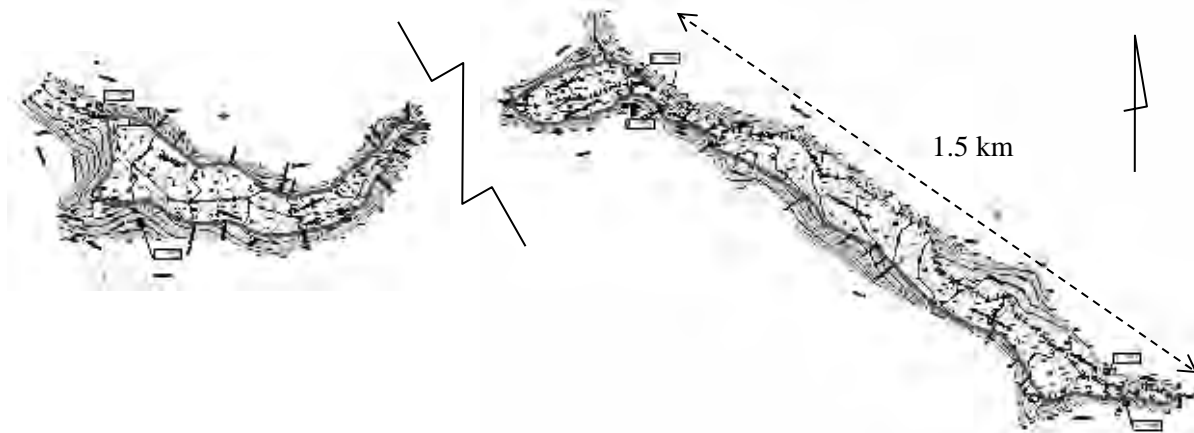


Figure 8.6 Overview of Rurembera Marsh

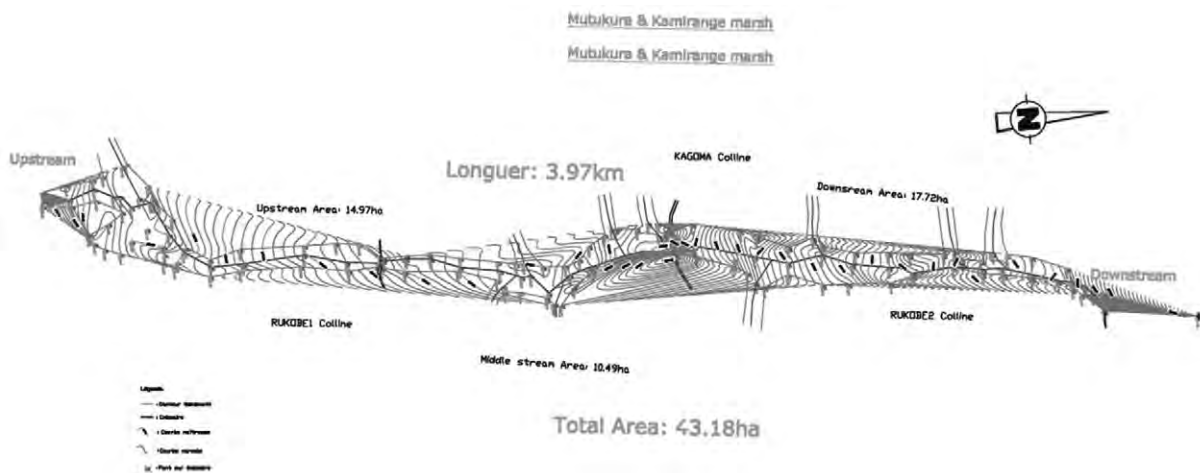


Figure 8.7 Overview of Mutukura-Kamirange Marsh

Major works of construction are summarized in the table below and drawings of major structures are also shown below.

Table 8.2 Major Works of Construction

Work Item	Unit	Makebuko		Bukirasazi		Itaba	
		Nyamu- swaga	Nyaki- gezi	Kibuye	Gishanga 1	Rurem- bera	Mutukura- Kamirange
1. Intake	pc	2	2	3	2	2	2
2. Fixed Diverter	pc	2	2	-	2	-	1
3. Drop & Divider	pc	128	73	104	87	44	103
4. Spillway	pc	8	1	2	2	3	7
6. Wooden Bridges	pc	30	29	18	23	16	14
8. Primary Canal	m3	5,430	7,440	2,160	6,930	1,380	6,870
9. Secondary Canal	m3	210	1,980	120	2,830	120	4,230

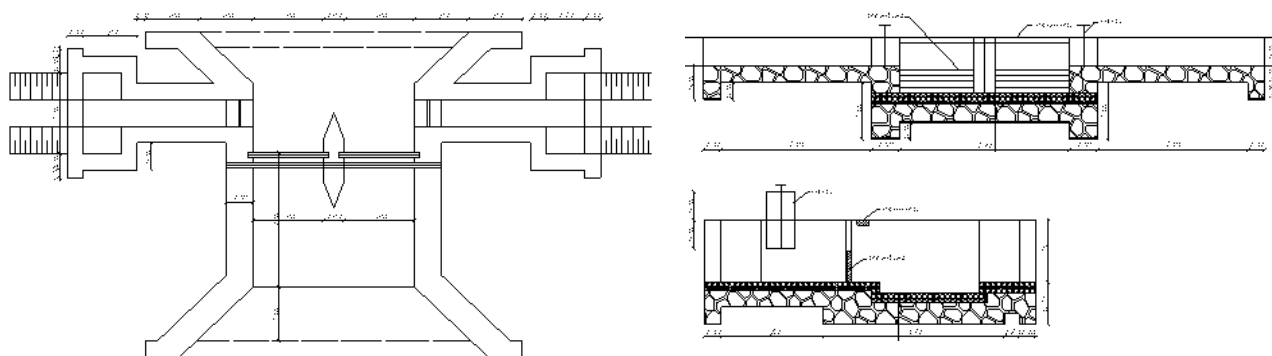


Figure 8.8 Intake Structure

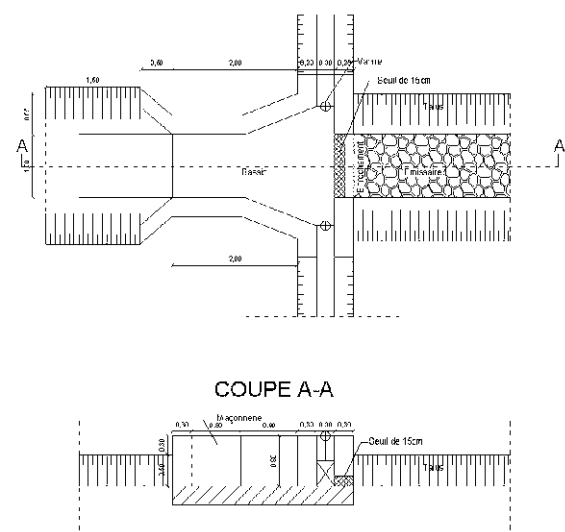


Figure 8.9 Fixed Diverter

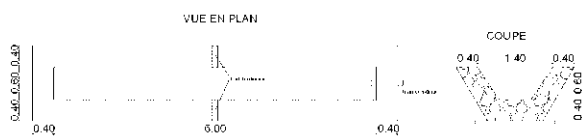


Figure 8.10 Trough

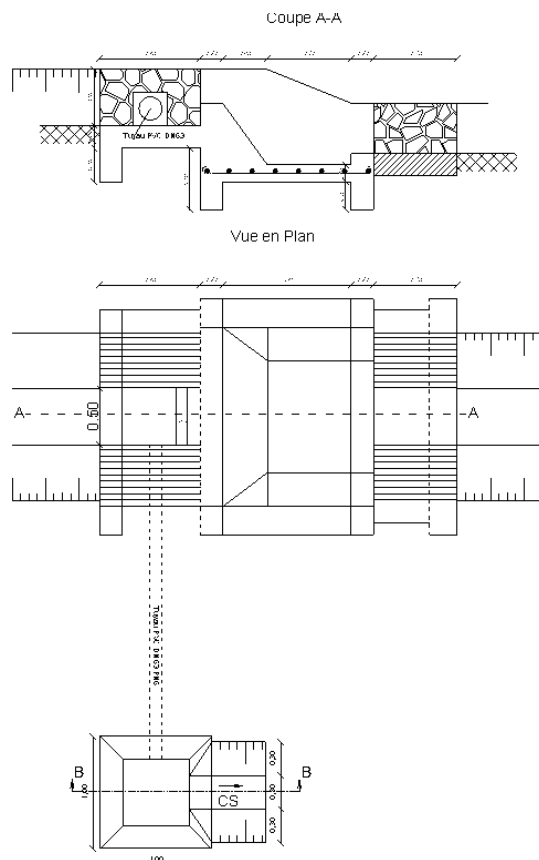


Figure 8.11 Drop & Divider

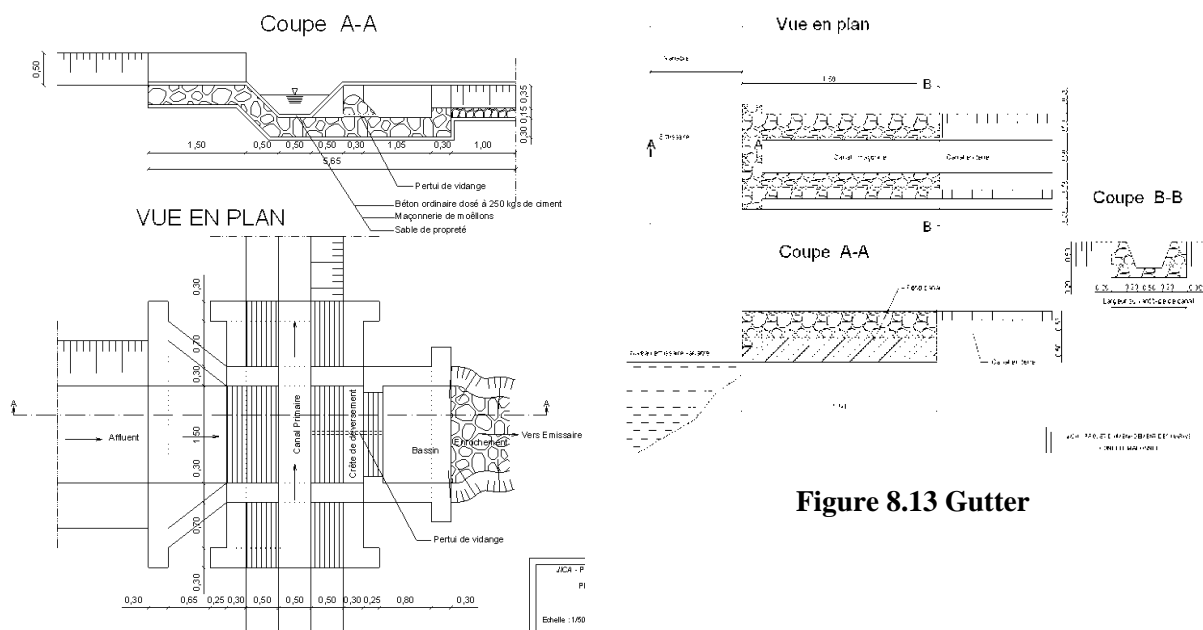


Figure 8.12 Spillway

Figure 8.13 Gutter

8.1.3 Implementation Process

Although marshes were utilized by the local people due to their high potential as farmland, most farmers have little experiences for irrigation agriculture. In order to manage and operate irrigation agriculture, it is very important to establish ownership of beneficiaries. Therefore consensus building with beneficiaries and supporting agencies like commune governments and MINAGRIE from the planning stage is necessary. Implementation process of Phase 1 is explained hereinafter.

(1) Site Selection

Commune governments had a list of marshes to be developed with high priority. On March 20 and 21 in 2012, the Project Team, a counterpart of the Rural Engineering Department of MINAGRIE, commune agronomists and advisors of the commune governments visited the candidate sites for development to select target marshes and decide the area of topographic survey. Itaba Commune put the priority to Kamirange Marsh initially, but it was found that area of the marsh might be smaller than 20 ha which is the minimum area for development claimed by the Rural Engineering Department, so Rurembera Marsh was selected due to larger area.

(2) Sensitization Meeting

At the end of March, sensitization meetings were held to explain the outline of project activities and a component of marsh development to beneficiary farmers. The table on the right shows the dates and number of participants in 3 sites. Beneficiaries generally welcomed the proposed projects but questioned some issues like cultivation during construction, opportunities for labors for construction works and cultivating varieties of rice. Beneficiaries of Kibuye Marsh were skeptical for marsh development because the past FAO project there could not complete the work appropriately. The Project Team and the government officials explained that the same thing would not happen again because the Project Team and the commune government would be responsible for implementation.

Table 8.3 Sensitization Meeting in 3 Sites

Site	Date	No. of Participants
Nyamuswaga	March 27	130
Kibuye	March 29	220
Rurembera	April 2	112

(3) Engineering Works

In parallel with above activities, topographic surveys and feasibility studies (in the fields of irrigation planning, pedology, geo-technique, socio-economy and tender document making) were conducted for 3 marshes from April to July. The Project Team planned to do those works with the Rural Engineering Department of MINAGRIE at first, but it was found that such engineering works were conducted not by the department but by private consultants. Roles of the department are limited to validation and occasional supervision of engineering works and connection between project implementers and beneficiaries due to lack of resources like skillful engineers, transportation and budget. So feasibility studies were conducted by independent consultants under the supervision of the Project Team.

(4) Marsh Committee Formulation Meeting

According to the progress of the project activities, Marsh Committee formulation meetings were held for Rurembera on July 11 and Nyamuswaga and Kibuye on July 12. The Project Team explained the achievements and plans of activities to beneficiaries. At the same time the Team explained the necessity of the committees for smooth implementation of construction works and effective management and operation of irrigation in a sustainable way. After those explanations, an election of board members of the committee was carried out for each colline. Then government staffs and the Project Team appointed them to 5 roles of the committee board members, namely the president, vice president, secretary, treasurer and advisers. In addition to that, the Project Team explained beneficiaries that priorities for labor works are given to 1. Beneficiaries who lose their land due to construction of irrigation facility, 2. Children who are the head of households and lost their parents, 3. Students on vacation who can earn their materials for school and 4. People living with HIV/AIDS.

(5) Tender

The Project Team invited candidate contractors for marsh development on July 6 to the sites and requested them to submit offers on July 24. The Project Team and members of the tender opening committee received necessary documents from candidate contractors and the tender analysis committee selected winners according to the selection criteria. Members of the committee consist of the Project Team, counterparts of MINAGRIE and development advisors of 3 communes. The committee advises the Project Team on procedures and conditions. Technical conditions for selection were experience of construction works of marsh development and MINAGRIE's appreciation as an appropriate contractor and one contractor could undertake only one lot to prevent delay of construction works. The lowest bidders were selected for each lot. Contracts for Lot 1 and 2 were signed on August 3 and the contract for Lot 3 was signed on August 13.

(6) Construction Period

The construction period for all marshes was planned as 2 months aiming completion before the rainy season. But small works along the primary and secondary canals and finishing works were continued during rainy season until their completion in the beginning of November, although the major works, especially the works along the main stream, were completed before the rainy season. The figure below shows the common schedule of marsh development.

Work Item	8	9	10	11
1. Mobilization	■			
2. Preparatory Work	■			
3. Pass Clearing	■			
4. Intake	■	■	■	
5. Primary Canal		■	■	■
6. Secondary Canal		■	■	■

Figure 8.14 Construction Schedule of Marsh Development

Soon after contract signing, contractors started construction works. Contractors of Lot 1 and 2 completed preparatory works and storage construction and they are working on intake structures and canals in parallel.

Nyamuswaga (Lot 1)



Intake 1, Many women are also working.



Spillway



During the final reception at Intake 1

Kibuye (Lot 2)



People are working at Intake 1



Intake 2 under construction



Completed Intake 2

Rurembera (Lot 3)



Intake 2 under construction



Spillway to be finished



During the final reception at Intake 1

After the completion of construction works between the end of October and the beginning of November, the inspections for provisional reception were conducted at 3 sites in November in the presence of the Project Director, the Rural Engineering Department, representatives from DPAE, commune administration, representatives from beneficiaries, contractors and the Project Team. Participants walked through from the most upstream point to the tail end of the irrigation area to check defects of facilities. After the inspection, the Rural Engineering Department made comments to improve some structures and slope of some parts of canals, and to install slope protection.

After a half year of guarantee period, the final inspections for final reception were conducted in June 2013 in the presence of the Rural Engineering Department, representatives from DPAE, commune administration, representatives from beneficiaries, contractors and the Project Team. Although there were some corrections in Rurembera, 3 sites were certified as totally completed and handed over to commune administrations.

Construction of Phase 2 started in September 2013 and is planned to finish within November 2013.

8.1.4 Achievement

(1) Parcel Inventory and Establishment of Marsh Committees

In parallel with construction works, parcel inventory surveys were conducted in 3 marshes of phase 1 in November 2012 with supports from colline chiefs and Colline agricultural monitor in order to collect information of land parcels (location, area, name and colline of cultivator). Since number of beneficiaries of marsh is more than 1,000, it took 2 months for the surveys. Based on the results of the survey, structures of committees shown in the table on the right were prepared.

Table 8.4 Structure of Committees in Marshes

Marsh	Water Intake	Hydraulic Block			Area (ha)	No. of Parcels	Beneficiaries	Average (ha/pers.)
		Bank		Total				
		Left	Right					
Nyamuswaga	4	27	23	50	44.3	2,104	1,338	0.033
	P1	13	8	21	19.8	934	587	0.034
	P2	10	11	21	15.8	823	520	0.030
	PF1	2	2	4	3.5	161	113	0.031
	PF2	2	2	4	5.2	186	118	0.044
Kibuye	3	18	16	34	31.4	1,305	1,080	0.029
	P1	4	4	8	5.5	252	216	0.025
	P2	3	2	5	4.1	196	170	0.024
	P3	11	10	21	21.8	857	694	0.031
Rurembera	2	13	6	19	21.4	939	690	0.031
	P1	4	5	9	8.4	384	288	0.029
	P2	9	1	10	13.0	555	402	0.032
Total	9	58	45	103	97.1	4,348	3,108	0.031

Total number of beneficiaries due to irrigation systems is 4,348 and total net irrigated area is 97ha. Average cultivated area per parcel is 0.02ha = 200m² and per farmer is 0.03ha = 300m², so that marsh land is segregated into very small pieces.

Table 8.5 Board Members of Each Committee

Committee	Board Members
Marsh	President, Vice President, Secretary, Treasurer, 3 Advisors
Water Intake	President, Vice President, Secretary, Treasurer, Advisor
Bank	President, Vice President, Secretary, Treasurer
Hydraulic Block	President, Vice President

Figure 8.15 shows the structure of committees. Committees consist of 4 levels, from the bottom, Hydraulic Block Committees, Bank Committee, Water Intake Committees and a Marsh Committee at the top. Hydraulic Block Committees were formulated in November 2012 and board members of other committees were elected. Table 8.5 shows board members of each committee. Hydraulic Block Committees are registered as associations to each commune.

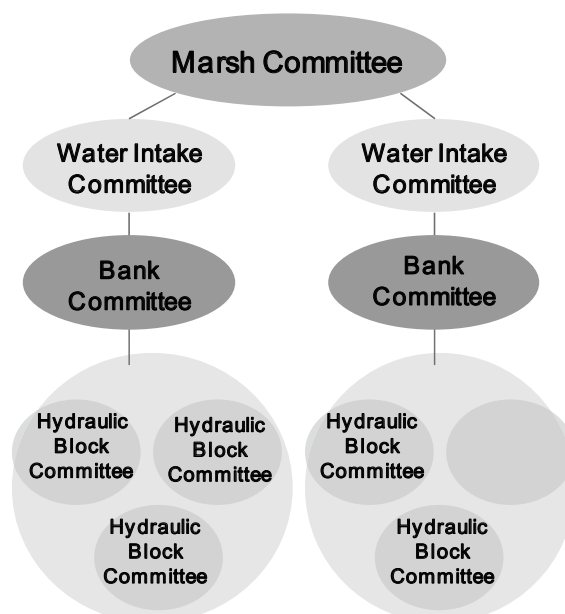


Figure 8.15 Structure of Committee

(2) Maintenance of Irrigation Facilities and Capacity Building

The Project Team started instructions since January 2013 to prevent wrong use including destruction of dike of the river and canals and to maintain irrigation facilities. Also in the Pilot Project (PP) 1 Marsh Development, series of training were conducted, specifically for organizational management, group operation, regulation making, reference laws and accounting, and a study tour for representatives of committees was also conducted. They visited an irrigation system of Bugendana, the

northern commune in Gitega Province. Refer to Chapter 7 for other supports to beneficiaries such as rice and vegetable cultivation and other activities and outcomes through PP1. Through those efforts, maintenance activities are familiar for beneficiaries and they conduct maintenance works once or twice a week.

8.1.5 Lessons Learned and Recommendation on Marsh Development

(1) Involvement of Beneficiaries

Involvement of beneficiaries since the initial stage of marsh development is very important. Since marsh land has high potentiality as farmland where at least 2 crops can be cultivated in a year, land parcels are subdivided into small pieces, so the number of beneficiary through marsh development is quite large. However, operation and maintenance must be done by themselves, as supports from no outsiders or local organizations are expected after the end of projects. Sensitization and involvement of beneficiaries since the initial stage of the project make them understand responsibilities better and foster their ownership more strongly.

(2) Institutional Development

Although people have used marshes for generations, they have cultivated land independently. But since now on, they have to use limited water resources in a rational way for better agricultural productivity of all beneficiaries under irrigated condition. Besides, they should utilize provided equipment and facilities to improve their livelihood. In order to achieve those, coordination and management among beneficiaries are necessary. Though the Project provided basic training for institutional operation and management, beneficiaries must continue self efforts to sustain or improve their capacity and DPAE and commune administrations should support them.

(3) Technical Support

Farmers in Nyamuswaga and Kibuye have grown rice but they have cultivated in a traditional way. They are not familiar with dike making to store water, method of good seed selection, land leveling, line planting, appropriate density of planted seedling, etc. Although the Project provided technical training to limited number of leader farmers, it takes time to extend the techniques and for ordinary farmers to use new techniques. Therefore further technical supports from DPAE officials to farmers are expected.

8.2 Road Rehabilitation

8.2.1 Purpose of the Road Rehabilitation Project

In order to accelerate community development, it is important to secure access particularly through the improved road conditions. In Buraza commune, the provincial road 212, the most important access route to other communes, is not maintained in good condition. It turns out to be disincentive of the development. Therefore it is assumed that the road rehabilitation implemented in this project will make a huge contribution to further community development of the communes.

In addition, as access roads are considered to be public infrastructure which benefits large population, it is imperative to implement maintenance activities by residents themselves. In order for people in villages located at Buraza, Bukirasazi, the maintenance activities should be done with regional participation. These road maintenance activities will be the basis to realize the sustainable community development in the future for strengthening the organization. (Refer to Figure 8.16).



Figure 8.16 Location Map

8.2.2 Outline of the Road Rehabilitation Project

(1) The Situation of Existing Provincial Road 212

It was observed that the existing road was paved with laterite. Due to the defect of road side drains, heavy rainfall in the rainy season flow directly upon the surface of laterite pavement, and the pavement and the roadbed are washed away to expose the bedrock and to scour deep gutter. Such damages are often observed in steep places. These situations are often observed on the part of sloping roads.



Fragile condition of the road between Bukirasazi and Buraza



Scour observed on PR212



Collapse of the road beside river



Severe scour which vehicles are possibly stuck on the road



Slope severely eroded by water in Buraza



Primitive bridge may fall by water erosion in Buraza

(2) Outline of the Road Rehabilitation Project

Table 8.6 Outline of the Project

Items	Contents
Project Content	Rehabilitation of the Provincial Road 212
Project Area	From the protection with the National Road 8 to the border of Gitega Province. L=20.48km
Policy of the Road Rehabilitation	Width of the road is not expanded. The total width of 5-6m and two-lane are secured according to the existing condition. The present alignment is retained and additional land acquisition should be avoided.
Main Components	Necessary side ditches should be constructed to drain rainwater properly. Pavement is done basically with laterite (one layer, 10cm thickness). Slope sections which have significant damage are strengthened by DBST (Double Bituminous Surface Treatment) pavement.
Construction Period	1 st September 2012 ~25 th December 2013

(3) Survey of the Road

The following survey and analysis were carried out before designing rehabilitation work.

Table 8.7 Survey Items and Their Results

Items	Contents and Results
Topographic Survey	Topographic survey was conducted. The design has been completed using the result of this survey.
CBR Test	This test is for measuring strength test of the soil. The results are utilized for determining thickness of the road pavement. The test has been completed and $CBR \geq 30$ is observed.

8.2.3 Effects of Rehabilitation of the Road

Development of road transportation network will have a significant impact on the community development, including the economic perspective which may increase the possibility of acquisition of exportation through the transportation of agricultural products. In this project, the survey will be implemented for verifying the effect before and after the rehabilitation of the Provincial Road 212. At this point, the survey has been implemented, but the results have not been analyzed yet. Only the outline of surveys is shown in the table below.

Table 8.8 Outline of the Survey for Verifying Effects

Items	Contents	Summary of Results
Traffic Survey	Traffic survey was conducted for verifying effects of rehabilitation work. Increase of the traffic volume is expected by improving and securing traffic function, and shortening traffic time.	Average number of cars is 4-5 per a half day Mostly pedestrians Mean travel speed was improved from 15km/h to 25km/h.
Socio-economic Survey	With the rehabilitation of the road, improved convenience and increased reputation of the road from local people are expected. Semi-structured questionnaire interview, group interview and key informants interview were conducted for verifying effects.	Improved road condition motivated people to travel to other communes for commercial activities; enabled them to communicate local people in remote area; and thereby improved the quality of life.

8.2.4 Rehabilitation Plan of the Road

This section shows design drawings of major structures of the rehabilitation work..

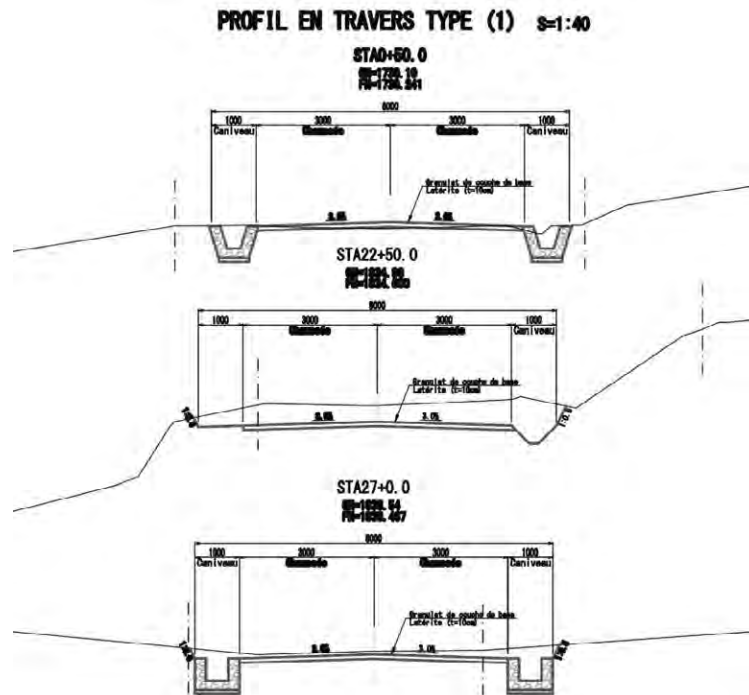


Figure 8.17 Cross Section of the Provincial Road 212 (1)

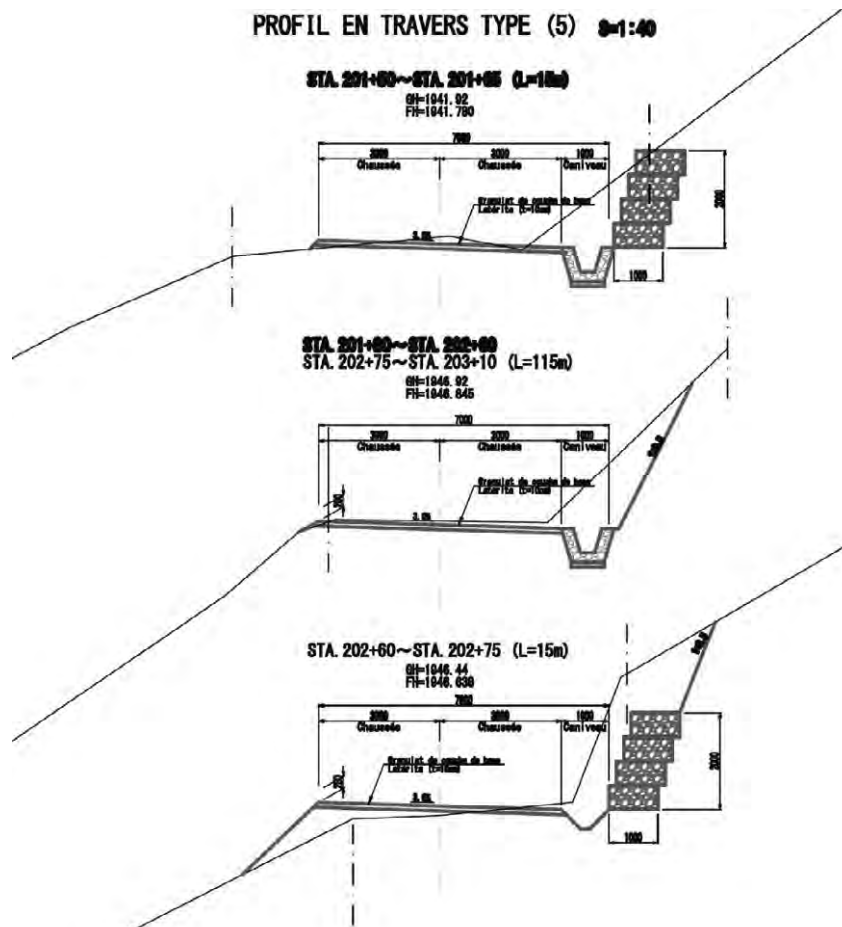
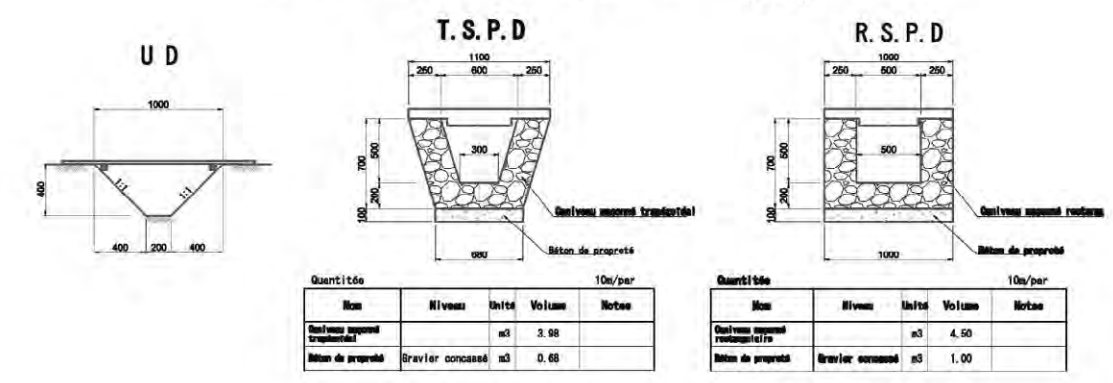


Figure 8.18 Cross Section of the Provincial Road 212 (2)

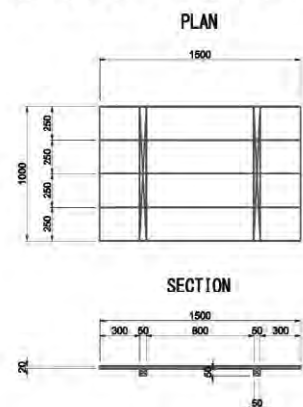
PLAN OF DETAILS OF DITCHES

S=1:15



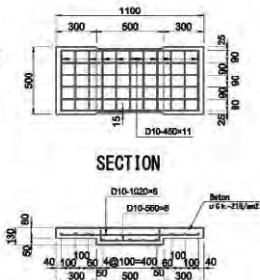
Dalette bétonné

Dalette en bois rondin



(TYPE-1)

PLAN

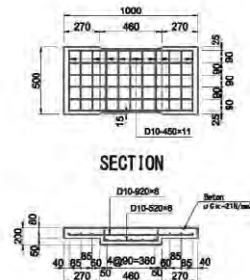


Quantités 1 piece

Nom	Niveau	Unité	Volume	Notes
Dalette bétonné	σCk=21N/mm ²	m ³	0.05	
Coffrage		m ²	0.88	
Acier	D10	kg	8.1	

(TYPE-2)

PLAN



Quantités 1 piece

Nom	Niveau	Unité	Volume	Notes
Dalette bétonné	σCk=21N/mm ²	m ³	0.05	
Coffrage		m ²	0.67	
Acier	D10	kg	7.6	

Figure 8.19 Drawing of the Ditch

DETAILED PLAN FOR ROAD CROSSING DRAINAGE S=1:40

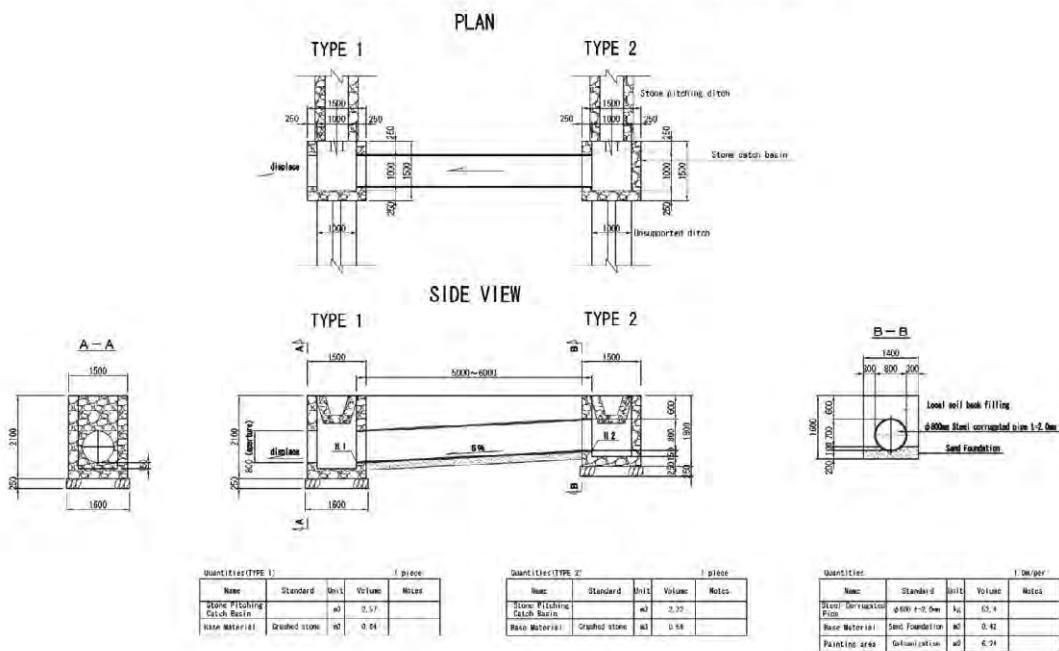


Figure 8.20 Road Crossing Drainage

8.2.5 Procurement and Schedule

(1) Contents to Procure

Table 8.9 Contents of the Construction Work (as of 2012/07/01)

Item	Contents of work	Construction Overview	Remarks
Civil engineering work	Road rehabilitation work	L=20.48km, Width; W=5.0m-6.0m	Construction period: 16 months

(2) Rental Cost of Land

For the project of road rehabilitation, there should be borrow pits to collect laterite material to be used for road embankment, and disposal sites to abandon unnecessary soil. To rent these lands, the following compensation will be incurred.

- a. The compensation cost to agricultural products, if there are
- b. Cost of material to rent (Laterite for road embankment)
- c. Rental cost of land

Using a reference table for compensation acquired from the commune, the amount of the compensation cost was assessed and incorporated into the project cost.

(3) Construction Period

The construction period is from early September 2012 to the end of December 2013.

8.2.6 Tender and Contract

(1) Type of Bidding and Contract

1) Bidding Type

This project is an urgent pilot project, so that the construction work should be completed in the planned period with the predetermined quality. Therefore it is necessary to select a contractor, which satisfies a certain criteria of experience and financial condition of its company. Therefore, the restricted bidding after the prequalification is applied.

2) Contract Type

Regarding the contract type, there are unit-price contract and lump-sum contract. Since most construction works in Burundi are implemented in unit-price contract, it was adopted for this project.

(2) Procurement Procedure

In Burundi, there are gaps in construction methodology and technical capabilities among contractors. By getting recommendations of the excellent contractors with achievements and experience (6 companies on the recommendation letter) from MTTPE, it was decided to select a contractor from those recommended ones.

- (a) Notifying recommendation to recommended contractors by MTTPE and requesting for

submission of prequalification information.

- (b) Evaluating the prequalification data submitted and making short list for bidding.
- (c) Carrying out the restricted bidding among the contractors in the short list.

(3) Developing the Long List

As 6 contractors were recommended by MTTPE, a fact finding survey to those 6 contractors was implemented by direct visit. Recommended contractors are as following.

1. GETRA
2. ECBROH
3. BERCO
4. BTCE
5. ERCON
6. Sogea Satom

(4) Prequalification

1) Criteria for Qualification

A request was sent to 6 contractors to inform the prequalification, and requested them to submit documents.

- As for the construction planning and proposal, contractors submitted them with the bid at the tender meeting after obtaining bidding documents.
- The qualified companies in the short list were decided according to the criteria as follows.

Table 8.10 Criteria for Qualifications

Items	Contents	Criteria	Evaluation Method
(1) Registration documents	Company name, nationality, address, establishment date, legal representative and contact information, copy of registration, etc.	Registration to MTTPE	By confirming submission
(2) Annual sales	5 years of sales for construction works	1. Annual sales = equivalent to the estimated price 2. Two years of proven experience more than US\$4 million sales each year	By confirming copy of contract (Completion certificate), and profit and loss statement
(3) Experience of similar type of construction	Record of road construction in the past five years.	Road construction : Over 5 projects	By confirming the copy of contract (Completion certificate)
(4) Arrangement plan of equipment and number of heavy equipment	1. Power shovel (0.7m ³) : Three or more 2. Bulldozer (D-5) : Two or more 3. Compactor(SV-90) : Three or more 4. Grader: Two or more 5. Sprinkler truck : Three or more	Possession of the necessary units and types of heavy equipment written in this table	By confirming the inventory of construction machineries

Items	Contents	Criteria	Evaluation Method
(Rental can be allowed)	6. Aggregate crusher 7. Pick up truck (4m ³) : Ten or more 8. Fuel lorry : two or more		
(5) Project manager and number of engineers, C/V	1. Manager : Over 10 years of experience, with achievement of over 3 projects 2. Civil engineer : Over 10 years of experience, with achievement of over 3 projects 3. Chief engineers over 10 years of experience, with achievement of over 3 projects 4. Surveyors: More than five years experience, with achievement of over 3 projects	Capability of securing the manager and engineers in this table.	By confirming C/Vs
(6) Financial statements	Balance sheet, profit and loss statement	Not having excessive debt	By confirming the balance sheet
(7) Current assets/ bank guarantee	Bank account balance, bank guarantee	Holding current asset or loan from the bank that can cover expense of one month.	By confirming bank account balance, bank guarantee
(8) Projects in litigation	Projects in litigation	Checking existing cases	
(9) Cases of construction delays	Construction which was delayed significantly or could not be completed	Checking existing cases	

2) Result of Prequalification

As a result of the evaluation with the criteria written in the table above, 2 companies, Sogae Satom and GETRA were selected.

(5) Bidding

On July 30th 2012, with the approval of bidding document by JICA, the document was distributed to the 2 selected companies, Sogae Satom and GETRA in conditions of deadline for inquiry by August 3rd 2012 and for submission of bidding document by August 7th 2012. On August 7th 2012, after the opening of the bidding in participation of 2 selected companies, GETRA offered the lower cost which was 5,160,560,304 BIF.

(6) Contract of Construction

With the approval of JICA, the negotiation of contract was held on August 13th 2012. By receiving the assurance of performance from the company, the contracted was concluded with 5,160,560,304 BIF (equivalent to 278.7million yen, 1BIF=0.054yen) on August 21th 2012.

8.2.7 Basic Policy of Construction

(1) Number of Lots

The target section in this project started from the junction of National Road 8 in Bukirasazi commune, passing through the Buraza commune, and ends at the border of Gitega province. However the Provincial Road 212 stretches to the National Road 7. From the provincial border which is end point of the target section to the connected point at the National Road 7, it is beyond the scope of this project, and approach to the construction site of the other contractor was designated to the entrance from the National Road 8.

In case of assuming to subdivide the order into 2 lots, one for construction started from the entrance

section and the other started from the side of near to the end point, it must pass through construction site of contractor A, which starts construction from starting point. Therefore, this idea was not reasonable, and it would only cause unnecessary frictions.

Therefore, the number of construction lot is one.

(2) Number of Batch

Hearing session to the contractors was conducted for construction plans. All the companies have presented their own plans and they are sorted as follows.

It was observed that all the companies have the idea of implementation of construction for 16 month-round continuously, namely the construction work continued during rainy season with potential halt of construction work due to the rain. As it is difficult to select work items, it is appropriate to order one contract for entire 16 months. Moreover, all the companies requested to implement the construction work by themselves and the actual duration of the construction was between 12 months and 14 months. Even considering the preparation and cleaning up, its completion could be the end of December 2013.

Therefore, the order is in the one batch.

8.2.8 Implementation Method

(1) Implementation Policy

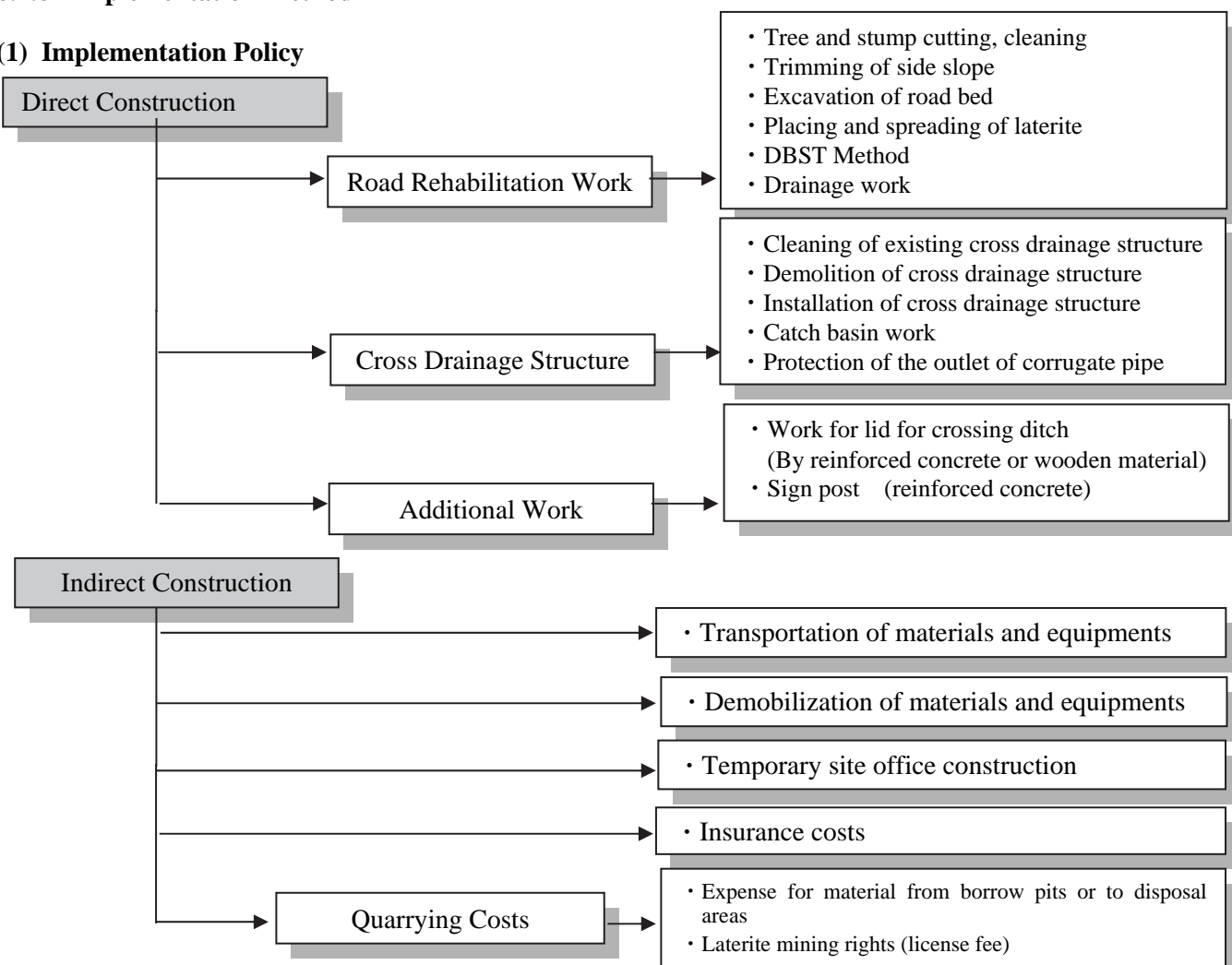


Figure 8.21 Implementation Policy

(2) Direct Construction

1) Laterite Pavement

Pavement was done with laterite which is commonly applied to the provincial roads in Burundi. Laterite was excavated from the borrow pits around the construction site (license for mining rights have been obtained in the following procedures; making compensation to the land owners; and conducting environmental impact assessment). The thickness of laterite pavement was determined in accordance with the results of CBR test, since there had been no appropriate standard in Burundi. Hence, the Project applied Japanese standard called 'Standard Technical Book for Designing Farm Roads: Design Standards for the Projects for Land Improvement (Ministry of Agriculture, Forestries and Fisheries)'. As CBR test showed CBR value was more than 12, the Project designed the road with 10cm thickness. Construction process is as follows.

- Road surface was scraped and graded by bulldozers and graders.
- Rolling compaction was done on the road surface by the vibro-tire roller. At the same time, deeply eroded road surface was filled with the fine soil.
- Trees and stumps on both sides of the slopes were trimmed in order to ensure stable gradient.
- Temporary drainage ditches were installed partially by labor-based method to assure the drain function.
- In the rainy season, the road surface was heavily eroded. Therefore, at the initial stage, coarse sand was spread and the road surface was compacted to secure the general traffic service and the workability of heavy equipments.
- Entering the dry season, the Project excavated the laterite from borrow pits, placing and spreading the laterite on the road surface. Embankment was carried out at two stages; one was the primary embankment work and another was controlled embankment work with compaction test.
- As for the controlled embankment work, the cross slope of the road surface was constructed



Placing the Laterite



Spreading the Laterite



Compaction

2) Laterite Pavement for Marsh Area (Near STA 9 + 000)

Given the fact that height of the existing road surface is originally low at this benchmark, the road surface was inclined to be submerged by flood in the rainy season, unless embankment work was applied (i.e. $t > 10\text{cm}$).

The influx of rainwater influences the strength of the road itself. Therefore, masonry ditches were constructed in the upstream of marsh, and height of the surface of this marsh was set at $t = 30\text{cm}$.

3) DBST (Double Bitumen Surface Treatment)

Damages of slope portions caused by rainwater were particularly remarkable on Provincial Road 212. High speed influx of rainwater was considered to be one of the major causes of this problem. Therefore, the rehabilitation plan had to ensure the drainage function (both on the road surface gradient and at ditches). At the same time, the laterite surface had to be covered by asphalt (DBST

method). DBST is one of the methods frequently applied in Africa, in which the roads are constructed by double thin asphalt paver. Construction procedure is shown as follows.

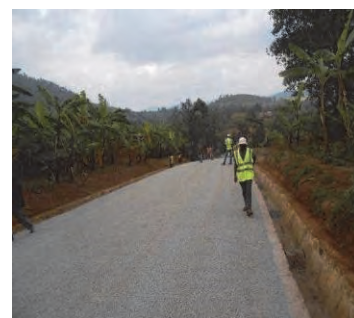
- ✧ Remove loose material on the road bed surface by the Cleaner
- ✧ Spray asphalt emulsion (Prime Coat, 1 lit/m²) by the Asphalt Distributor to secure coherence of asphalt pavement material to the road bed
- ✧ Scatter fine sand on the surface after emulsion penetrating into laterite particles enough
- ✧ Keep 48 hours to solidify the emulsion
- ✧ Remove the scattered sand
- ✧ Spread the first bitumen followed by 10-14 mm fine aggregate and compact
- ✧ Spread the second bitumen followed by 6-10mm fine aggregate
- ✧ 5 meter of center of the road is covered by DBST. The road shoulder of both sides of the road is covered by one layer asphalt pavement, where traffic volume is small.



Spreading of bitumen and granulates



Compaction



Completed part

4) Corrugate Pipe

Existing corrugate pipe crossed under the road was almost $\phi 800$. The Project decided that diameter of the pipe was the same as the existing corrugate pipe. The arrangement interval was determined with reference to the position of the existing corrugate pipe. Considering concrete production technology and standard manufacturing period in Burundi, the Project team chose corrugate pipes which are locally available. During installation, the asphalt emulsion was applied on the surface of the corrugated pipe for securing rust resistance and adding waterproof. In addition, the existing corrugate pipes that were relatively sound were re-used after cleaning.

5) Cover Lids and Drainage Ditches

The standard specifications of Burundi employ concrete or masonry drainage ditches on the asphalt-paved roads including national ones. Having considered the budget constraints, the Project applied masonry ditches extensively at the weak ground around Bukirasazi commune. This was because unsupported ditches were likely unable to prevent soil erosion from being washed away by running water. However, unsupported ditches were installed on the points where no houses along the road and no significant erosion were observed on relatively strong ground. There are two types of masonry ditches; one is trapezoidal cross-section and the other is rectangular cross-section. Trapezoidal cross-section was planned to the place where there was low potential of flooding. The rectangular one is used normally at the places where the potential of flooding is high. As that, after analyzing the situation on site, the Project team found the trapezoidal cross section was suitable to guide the water. Hence, it changed some quantities of rectangular type to trapezoidal type. Also, the Project team increased the quantity of trapezoidal type for cost-efficiency. Moreover, the Project team prepared two types of cover lids basically made by reinforced concrete; one is fabricated for vehicles, and another is for pedestrians. Cover lid of vehicle was made by double reinforcement structure with increased thickness. The other (for pedestrians) had commonly-used single reinforcement structure. Regarding the cover lid for the pedestrian road with minimal traffic load, wooden type of cover lid was installed over the unsupported ditch.

6) Application of Sandbags

The Project team used sandbags for earth retaining around the drainage basins and near erosion parts due to heavy rain. This method attracted attention to some extent, as examples were relatively not practiced in Burundi. However, the Project team concerns its natural degradation characteristics, since the quality of the material of the bags was weak. However, even if the bags collapse, they still function as embankments. The Project team observed the situation.

(3) Indirect Construction

1) Workers Dormitory and Work Base

The Government of Burundi is primarily responsible for procuring the land needed for construction work. However, as a working base, the Project borrowed the premises from Bukirasazi commune. Also, the contractor leased the workers' camp with the improvement of private house near the work base.

2) Temporary Site Office

The Project allocated the field work office in the housing of the contractor for the meeting place between the contractor and construction supervisors, place for consideration for work, and place for the break of construction supervisors.

3) Quarrying Expense

Considering the urgency of the construction, the Project allocated the quarrying cost for material from borrow pits and to disposal areas. The cost for the rights of excavation of laterite (for the purpose of acquisition of license) was included as construction expense as well.



Base of contractors



Base of contractors



Temporary office

(4) Changed Items

Quantities of major works were modified according to the progress of construction works. It is noted that the total amount of construction fee remained the same as the original Contract. The summary of major changes is shown in the following table.

Table 8.11 Revised Quantities of Major Work Items

Type of Works		Unit	P.U.(BIF)	Original quantity	Changed quantity
102	clearing /trimming of side slopes	M2	14,958	41,000	12,750
105	demolition of cross drainage structures	U	124,870	200	46
106	cleaning of existing cross drainage structure	U	385,000	210	103

Type of Works		Unit	P.U.(BIF)	Original quantity	Changed quantity
202	forming slope	M2	3,746	16,230	131,658
204	embankment with excavated materials	M3	18,570	9,920	10,806
205	embankment of laterite(t=0.1m)	M3	38,570	11,335	11,668
206	excavation of soft foundation	M3	19,194	750	825
207	excavation of road bed	M3	23,480	23,390	26,860
208	excavation of borrow materials	M3	16,870	11,335	11,668
301	earthen ditches to rehabilitate or create	M	4,257	25,428	23,675
302(1)	masonry ditches to rehabilitate or create(trapezoidal section)	M	115,748	3,037	5,710
302(2)	masonry ditches to rehabilitate or create(rectangular section)	M	145748	1272	30
303	cross drainage structure with φ800mm corrugated pipe	M	774,678	200	196
305	head of cross drainage structure	M3	1479540	135	72
306(1)	reinforced concrete slabs of crossing	M	388742	281	196
306(2)	reinforced concrete slabs of crossing	M	388,742		67
306(3)	wooden slabs of cross section	M	12,000	240	120
401	Gabion	M3	218450	820	203
402	stone masonry	M3	316,500	5	48
403	tags reinforced concrete	M3	78,400	5	120
501	Road sign	U	385,200	5	20

(5) Basic Policy of the Process

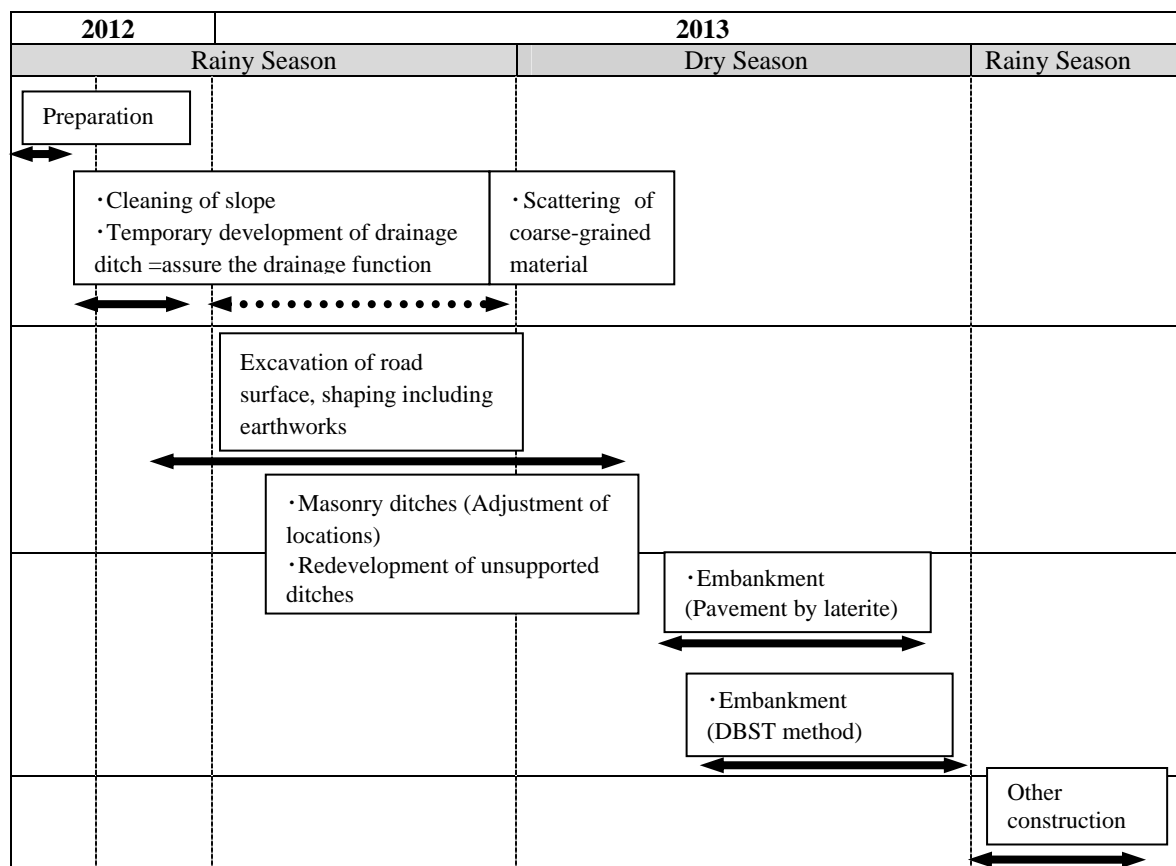


Figure 8.22 Process of the Construction Works

As soon as the contractor was determined, construction started. Soon after the commencement of construction works, progress of the work fell into a sluggish pace due to the advent of rainy season. Therefore, after shaping the slopes by grader, the Project team carried out temporary reconstruction of recovery drainage ditches in order to secure drainage function.

After securing the drainage function, severe unevenness of the road surface was scraped off. After excavating the road surface by bulldozers and graders, the Contractor conducted compaction by vibration roller. Since heavy rain in the rainy season made the road surface muddy, the Project team scattered coarse-grained on the surface of the road.

With the method described above, the contractor completed almost all the excavation work within the rainy season. From the second half of the rainy season when the rainfall became weak, the construction of drainage ditches was started.

Considering the damage of the unsupported ditch, the Project team reviewed the deployment plan and changed unsupported ditches to masonry ditches as much as possible. Further, since it was difficult to compact the boundary between the ditches and carriage ways, the Project team performed the compaction near the ditch sufficiently.

Thereafter, embankment construction of the road body and DBST were executed in the rainy season.

PLANNING D'EXECUTION DES TRAVAUX		2012												2013						
		Période 1				Période 2				Période 3				Période 4						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Description des travaux		Unité	Quantités	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC	
1	Mobilisation	FF	1																	
2	Démobilisation	FF	1																	
3	Bureau de chantier	FF	1																	
4	Assurances	FF	1																	
5	Autres	FF	1																	
POSTE 100: TRAVAUX PREPARATOIRES																				
101	Abattage d'arbres	U	10																	
102	Debroussaillage	M2	41.000																	
103	Desouchage	U	100																	
104	Démolition d'ouvrages d'art	U	200																	
105	Curage des bises	U	210																	
POSTE 200: TRAVAUX DE TERRASSEMENT ET DE CHAUSSEE																				
201	Deblai rochers mis en dévot	M3	230																	
202	Reprofilage	M2	16.230																	
203	Remblai provenant de l'emprunt	M3																		
204	Recouvrement systématique	M3	9.920																	
205	Recouvrement systématique avec laterite	M3	11.325																	
206	Excavation sur sol douce	M3	730																	
207	Excavation des fosses en terre à rehablir ou à créer	M3	23.390																	
208	Excavation de la laterite	M3	11.335																	
POSTE 300: ASSAINISSEMENT																				
301	Fosses en terre à rehablir ou à créer	ML	25.428																	
302(1)	Fosses maçonnées à rehablir ou à créer (trapezoidales)	ML	3.037																	
302(2)	Fosses maçonnées à rehablir ou à créer (rectangulaires)	ML	1.272																	
303	Buses Ø 800mm sur ouvrages de traverse	ML	200																	
305	Têtes de buses à construire	M3	135																	
306(1)	Daliettes pour passage piéton et véhicules	ML	281																	
306(2)	Daliettes pour passage piéton avec rondins en bois	ML	240																	
POSTE 400: OUVRAGES DE PROTECTION																				
401	Gabions	M3	820																	
402	Maçonnerie de moellons	M3	5																	
403	Enrochement	M3	5																	
POSTE 500: SIGNALISATION ET EQUIPEMENTS																				
501	Balise en Beton armé	U	5																	
POSTE 600: DBST																				
601	DBST	M2	13.809																	
Nettoyage et préparation de réservoir prévisoire																				

Table 8.12 Construction Schedule of Road Rehabilitation

(6) Construction Safety Education

Immediately after the launching of construction, the Project team conducted safety training targeting particular at children and local people. There are many primary and secondary schools around the site and moving heavy equipments attract them very much. Targets for the training sessions were chiefs of colline, some residents along the road, and teachers. The Project team asked participants to share information with children. Also, the Project team made some posters regarding the risks of construction and asked each collines to post at the place where people noticed them.

Table 8.13 Types, Targets and Contents of the Road Safety Training Session

Type	Targets		Contents
Lecture	Bukirasazi and Buraza commune	Chief of Collin	<ul style="list-style-type: none"> • The targets were chief of Collin, residents along the road • The explanation about the risk and importance of securing the safety on the construction for children and people who were interested by machinery work • Discussion and announce of the results about concrete solution.
		Teachers	<ul style="list-style-type: none"> • Conducted the session for teaches near the site • Contents were the same as above.
	Buraza commune	Chief of Collin	• Same as Bukirasazi commune.
		Teachers	Ditto
Producing and setting the poster			Ditto

The Situation on the Training Session for Education of Safety



The scene of the training session(1)



The scene of the training session(2)



The scene of the training session(3)



Poster(1)



Poster(2)



Person in charge of the safety

(7) Construction of Supervision

1) Basic Policy of Construction Supervision

Basic policy of the construction is as follows, and this policy was shared with the staffs and the contractor.

- ◇ **Thorough safety control (Residents, workers, supervisors)**
- ◇ **Strictly keeping the progress of the works**
- ◇ **Securing of the quality**

2) System of Supervision of Construction

The System of supervision of construction is as follow.

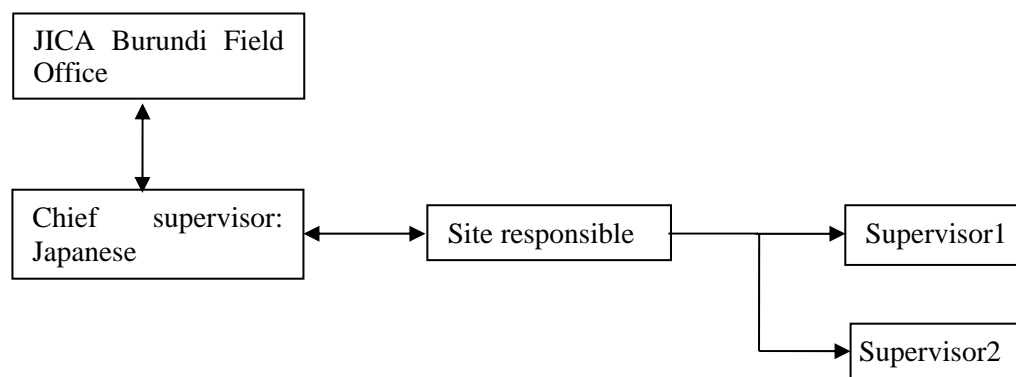


Figure 8.23 Structure of Construction Works

3) Meeting

The types of meetings are shown in the following table.

Table 8.14 Types of Meeting

Name	Contents	Remarks
Site meeting	<ul style="list-style-type: none"> • Confirmation of last week's performance and making sure the schedule of next week • Discuss and solution about scheduling or technical issues • Confirmation about labors and safety control of construction 	<ul style="list-style-type: none"> • JICA team, GETRA, C/P • Every Friday pm
Monthly Meeting	<ul style="list-style-type: none"> • On the base of the long-middle schedule, • Discussion about progress of construction. • Basically, JICA BFO staff were supposed to join the meeting, but it was difficult. So, the monthly reports were made and submitted, and sometime direct explanations on the progress were made. • The reports were also submitted to Director General and directors of Office of Roads ,and counterparts. 	<ul style="list-style-type: none"> • End of month • Monthly report of road construction
Team meeting	<ul style="list-style-type: none"> • GITEGA office, every morning 	

8.2.9 Evaluation of Economic Aspects of Road Rehabilitation

Improved road condition enabled better transportation services (smooth travel, more traffic volume and various sort of transportation means) to the residents, which positively impact on the local economy of the region, improve access to social infrastructure. It is also expected that some of the hindering factors against the livelihood improvement are removed after the road rehabilitation. In order to verify economic impact of rehabilitation of PR 212, the Project conducted the traffic volume survey. The purpose of this survey is to grasp socio-economic changes before and after the project through comparative study.

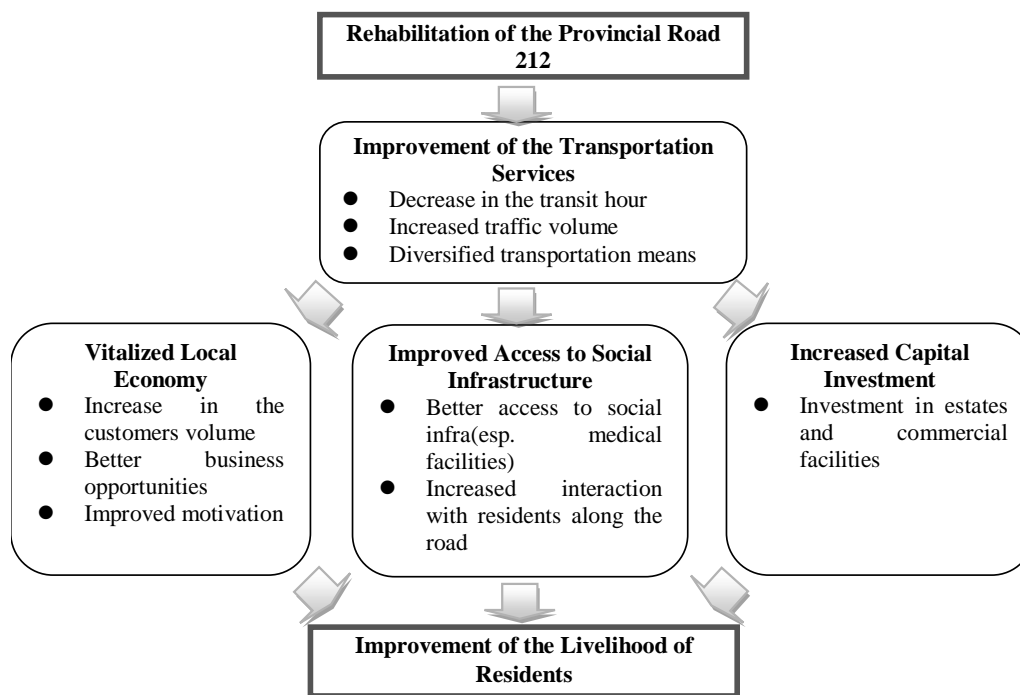


Figure 8.24 Expected Impacts of the Rehabilitation of PR212

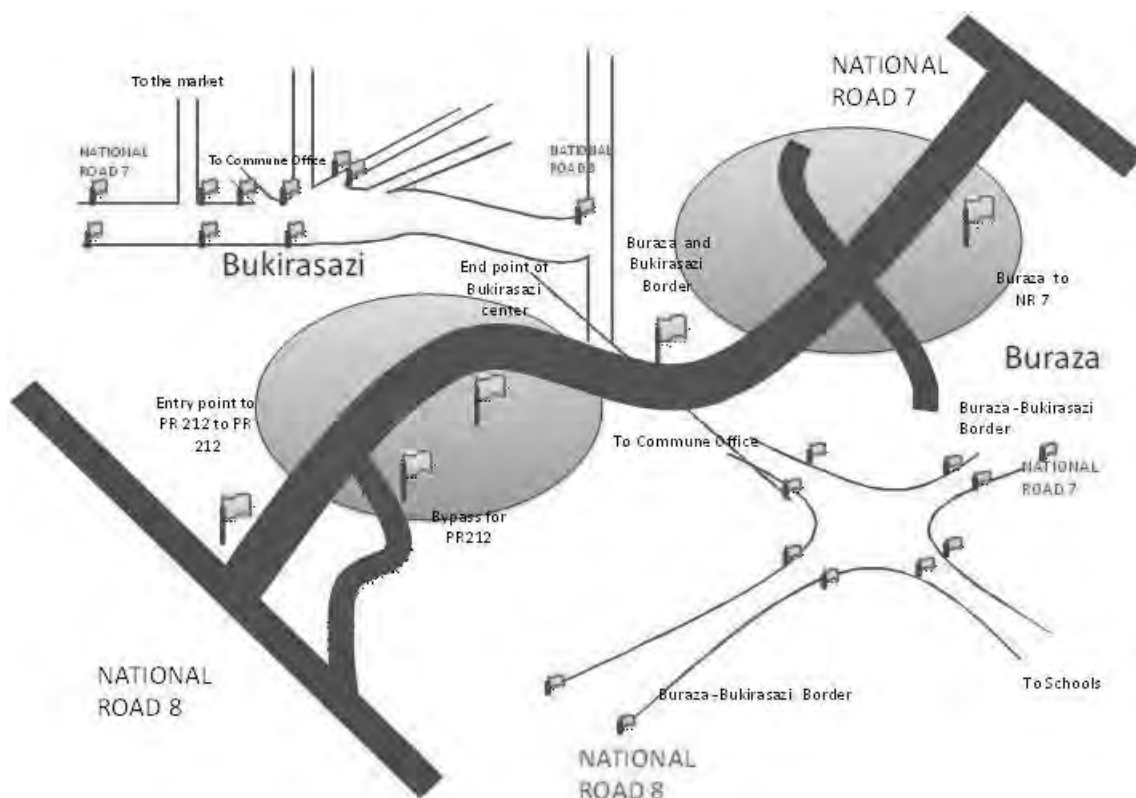
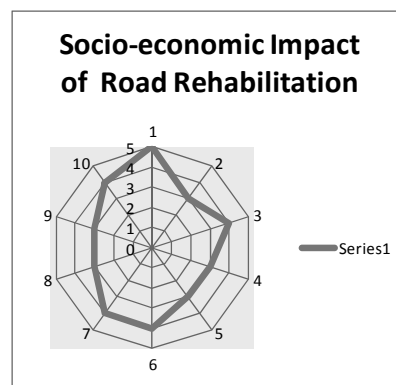


Figure 8.25 Study Points of the Traffic Volume Survey

Hereunder shows results of the socio-economic survey conducted on the Provincial Road 212.

Table 8.15 Results of the Social Survey on Provincial Road 212

		Results		
Overall Achievement	Improvement of the Transportation Service	1	Decrease in the transit hours	5
		2	Increased traffic volume	3
		3	Diversified transportation means	4
	Vitalized Local Economy	4	Increase in the buyers volume	3
		5	Better business opportunity	3
		6	Improved Motivation	4
	Improved Access to Social Infrastructure	7	Better access to social infra	4
		8	Increased communication	3
	Increased Capital Investment	9	Investment in estates and commercial activities	3
	Improvement of the Livelihood of People	10	Overall rate	4
<p>Scores are rated compared to the results of preliminary survey conducted before the rehabilitation. The scores indicate as follows; 1:very low 2:low 3:moderate 4:improved 5:highly improved</p> <p>Improvement of the Transportation Service: Total transit hour has decreased from 2 hours to 50 minutes. Although traffic volume of vehicles remains almost the same in both communes, people are tangibly aware of the increase in the number of bicycles and motor bikes. Also, they are more accustomed to use public transportation for trade activities.</p> <p>Vitalized Local Economy: Assuming from the traffic volume on the road, there seems to be no significant change in the buyers' volume. However, they are motivated to engage in trade activities. From the key informant and group interviews, business people and middlemen directly went to rather remote villages from the center of the communes to buy agricultural products, charcoal and timber. Presumably, reduction in transit hour and paved road motivated people in both communes to go to the market more frequently.</p> <p>Improved Access to Social Infrastructure: Access to social infrastructure was shortened in Buraza commune, whereas the time remained almost the same in Bukirasazi commune.</p> <p>Increased Communication: As a result of the rehabilitation works, more active commercial interaction was reported between Buraza and Bukirasazi communes. According to the questionnaire survey, some farmers went to Bukirasazi central market in the morning and sell vegetables at Buraza market in the afternoon. On the other hand, rehabilitation of the road by itself did not change social interaction of local people dramatically.</p> <p>Increased Capital Investment: No private investment in estates and commercial activities has been reported as a result of the rehabilitation works yet. However, commune administration levies tax on buses, trucks and commercial cars, which contributed to the slight increase in the annual budget of communes.</p>				
Traffic Volume per Day*1	<p>Pedestrians and motorbikes passed through this provincial road more frequently on holidays and market days than on weekdays [On average, while 521 people/day passed through the PR 212 on week days, 839 people/day used the road on market days (=x1.4). Also, on weekdays, while 133 bicycles/ day went through the PR 212, 183 bicycles passed through the road (=x 1.6)]. Looking at the result of the traffic survey by transportation means, drivers refrained from using vehicles on PR212. People saw less than 3 sedans and 1 truck passing through this road per day because of relative immobility. Compared to sedans, 4WD type vehicles were used on the road with frequency (3~7 vehicles per day). Although OTRACO busses were in operation, the drivers prefer to use the bypass road via Kibuye to National Road 8, instead of using PR212.</p> <p>The result of the traffic volume survey showed that no significant increase was observed regarding the traffic volume of buses, 4WD, or pick-up trucks. However, the numbers of sedan-type passenger cars increased from 7 to 12 per day in Bukirasazi. Also, the number slightly increased (from 0.5 to 1.5 per day) in Buraza where vehicles were scarcely traveled.</p> <p>It is worthwhile mentioning that the average numbers of bicycles and motor bikes are growing from the preliminary survey. As for bicycles, 250 bicycles on average passed the road per day in Bukirasazi before the rehabilitation; however, around 400 bicycles are traveling on the road per day after the rehabilitation works. Regarding the traffic volume of motorbikes, 48 bikes (25 bikes per day in preliminary survey) travel in Bukirasazi and 18 bikes (11 bikes per day in previous survey) travel in Buraza respectively.</p> <p>There are two possible reasons for the growth in the numbers. Firstly, improved road motivated people along the PR212 to use bicycles and motor bikes that are relatively obtained at a reasonable price. Secondly, better road condition made bike taxi drivers easier to start up bike taxi business. Respondents in the group interview answered they could reach out bike taxi service much easier than before that people can use them for hospital visit and shipping vegetables to the market.</p>			
Traffic Volume by Time Zones*1	<p>There was trend in the passengers' movement. Passengers used the PR 212 for commuting, work and shopping at particular time. There were more traffic volume at 7am, 13pm, 14pm and 15pm.</p>			
Mean Travel	<p>Average travel speed of the vehicles was between 14km/h and 15km/h. Bicycles were cycling at around 6.5km/h</p>			



Speed*1	<p>and the bikes transit the road at 10.5km/h. No significant gap had been found in the results between the up-bound route (to NR7) and down-bound route (to NR8). On the other hands, taken into the difference in the weather, there was a significant gap between rainy days and sunny days. While mean travel speed of 4WD in rainy days is 13km/h, the average speed in clear days was 16 km/h.</p> <p>After the rehabilitation works, mean travel speed of the vehicles has become 25-28 km/h, which is more than 10km/h increase from the previous result.</p>																																																																												
Purpose of the Use of PR 212 *2	<p>24 percent in Bukirasazi and 30 percent of respondents in Buraza used PR 212 for agricultural work. Next (22 percent in Bukirasazi and 26 percent in Buraza) comes those who go for shopping. It is worthwhile noting that 34 percent of respondents in Bukirasazi use the PR 212 for business purpose (thanks for the proximity from the market), while 41 percent of respondents in Buraza were moving out to other cities.</p> <p>After the road rehabilitation, purposes of the use of the road were diversified. For instance, some respondents answered they could send children safely to the schools.</p> <p>Also, in group interview, a widow appreciated the road rehabilitation, since it made her easy to go for shopping. This indicates that not only matured male, but also variety of generation, and different gendered local people have become used this road.</p> <div style="text-align: center;"> <p>Purposes of the Use of PR212 before/after the Rehabilitation</p> </div>																																																																												
Challenges in the Use of PR 212 *2	<p style="text-align: center;">Challenges in the Use of PR 212</p> <table border="1"> <thead> <tr> <th rowspan="2">Items</th> <th colspan="3">Before</th> <th colspan="3">After</th> </tr> <tr> <th>Bukirasazi</th> <th>Buraza</th> <th>SUM</th> <th>Bukirasazi</th> <th>Buraza</th> <th>SUM</th> </tr> </thead> <tbody> <tr> <td>1. Few public transportation</td> <td>18</td> <td>25</td> <td>43</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>2. Limited access to the market</td> <td>15</td> <td>21</td> <td>36</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>3. Few shops nearby</td> <td>23</td> <td>9</td> <td>32</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>4. Dangerous for children</td> <td>13</td> <td>15</td> <td>28</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>5. Limited access to social infra (e.g. hospitals)</td> <td>15</td> <td>5</td> <td>20</td> <td>0</td> <td>3</td> <td>3</td> </tr> <tr> <td>6. Not functioning as evacuation road</td> <td>1</td> <td>15</td> <td>16</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>7. Reckless road</td> <td>0</td> <td>15</td> <td>15</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>8. Narrow road</td> <td>7</td> <td>5</td> <td>12</td> <td>23</td> <td>15</td> <td>38</td> </tr> <tr> <td>9. Limited access to farmland</td> <td>10</td> <td>0</td> <td>10</td> <td>0</td> <td>1</td> <td>1</td> </tr> </tbody> </table> <p>Fewer problems are reported after the road rehabilitation. Albeit 38 respondents still feel the width of the road is limited, other issues have not been recognized as problems. The result shown above indicates rehabilitation works removed people's anxiety over transportation, commuting, and commercial activities, although surrounding settings have not been changed yet.</p> <p>1) Public Transportation</p> <p>Under-maintained road inhibits vehicles to transit one place to another, which made it difficult for residents to choose the transportation means. People in Bukirasazi had enjoyed rather variety of public or private transportation, including taxi and bicycles thanks for the proximity from the National Road 8. On the other hand, limited public transportation means had been available for those who live in Buraza. In Buraza, they had used the taxi exclusively in emergency cases where the acquaintances were severely ill. Also, several respondents complained it was very difficult for pregnant women to get to the hospitals when they give birth to newborns.</p> <p>The results of the questionnaire survey show more and more people have used OTRACO buses in Buraza. After the road rehabilitation, OTRACO buses stop at Buraza commune twice a week. Before the rehabilitation, 17 out of 24 respondents answered they never use buses; on the other hands, 12 out of 22 respondents replied they use OTRACO more than or equal to once a month.</p> <p>Regarding taxi, 13 out of 20 in Bukirasazi and 19 out of 22 valid responses in Buraza show that rehabilitation of the road made it relatively easy to pick up taxi respectively.</p> <p>2) Access to the Market</p> <p>Respondents earned some 7,600 BIF in Bukirasazi and some 4,600 BIF in Buraza respectively from market per week. Better road condition brought increased traffic volume to farther markets and stimulated the demand. On the producers' side, farmers became able to carry more agricultural products to the market places with the small help of the middlemen.</p> <p>After rehabilitation of the road, respondents (mostly farmers) earn around 10,600 BIF in Bukirasazi and 5,600 BIF in Buraza respectively. Part of the rationale behind the slight increases in the benefits from agricultural goods lies in the increase in farmers' selling price to the market (or middlemen).</p>	Items	Before			After			Bukirasazi	Buraza	SUM	Bukirasazi	Buraza	SUM	1. Few public transportation	18	25	43	0	0	0	2. Limited access to the market	15	21	36	0	0	0	3. Few shops nearby	23	9	32	0	0	0	4. Dangerous for children	13	15	28	0	0	0	5. Limited access to social infra (e.g. hospitals)	15	5	20	0	3	3	6. Not functioning as evacuation road	1	15	16	0	0	0	7. Reckless road	0	15	15	0	0	0	8. Narrow road	7	5	12	23	15	38	9. Limited access to farmland	10	0	10	0	1	1
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		Farmers Selling Price (BIF)				
	Avocado (kg)	Coffee	Cabbage (piece)	Banana	Goat	
Before	1,500	-	200	2,300	20,000	
After	3,500	-	330	3,600	27,600	
Appreciation rate (%)	230	-	176	157	138	

It is fairly difficult to determine the reasons for the increase in selling price. Inflation due macro-economic change can affect farmers' selling price to the market as well. However, in general, high demand on the items pushes agricultural product price. In this case, the price increased since customers from different places come to purchase some agricultural products in Bukirasazi and Buraza thanks for the improved road accessibility. The price of some agricultural products (i.e. avocado, cabbage and banana) increased, as businessmen come to purchase them in their communes. The price of coffee remained the same, as it is controlled by the government.

3) Access to Social Infrastructure (e.g. hospitals)

Under the present circumstances, respondents along PR 212 spent quite a long time to get to the public social infrastructure. This was conspicuous in Buraza commune, though few respondents considered the overall access to the social infrastructure as an issue to solve. Those who live in Buraza spent approximately twice as long as those in Bukirasazi commune to get to hospitals. Distance to the social infrastructure hindered residents from improved living condition. Especially, the distance to the medical facilities often mattered gravely when it was urgent.

After the social survey, local people in Bukirasazi do not recognize major changes in access to the social infrastructure. On the other hands, access time to social infrastructure in Buraza commune was shortened. The average time is shown below. This is partly because the rehabilitated road enabled cars to drive to Buraza, which reduced time to get to the public facilities. Owing to this, access to the medical facilities is dramatically improved in Buraza.

Average Time to Social Infrastructure (Buraza Commune)

	Before	After
To clinics or health centers (min)	35	18
To primary and secondary schools (min)	12	19
To the nearest water resource (min)	15	7
To commune offices (min)	36	18

Economic Impact of the Road Rehabilitation	<p>Improved Economic Efficiency: The results of socio-economic survey show that road rehabilitation has necessarily not transformed community economy at this moment. However, it could be said that the road rehabilitation improved economic efficiency. One of the clear examples is the decrease in the cost for the transportation fee. In Bukirasazi, the figure for transportation cost dropped from 18,000 BIF/week to 7,500 BIF/week. Also, the cost for the transportation in Buraza decreased from 18,000 BIF/ week to 7,100 BIF/ week. This is because diversified means of transportation (e.g. bike taxi as an alternative to the lorries) push down transportation cost per travel. Of course, the more improved the road condition becomes, the more often local people travel for the market. Yet, overall, they spend much smaller money for transportation per travel.</p> <p>Increased Budget for Local Administration from Transit Tax: Although apparent growth is not recognized from the result of traffic survey, a key informant (commune administrator in Buraza) answered traffic related tax was on the increase. Commune administration collects tax on trucks for beverage (200 BIF per bottle) and wood (100 BIF per timber). This means that commune levies 200,000BIF for beverage and 30,000 BIF-50,000 BIF for timber per truck. Also, Buraza commune administration collects tax from OTRACO buses.</p>
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*1 Traffic Volume Survey: conducted from 26th of April to 1st of May, 2012.

*2 Socio-economic Survey: Buraza: 20 respondents/ Bukirasazi: 15 respondents in May, 2012. Buraza: 24 respondents/ Bukirasazi: 24 respondents in November, 2014.

8.2.10 Formulation of Maintenance System for Sustainability

It is necessary to keep daily maintenance to utilize the road paved with laterite for the long span. Therefore it is important to promote the awareness activity continuously to the villages in the target site from the stage of survey and planning of the road rehabilitation. Also, the organizational structure shall contribute to community development in the long run.

Maintenance of the road is a particularly important activity, since the major portion of the road is finished with laterite pavement. It is crucial to maintain the target road by considering as their property not only from the point of view of organization of residents but the sustainability of the road. In this project, activities for facilitating organization of maintenance groups launched, by conducting workshops for the maintenance targeting residents. Such activities took an important role on changing awareness of the residents to the road and initiate maintenance group even at the stage of construction phase. Facilitation of maintenance activities was accelerated gradually, as the system settles down.

(1) Implementation of the Awareness Activity

Mentioned above regarding the necessity of the maintenance, it is important to implement the awareness activity from the early stage. In this project, the awareness activities were implemented during the topographical survey and the borrow pit survey conducted in March 2012 for residents living in the villages along the road and the leaders of collin in the targeted communes.

(2) Consultation to Formulate the Maintenance System

Regarding the road maintenance, the consultation with C/P of MTTPE and commune leaders of the targeted communes was conducted. To do the maintenance, it is effective to utilize the existing system in Burundi, adopting the method of 'Participatory Maintenance of Feder Road' in Sierra Leone, which was acquired in the third country training program in participation of C/P of MTTPE. For instance, from the past experience, it is necessary to provide technical training for the capacity development to residents along the target road, especially to maintenance leaders, as well as to provide maintenance equipment to communes.

As for the training of the road maintenance, under the initiative of MTTPE in 2007, 'the training program of participatory road maintenance' was implemented, in cooperation of NGO (PREFED-Burundi). In the report of its training program, there is description that each participant took responsibility of road maintenance for decided section whose length is 1 km. Following this precedence, although the capacity development of 20 maintenance leaders for a specific part of the targeted road which is 20 km in this project, discussions will be needed with MTTPE and NGO to analyze the feasibility of implementing this type of training.

(3) Proposed Maintenance Organization

In utilizing the community work, in light of condition implementing in the community work, it is suitable to form the maintenance organizations on the commune-base. However, it was necessary to judge whether the residents in collines located at distant areas from the targeted road needed to be included as a part of the maintenance organizations, according to the results of the socio-economic impact survey. It had to be also judged to what extent collines, as a smallest unit for maintenance organization, should be included in the activity, by having discussion with leaders of collines and communes. Difference of involvement and responsibility among residents in a colline might cause sense of inequality, so that enough consultation and involvement with them were important.

Finding some volunteers at each colline where the road passes was necessary, in order to take care of road maintenance to help administration for the sensitization of residents on the ownership of the project, safety of tools and mobilization of residents for road maintenance.

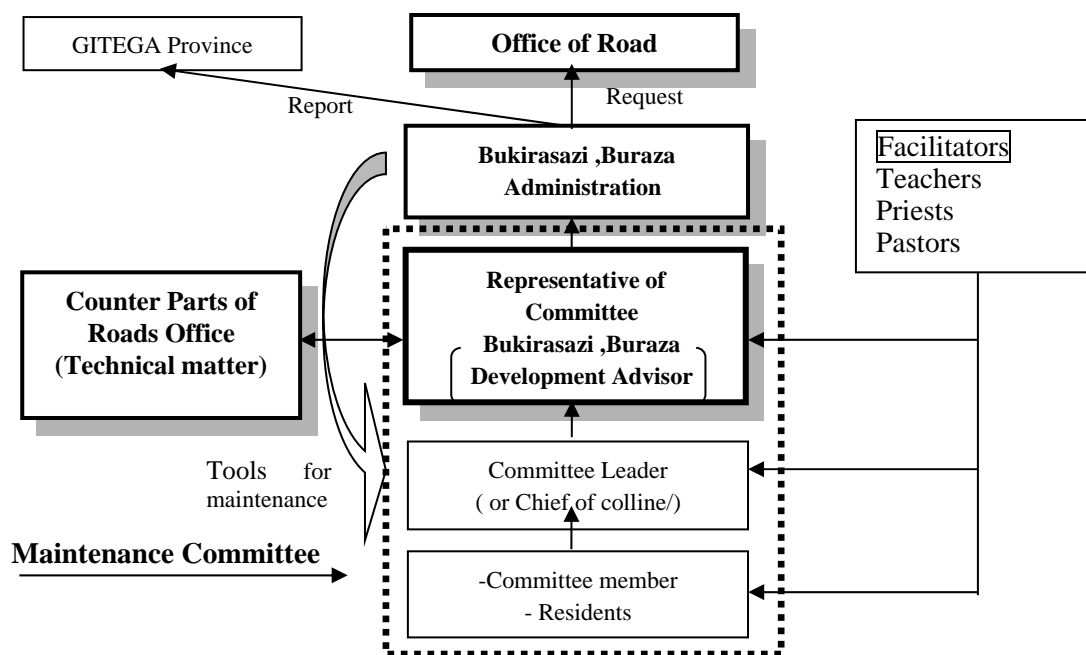


Figure 8.26 Maintenance Organization

Table 8.16 Roles of Actors for Road Maintenance

Actors	Roles
Committee	<ul style="list-style-type: none"> Committee members take responsible for the following activities; •Monitoring the damaged areas on the road •Supervision of the usage and preservation of tools for maintenance in order to keep them in a good condition •If any problem on the condition of the road and tools, he/she reports to the leader for the issue.
Communal administration	<ul style="list-style-type: none"> •The commune is responsible for supervising the condition of the road •If they find damages not reported from the chief of Collin or leader, the commune obliges them to conduct the maintenance work •If there are activities which is difficult for members to complete, commune has to report to Office of Road as soon as possible to report the situation of the road •The commune keeps safety of the tools in storage •The commune supervises those tools are utilized properly for public interest
Technical commune advisor in charge of development	<ul style="list-style-type: none"> •He/she is the representative of the maintenance committee who supervises road maintenance activities Technical commune advisors are responsible for the following activities; •Monitoring the condition of the road and sharing information during weekly meeting •Taking care of the usage of maintenance tools, repairing or replacing damaged tool •It can happen that the structures which are damaged require funds for repairing, in that situation; he will facilitate to find solution.
Leader	<ul style="list-style-type: none"> •The leader is chosen among committee members by election •He/she is a representative of that committee and known at communal level •His/her term is not predetermined; however, if the committee or the administration find that he/she doesn't help for nothing, they may change him/her •He/she is responsible for observing the condition of the road and monitoring damaged areas, usage and preservation of tools for maintenance •He/she report the issue of damaged area to the chief of Collin •He/ she coordinates activities of maintenance

	<ul style="list-style-type: none"> • He/she ensures that tools are working for public interest
Chief of Colline	<ul style="list-style-type: none"> • He/she collaborates closely with the leader on the road maintenance issue • He/she visited the damaged area and discuss with the leader how to deal with and which equipments are required for the maintenance • He/she is responsible for monitoring damaged areas, and preservation of tools for road maintenance • He/she supervise whether tools are working for public interest
Chief of Zone	<ul style="list-style-type: none"> • He/she collaborate with the chief of colline in the sensitization of the local people • He/she share information on the road maintenance with the commune administration during weekly meeting
Counter Parts of Roads Office	<ul style="list-style-type: none"> • He/she makes some advices on the technical matters give proper guidance to liaison with the Office of Road
Facilitators	<ul style="list-style-type: none"> 【Teachers】 • They are responsible for teaching children the importance of following the road safety 【Priests and Pastors】 • They are responsible for sensitizing the population through their preaching about the importance of road maintenance.

The rules above mentioned in the table are determined by participatory approach at a stakeholder meeting and respective tasks are confirmed.

(4) Maintenance Activities

In the maintenance work of road, it is required to deal with the weather condition and sudden accidents. Activities normally to be done on the regular basis are shown as follows.

- Cleaning of drainages and corrugate pipes
- Cutting shrubs on the slopes for more visibility
- Filling pot holes on the road surface by laterite
- Removing herbs on the road surface
- Removing landslide from the road

(5) Training Sessions on the Maintenance Works

1) Purposes of the Training Sessions

Since road is not only working as public goods but also the property of residents, it tends to be devastated again if it left untreated. Hence, people needed to nurture voluntarism to keep the road maintained by them. At the same time, since Provincial Road 212 is crossing over two communes, it is required to gain understanding and cooperation among both communes. Therefore, the Project team conducted training sessions on the maintenance of the road, and tried to foster ownership of the road.

The specific objectives of this workshop are as follows.

- ◇ To foster ownership of the project by residents
- ◇ To sensitize the residents on the advantages of maintained road
- ◇ To sensitize the residents on the importance of maintenance
- ◇ To practice maintenance work

2) Selection of Participants for the Training Sessions

Each commune has four collines along the road and a committee is composed of 20 persons. Those committee members are chosen by chief of Collins, because there are keen for community works usually scheduled at Saturday morning. The list of committee members has been approved by the commune administration. The committee leader was chosen by committee members through

democratic election.

3) The Contents of the Training Sessions

Workshop was conducted twice as follows.

Table 8.17 Contents of the Training Sessions

Session	Contents	
1 st session	Date	March 25 th - 26 th 2013
	Target	at Buraza and Bukirasazi,
	Purpose	The session was about sensitization to committee members on the following points
	Contents	To foster ownership of the project by residents To sensitize the residents on the advantages of maintained road To sensitize the residents on the importance of maintenance To practice maintenance work
2 nd session	Date	July 23 th - 26 th 2013, July 29 th 2013
	Target	Buraza and Bukirasazi
	Contents	The session was about explanation of kind of needed tools for maintenance and practice of maintenance especially digging of unsupported ditch because it is the activity which needs calculation measurement. It was also the time of explanation of task or roll of each member of the committee.
	Date	July 29 th 2013
	Target	Buraza and Bukirasazi
	Contents	The session was about the sensitization of facilitators who are teachers, priests/pastors and chiefs of zones about the importance of the road and its maintenance. The Project team also explained them their contribution on road maintenance.



Workshop Scene (1)



Workshop Scene (2)



Workshop Scene (3)

8.3 Environment and Social Impact Assessment (ESIA) of the Urgent Pilot Projects

8.3.1 Necessity of Conduction of ESIA Study

The conduction of the environment and social impact assessment (ESIA) study for the urgent pilot projects i.e. marsh development and road rehabilitation of provincial road 212, was mandatory as per the requirements of;

- (a) Decree N100/22 Du 7 October 2010 of Burundi. The decree is the main environment procedural mechanism in Burundi. The Article 4 of the decree states “Works listed in Annex I shall require an environmental impact study regardless of the cost of their implementation”. There are twenty items of work for which the study for environment impacts are must. The road work is listed as item no.1 and work for development of marsh of more than five (5) acres is listed as item no. 19. Further, the excavation or exploitation of quarry is also listed as item no.3. Here, it is proper to mention that the laterite is the main constructions material for road rehabilitation work and such laterite shall be excavated from several borrow pit areas. It was evident that the urgent pilot projects related to marsh development and road rehabilitation fell under the Annex I and hence

the conduction of ESIA was mandatory as per law of Burundi.

- (b) JICA’s guidelines for environmental and social consideration, April 2010; The Project is classified as Category ‘B’ under the guidelines. As per Article 2.2 of the guidelines, the projects of category ‘B’ are site-specific; few, if any, are irreversible; and in most cases, normal mitigation measures can be designed more readily.

8.3.2 Mechanism to Get Approval of ESIA in Burundi

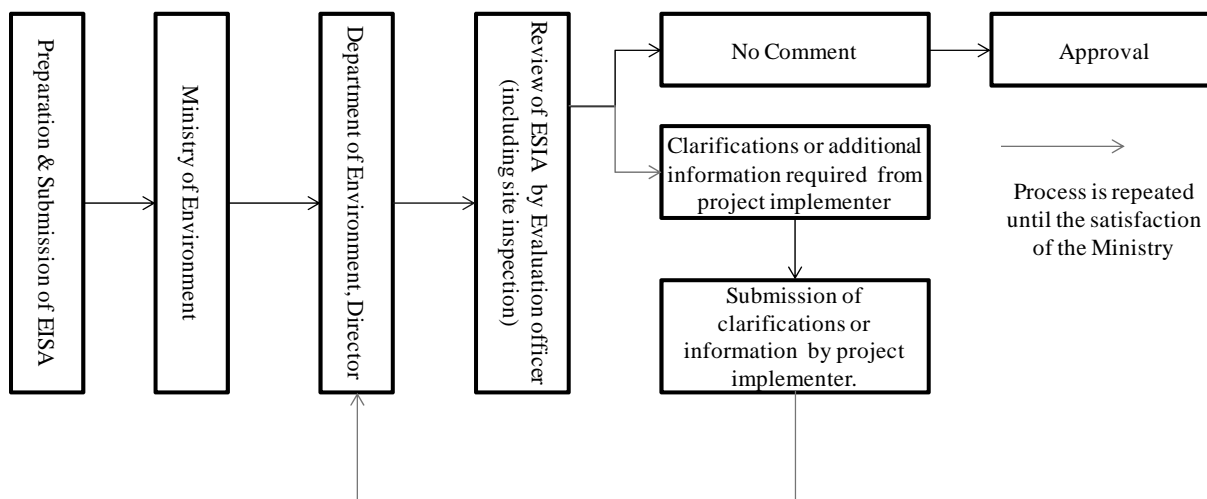


Figure 8.27 Mechanism of ESIA Approval for Marsh Development

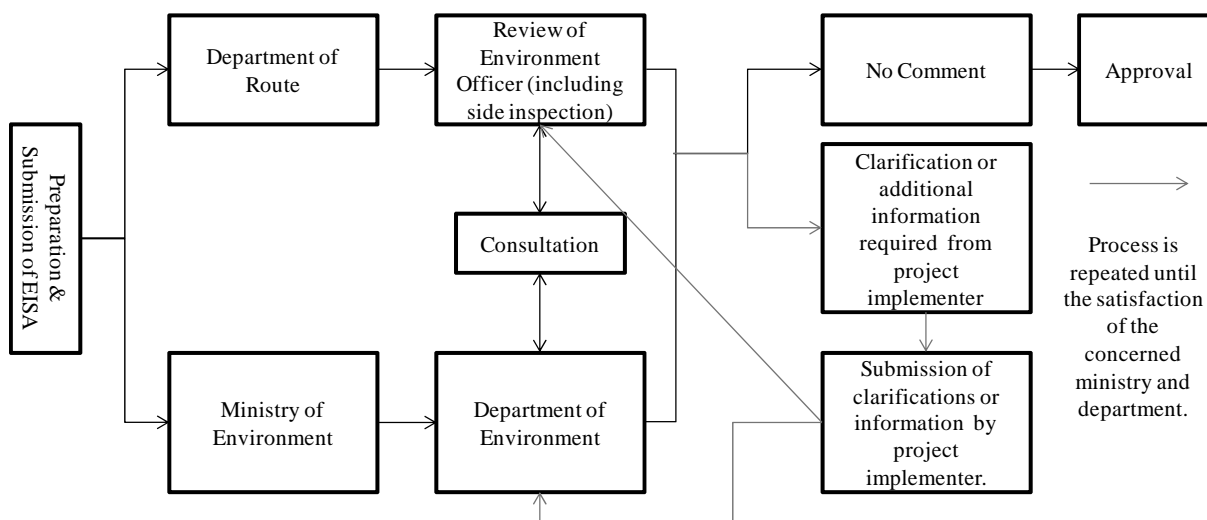


Figure 8.28 Mechanism of ESIA Approval for Road Rehabilitation Project

8.3.3 Structure of the ESIA Study

Following aspects have been covered for ESIA study of each of the pilot projects.

a) Detailed description of the project – It includes location of project-related development sites, objectives of the projects; political, institutional and legal framework related to the environment.

b) Initial state and analysis of the Environment of the project site without project: It include the collection and evaluation of data of existing environmental characteristics of the area of intervention, including surrounding areas, site of projects, inundation and biological features (habitats and rare species), including physical, biological and socio-economic environment.

c) Identification and evaluation of potential impacts - It involves identification and assessment of the various positive and negative environmental and socio-economic impacts that were likely to be generated from the projects and its effects on the population and natural environment.

d) Environment management Plan - It proposed the cost effective mitigation measures and strategies to minimize, avoid or compensate negative environmental and socio-economic impacts as well as recommendation of development measures and strategies to enhance beneficial impacts, including monitoring plans for their implementation.

e) Terms of reference of the study (TOR) - It set out the scope of the work of the ESIA study.

f) Summary of technical aspect of the project- It provided basic technical design of the project and its simple interpretation.

g) Summary of public consultation– it provided summary of comments and recommendation received from stakeholders and population likely to be affected by the project.

h) Conclusion- It provides the summary of whole ESIA report.

8.3.4 Summary of ESIA of Marsh Development

The ESIA study was conducted for development of marshes of Makebuko, Itaba and Bukirasazi communes namely Nyamusawaga, Kibuye, Rurembara, Nyakigezi, Gishanga and Mutukara marshes. The study identified several possible negative/ positive impacts. The findings and proposed mitigation measures to indemnify the negative impacts are summarized in the following table.

Table 8.18 Mitigation Measures for Possible Negative Impacts (Marsh Development Project)

Receiving Environment	Impact to Mitigate	Mitigation Measures	Responsible Person for Execution
Soil	Erosion of soil	Avoid the excavation in depth for construction materials.	▪ Contractor, Commune administration & local community
		Contour and hedging work on the slopes of hills.	
Plantation of the new trees at the site of cutting of trees.			
	Risk of soil pollution in case of spills of waste oil	Minimization of the risk of spillage of oil and fuel substances at the construction and storage places.	▪ Contractor
Air	Air pollution due to extraction of construction materials & labeling and increased traffic in construction phases.	Regular moisten of the soil at work site to prevent air pollution and related health problem.	▪ Contractor, Commune administration & local community
Water	Water pollution due to residual water resulted from preparation of concrete	Preliminary treatment of the residual water like sedimentation pond, filtration.	▪ Contractor
	Waste waters from the camp site may cause water pollution	Appropriate setting of the camp site outside river and swamp areas to minimize the risk of water or groundwater pollution.	▪ Contractor
	Risk of water pollution in case of spills of waste oil	Collection of solid and liquid waste and off-site disposal, in compliance with the legal requirements.	▪ Contractor
Land Issue	Selection of camp site may lead to misunderstanding about the land acquisition.	Consultation for the site for work camp.	▪ Contractor, Commune administration
Traffic	Risk of accident due to increased traffic at site.	Implementing road safety awareness campaigns at the project sites.	▪ Contractor, Commune administration
Health & Safety	Poor hygiene condition.	Proper arrangement for the sanitary structure and drinking water for work force.	▪ Contractor
Awareness	In-adequate	Sensitization and continuous information to	▪ Contractor, Commune

Receiving Environment	Impact to Mitigate	Mitigation Measures	Responsible Person for Execution
/Social Environment	Communication may result in negative impact.	the local communities about the project and the progress of works.	administration & local community
Working Condition/ Social Environment	Generation of Local employment provide positive impact.	Measures of compliance with the requirements of occupational safety and health of workers. Priority for using the local labor in the project sites.	▪ Contractor, Commune administration & local community
	Rumors may harm the project progress.	Sensitization of the local communities about the job opportunities and application of the recruitment procedure.	▪ Contractor, Commune administration
Control Mechanism	Inadequate Monitoring may lead to negative impact	Constitution of a monitoring team at Provincial and Commune level to control the application of measures.	▪ Environmental officer in cooperation with Office of Director Environment
	Absence of feedback and consultation may not provide the desired results.	Site meeting involving the environment officer for inspection of site and reporting.	
Waste/Landscape	Project camp site	Restoring the project camp site.	▪ Contractor
Social Environment	Inappropriate farming techniques may not provide the desired positive impact of the irrigation facility.	Conduction of awareness and training campaign among farmers for the use of appropriate quantity and use of chemical fertilizers and pesticides. Use of organic manure should be encouraged.	▪ Commune Agronomist & Administration in cooperation with DPAE

8.3.5 Summary of ESIA of Road Development

The ESIA study for the project of rehabilitation of Provincial Road 212 was undertaken. The study identified several possible negative and positive impacts of the project. The findings and proposed mitigation measures to indemnify the negative impacts are summarized in the following table.

Table 8.19 Mitigation Measures for Possible Negative Impacts (Road Development)

Receiving Environment	Impact to Mitigate	Mitigation Measures	Responsible Person for Execution
Flora-Vegetation	Potential degradation of forest	the camp site should not be located near a wooded area Controlled and less use of firewood. Staff awareness for environmental protection.	▪ Contractor
Flora-Vegetation Population	Risk of fire with the hydrocarbon storage	Storage tanks of hydrocarbons must be placed on a concrete area and should surround by a wall.	▪ Contractor
Soil	Risk of soil pollution in case of spills of waste oil.	Minimization of the risk of spillage of oil and fuel substances at the construction and storage places.	▪ Contractor
Air	Air pollution due to extraction of construction materials & labeling and increased traffic in construction phases.	Regular moisten of the soil at work site to prevent air pollution and related health problem.	▪ Contractor, Commune administration & local community
Water	Water pollution due to residual water from preparation of concrete	Preliminary treatment of the residual water like sedimentation pond, filtration.	▪ Contractor
	Waste waters from the camp site may cause water pollution	Appropriate setting of the camp site outside river and swamp areas to minimize the risk of water or groundwater pollution.	▪ Contractor
	Risk of water pollution in case of spills of waste oil	Collection of solid and liquid waste and off-site disposal, in compliance with the legal requirements.	▪ Contractor
Land Issue	Selection of camp site may lead to misunderstanding about the land acquisition.	Consultation for the site for work camp.	▪ Contractor, Commune administration
Traffic	Risk of accident due to increased traffic at site.	Implementing road safety awareness campaigns at the project sites.	▪ Contractor, Commune administration & local

Receiving Environment	Impact to Mitigate	Mitigation Measures	Responsible Person for Execution
			community
Health & Safety	Poor hygiene condition.	Proper arrangement for the sanitary structure and drinking water for work force.	▪ Contractor
	Risk of contamination, spread of STDs and HIV/AIDS	Sensitization of staff on the dangers of STDs and AIDS. Provision of distributing condoms must be done.	
Awareness /Social Environment	In-adequate Communication may result in negative impact.	Sensitization and continuous information to the local communities about the project and the progress of works.	▪ Contractor, Commune administration & local community
Working Condition/ Social Environment	Generation of Local employment provide positive impact.	Measures of compliance with the requirements of occupational safety and health of workers.	▪ Contractor, Commune administration & local community
		Priority for using the local labor in the project sites.	
	Rumors may harm the project progress.	Sensitization of the local communities about the job opportunities and application of the recruitment procedure.	
Waste/Landscape	Project camp site	Restoring the project camp site.	▪ Contractor
Social Environment/ Population	Disturbances caused by possible road cuts / breaks	Early announcements of potential cuts / breaks to the population.	▪ Contractor
Social/ Work force	Risk of work accident	Establishment of an Internal Regulations indicating the safety rules for work.	▪ Contractor
Social Environment/ Population	Risk of personal accident or property damage	The Contractor shall ensure the traffic safety conditions at sufficient road crossings located near to villages. It will take all precautions not to cause any damage to residents, water lines, power lines or telephone	▪ Contractor

8.3.6 Key Observations of ESIA Study

For urgent pilot projects i.e. both marsh development and road rehabilitation, following key observations have been made;

- a) Most of the negative impacts that might affect natural and social environment of the project site and area are confined to the construction phase of the project and most of them are of nature in temporary, low level and local. The mitigation measures have been provided to overcome such negative impacts. No permanent negative impact has been foreseen for the operational phase of the project.
- b) The positive impacts and benefits of the urgent pilot projects were considerably large in terms of both environment and social aspects. Hence it was recommended for the implementation of the project.

8.3.7 Correspondence on project

The both pilot projects i.e. marsh development and road rehabilitation were implemented with the consent of the local residents while applying the mitigation measures which had been provided by the study. Therefore, no negative impacts that might affect natural and social environment of the project site and area have been observed.

Chapter 9 Lessons Learned and Recommendations

9.1 Lessons Learned

9.1.1 Managerial Aspects

(1) Strengthening Ownership of People

People in Burundi have suffered from prolonged conflict, and were afflicted by huge socio-economic setback. However, after the conclusion of cease-fire agreement, the country regained vibrant society with rather stable security condition. Considerable amount of foreign assistances were disbursed for humanitarian assistance and peace-building, which have contributed to the socio-economic stability and development of the country. On the other hand, it is undeniable that the situation makes people accustomed to reception of external assistances.

People in Burundi, as their national character, are generally diligence and have high potential capacity. Although the conflict left huge scars to the society, the country has advanced from reconstruction period to stable long-term development phase which requires autonomy and sustainability. Therefore, it is imperative to make sustainable development through building strong ownership of the beneficiaries.

In this regard, it might be reasonable that PCDC 2nd generation poses significant amount of financial responsibility to the community. Yet, considering the present situation of people still suffering from day to day lives, the objectives envisioned in PCDC2 might not be achieved all at once. Hence, the government should devote more efforts towards enhancement of community based activities, such as promoting community work, involvement of people in the community from the planning stage, and providing assistance for the projects planned by the community.

(2) Technical Support from DPAE

The counterparts of this Project were mainly officials of MINAGRIE. DPAE staffs, allocated at the provincial level office of MINAGRIE, also served actual roles in service extension to the local farmers. DPAE allocates technical staffs at commune, zone, and colline level offices, and their staffs take vital roles not only in agricultural technical assistances but also in community development.

The pilot projects implemented in this Project attempted to establish monitoring system from Colline agricultural monitors, zone agronomists, commune agronomists to DPAE staffs in order to check technical aspects of PP and to tackle the issues arisen from the ground. Also, Project Team has kept in mind to take technical staffs of DPAE to the pilot project sites for the technical transfer to associations, in order for them to nurture the ownership in assisting community. The Project Team therefore strongly recommends this type of technical assistance continues in the future.

(3) Sustainable Support from Administration

Although MINAGRIE is unambiguously the counterpart of this Project, involvement of each commune administrations into the Project is necessary in view of promoting PCDC. Therefore, the Project implemented project activities in cooperation with commune administrators and development advisors of communes as the targets of capacity building and implementing partners.

MINAGRIE is chiefly responsible for the technical assistance in the Project. On the other hand, ownership of donated facilities and mechanical equipment belong to the commune administration which can exert certain authority, know each association member, and provide managerial service to communities. In this Project, CDC members at colline level, as well as commune administration, have been deeply involved in the activities and strongly recognize the importance of institutional

sustainability. Involvement of and assistance from the local authorities closest from the direct beneficiaries is the key in project management for community development.

(4) Consideration to Land Ownership

Land ownership is very important and sensitive problem which takes considerable time to settle for those who were forced to leave their original land caused by social and security turmoil during the conflict. There are plenty of cases in which other people resettle in the place during the conflict. Land issue can sometimes foment conflict among residents in the community.

Therefore, this Project gave full attention in selecting construction sites for the pilot projects. There was no major conflict regarding the land issue at the Project site, since the Project selected public land owned by the commune administration in close consultation with them. Although some people asserted private land ownership in several sites after the commencement of construction, both parties reached peaceful agreement by giving them other public land as a result of consultation among commune administration and stakeholders.

(5) Institutional Development

People in community are grouped as associations and the Project also targeted associations to support. However, many associations have not been engaged in sustaining activities, since they were originally formed as target groups for foreign assistance. Therefore, it is important to assist activities that are in line of real objectives of the associations and to help forming associations and operation & management of the group activities. The Project has conducted trainings to all the target beneficiary associations, and enhanced their capacity through implementing pilot projects. These efforts should be continued by themselves primarily through association activities, and commune administrations and DPAE should also support them with periodic monitoring or technical advices.

(6) Appropriate Documentation

Pilot projects not only constructed facilities and provided equipments for grant, but also adopted solidarity-chain approach by which cultivated seed and calf born by artificial insemination are given to other associations in Selected Seed Solidarity Chain Project (PP 4) and Livestock Promotion Project (PP 5) in order to share benefits of the Project. The Project clarified ownership and the right of use of these products and equipments in the course of project implementation, and exchanged notes among commune administration, target associations, DPAE and the Project Team to make sure those conditions. Exchanging note is one of the effective tools so that stakeholders can avoid unnecessary conflict.

(7) Trust Building with Counterparts

The Project faced difficulty in communication at the beginning, due to insufficient understanding regarding the difference in the manner of project implementation between the Project side and the Burundian side. Hence, the Project held weekly meetings as a platform for information and opinion exchange, took counterparts to the project sites, consulted individually with counterparts in question, and regularized procurement for trust building. As a result, these activities forged trust between the Project and counterparts, which resulted in efficient and smooth project management and good evaluation of the Project.

9.1.2 Technical Aspects

(1) Involvement of People from Initial Stage

Seeking sustainability after the project period, it is crucial to involve residents from the initial stage. It signifies that their involvement enables the Project directly to ensure engagement of the labor force, as

well as the remedial resolution of problems related to selection of construction site at the implementation stage. After the project, it leads to securing of ownership as organization, effective use as well as maintenance of facilities as described below.

In this project, workshops for explanation to residents as beneficiaries prior to the construction works for marsh development and road rehabilitation were held. Further, before the implementation of pilot projects, briefings to residents were conducted for having consultation of the contents of projects. These continuous efforts and related attempts led to foster the sense of ownership among residents.

(2) Importance of Maintenance Activities

Since financial supports from administrations are not expected, maintenance of facilities is basically entrusted to residents as beneficiaries after the completion of projects. Therefore, it is an important agenda to build a maintenance system initiated by residents and strengthen their capacity. Regarding construction works of marsh development and road rehabilitation in this Project, explanation workshops to residents and beneficiaries for maintenance were held and maintenance organizations were formulated since the implementation stage. Lectures and exercises for maintenance were also provided. As for pilot projects, trainings for proper use of equipments and methods of maintenance were provided to establish sustainable maintenance system after the Project.

(3) Careful Selection of Contractors and Order

In the Project, various kinds of projects such as road rehabilitation, marsh development, and pilot projects were undertaken through the means of subcontracting to contractors but, due to the insufficient understanding for method of bidding procedure at initial stage, there was a little friction between Japanese side and Burundian side. Therefore, a document designating the method of bidding (the bid opening committee and bid evaluation committee to be held) was made and agreed on both sides. Since then, biddings went smoothly.

On the other hand, it is important to assess technical capacity of contractors. Important criteria to verify their technical capacities are past work experience of contractors (years of experience and number of projects), evaluation of the owner of previous projects, years of experience and number of technicians, to ensure quality of works and work period. In addition, financial and management conditions of organization, tax payment and registration status are also taken as indicators for the selection of contractors. Size of lots and strong fields of contractors should be also considered. For the marsh development and other pilot projects in the Project, to avoid mismanagement of each project, the works were subdivided into small lots. For livelihood improvement, the Project Team requested the experienced organizations for specific fields of marsh agriculture, colline agriculture and off-farm activities, to participate the tender. As results, it is deemed that reasonable outcomes from all the contractors were obtained.

(4) Works during Rainy Season (Road Rehabilitation)

For the road rehabilitation, the rainy season started soon after the contract was made, while the construction period was very tight due to the timings of the start of the Project, necessary preparation period and the end of the Project. In case of this road rehabilitation, the major work was the earth work, so quality control was difficult for embankment of the main body of the road and a contractor usually tends to hesitate about implementation due to possibility of reworks. However, in this Project, the drainage works were conducted at first and the earth works followed with appropriate drainage function. At the same time, the drainage works were implemented while observing drainage situation, and thus it was possible to shorten construction period effectively and to implement the drainage works according to site conditions in terms of locations and volumes of works, despite of budgetary constraints. Completion within the construction period had been a concern before the work started but construction has been completed according to the schedule.

9.1.3 Aspects of Capacity Development

As described so far, it is necessary to build capacity of stakeholders and to establish training system in order to ensure sustainability after the end of the Project. Therefore, a variety of trainings in cascade wise were carried out for capacity building in the Project. In particular, farmers have limited chances for training and difficulties in accepting new knowledge and skills by themselves due to low literacy rate, so trainings provided through the Project were valuable for them.

(1) Effect of Cascade Training

Cascade trainings were conducted in three steps and trainees evaluated trainers, in other words trainees in the earlier step, very positively. Trainers were also satisfied for chances to teach the knowledge and technique they learned. According to questionnaire survey results for those trainings, most trainees understood theoretically but they requested on the job training at sites by technical officers and exchange visits for practical and further understanding.

(2) Importance of Exchange Visit

Most farmers with self-sufficient life have limited chances for capacity development and it is also difficult for them to move around due to economical constraints. It is also difficult for most farmers to understand abstract contents due to inadequate educational opportunities caused by the civil war. In consideration of such situations, the Project incorporated site visits for beneficiary associations of all pilot projects. Such site visits contributed largely to deepen their understanding and to facilitate their activeness.

(3) Timing and Duration of the Training

According to the survey on training for association members, timing and period of the training affected to their understanding. In regards to timing, training in off farm season and nearer timing to practice were important for farmers to deepen their understanding and to attract more participants. For period, it is necessary to secure adequate training time for further understanding and continuous trainings are expected to facilitate more practical understanding.

9.1.4 Support in Conflict Affected Area

(1) Livelihood Improvement

Careful attention should be paid for support to the conflict affected area not to cause negative impacts which may bring unstable factors to the fragile society, because the long term target of the Project is reconciliation and reconstruction of the society. Even for livelihood improvement components, social factors were considered prior to benefit increase. As explained at the beginning of Chapter 7, the Project Team evaluated activities of associations if they support vulnerable people, through inclusion of such people in development, when selection of association was made. Off-farm activities were carried out to support vulnerable landless people and contributed to diversification of their income sources. Some associations expanded their support to orphans and widows with benefit obtained through pilot projects. Therefore, attentions for social inclusiveness brought fruitful results.

(2) Strengthening Coherence of Community

The Project aimed at strengthening coherence of community, while it was deteriorated during prolonged conflict. The Project supported associations, smallest social community, and improvement of coherence was observed in most associations as increase of meetings and democratic decision making. Due to the severe economic conditions, job creation has been a key for livelihood improvement. Under the circumstance, pilot project revitalized community through job creation activities by attracting local participation. Therefore implementation and monitoring on project

activities should include factors to measure change of coherence of communities such as number and participation rate of meetings and activities, how to share benefits, and so on.

(3) Promotion of Community Activities

On Saturday morning, Burundian people are engaged in a community work so called “Ibikorwa Rusangi” and they are mobilized by local administrations and work for public activities such as construction of schools, clinics, cleaning of roads, etc. This traditional system can be applied in the Project as facilities provided by the Project, mainly PR 212 and irrigation facility in marshes, require regular maintenance by people to sustain their functions. Therefore the Project formulated maintenance groups and provided necessary trainings and tools to them. As of target marshes, beneficiaries carry out maintenance activities once a week, while practical maintenance works were implemented during the community work for target road. Those activities contribute not only to sustainable use of facilities but also to promotion of community activities. To promote community activities, it is important to involve and organize people from the initial stage of projects.

9.2 Recommendations

9.2.1 Effective Utilization of Action Plan and Manual

The Action Plans for 3 communes and the Manual for promotion of PCDC mainly in agricultural sector were formulated in the Project. The Action Plan aligned activities of PCDC to PPIA according to types of livelihood of people, and this arrangement helps for both commune administrations and DPAE selecting appropriate activities smoothly. The Manual can be used for planning and evaluation of projects and efficient implementation for activities of each sub-sector. Utilization of them will contribute to promotion of community development activities of PCDC and effective use by stakeholders is expected.

9.2.2 Viewpoint of Social Consideration

In the conflict affected areas, dividends of peace should be shared with equity and attentions should be paid for interventions to aim at reconstruction of deteriorated community. Negative impacts which may harm them should be excluded as many as possible. Thereby, inclusiveness of vulnerable groups should be considered for interventions especially at the conflict affected society. Such kind of efforts of each group should be evaluated for selection of targets by including it in selection criteria and the use or the way of sharing of benefits should be monitored from the viewpoint of equity.

9.2.3 Strengthening Ownership

As influences of the conflict will be smaller and Burundi will take an ordinary process for development in the future, Burundian’s role will be heavier for national development. Hence, stronger ownership of both people and government officials is expected for sustainable development. To strengthen their ownership, their participation to projects from the earlier stage should be secured as much as possible and managerial and technical guidance should be given thoroughly. The government should also enhance community based activities, such as promoting community works and providing assistance for the projects planned by communities.

9.2.4 Importance of Capacity Building

Efforts for continuous capacity building of people and officers are very important to take a major role for sustainable development. The Project formulated the capacity development program to propose the effective methodology, structure and contents of trainings for promotion of agricultural projects in PCDC. Training modules were also compiled and submitted to DGMVA (General Directorate of Agricultural Development and Extension) of MINAGRIE. Effective utilization of the program is expected for successive capacity building.

9.2.5 Importance of Maintenance

Needless to say, both the rehabilitated PR 212 and irrigation facilities provided by the Project require regular maintenance by people to sustain their functions. The Project formulated maintenance groups and provided necessary trainings and tools to them foreseeing the maintenance after the project period. In case of marsh, beneficiaries carry out maintenance activities once a week and in case of the road, practical maintenance works were implemented during the community work. People should continue maintenance activities to sustain their benefits, while commune administrations should support them through sensitization and mobilization, and DPAE should give technical advices.

9.2.6 Expansion of Support

Considering the above lessons learned, a technical cooperation project is proposed in order to expand the achievement of this Project to wider areas. As for its direction, the new project aims to achieve livelihood improvement through technical capacity building in agricultural sector and covers the whole Gitega Province, from the view point of multiple effects and improvement of sustainability. Capacity development of MINAGRIE, DPAE officials and commune officials will be emphasized more in the new project, therefore, the new project will aim to improve the technical capacity of officials through planning of livelihood improvement pilot projects, implementation and monitoring.

In this Project, pilot projects were implemented to clarify the validity of formulated Action Plan and Manual for acceleration of PCDC, while the new project will define meanings of activities at every step for counterparts to implement projects with ownership in order of prioritization => planning => implementation management => monitoring and evaluation. The flow of the main activities is shown below.

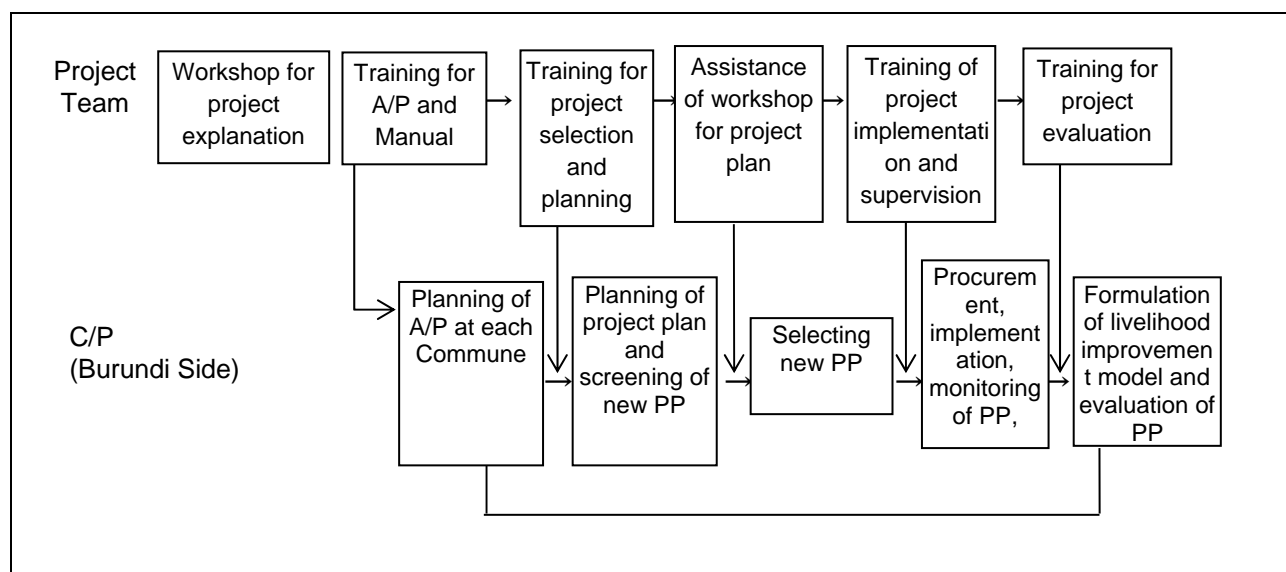


Figure 9.1 Flowchart of Technical Capacity Building for Livelihood Improvement

Low ownership was observed in Burundian side (both counterparts and beneficiaries) in general during the Project. Although it is understandable for the people to be dependent on supports from outside due to considerable amount of assistance after cease-fire, it is necessary for them to undertake independent activities to achieve sustainable development and livelihood improvement. However, functions of public institutions are fragile in fact, so beneficiaries' (= residents') active involvement is quite essential. Therefore, it is important to incorporate beneficiaries' responsibilities for implementation of pilot projects in the new project. In particular, beneficiaries' responsibility can be one of conditions for selection of pilot projects and fostering ownership of targeted beneficiaries before implementation is critical.