

**Ministry of Economic Development
Democratic Socialist Republic of Sri Lanka**

Democratic Socialist Republic of Sri Lanka

**The Project for Development Planning
for the Rapid Promotion of Reconstruction
and Development in Jaffna District**

**Final Report
Executive Summary**

November 2011

Japan International Cooperation Agency (JICA)

**IC Net Limited
Oriental Consultants Co., Ltd.**

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PREFACE

In response to the request from the Government of the Democratic Socialist Republic of Sri Lanka, the Government of Japan decided to conduct the Project for Development Planning for the Rapid Promotion of Reconstruction and Development in Jaffna District and entrusted the project to the Japan International Cooperation Agency (JICA).

JICA dispatched a consultant team to implement this project headed by Mr. Hiroaki Yonesaka of IC-NET Limited and consist of IC-NET Limited and Oriental Consultants Co., Ltd. to Sri Lanka, between March 2010 and November 2011.

The project formulated the road maps in order to envisage the reconstruction and development in Jaffna district toward 2020 after the end of conflict in 2009. The road maps consist three sectors of agriculture, fishery and community development which are assumed as the main pillars for recovering Jaffna economy. In addition, the project conducted pilot projects with the officials concerned of the Government of Sri Lanka and various community groups of Jaffna people. Achievement and experiences are compiled as the lesson learned and reflected the necessary arrangement for the realization of the road map. Upon the completion of the pilot projects, this final report prepared to recommend the measures of Jaffna's economy development

I hope that this report will contribute to the promotion of the steady reconstruction and development in Jaffna district and to the enhancement of friendly relationship between our two countries.

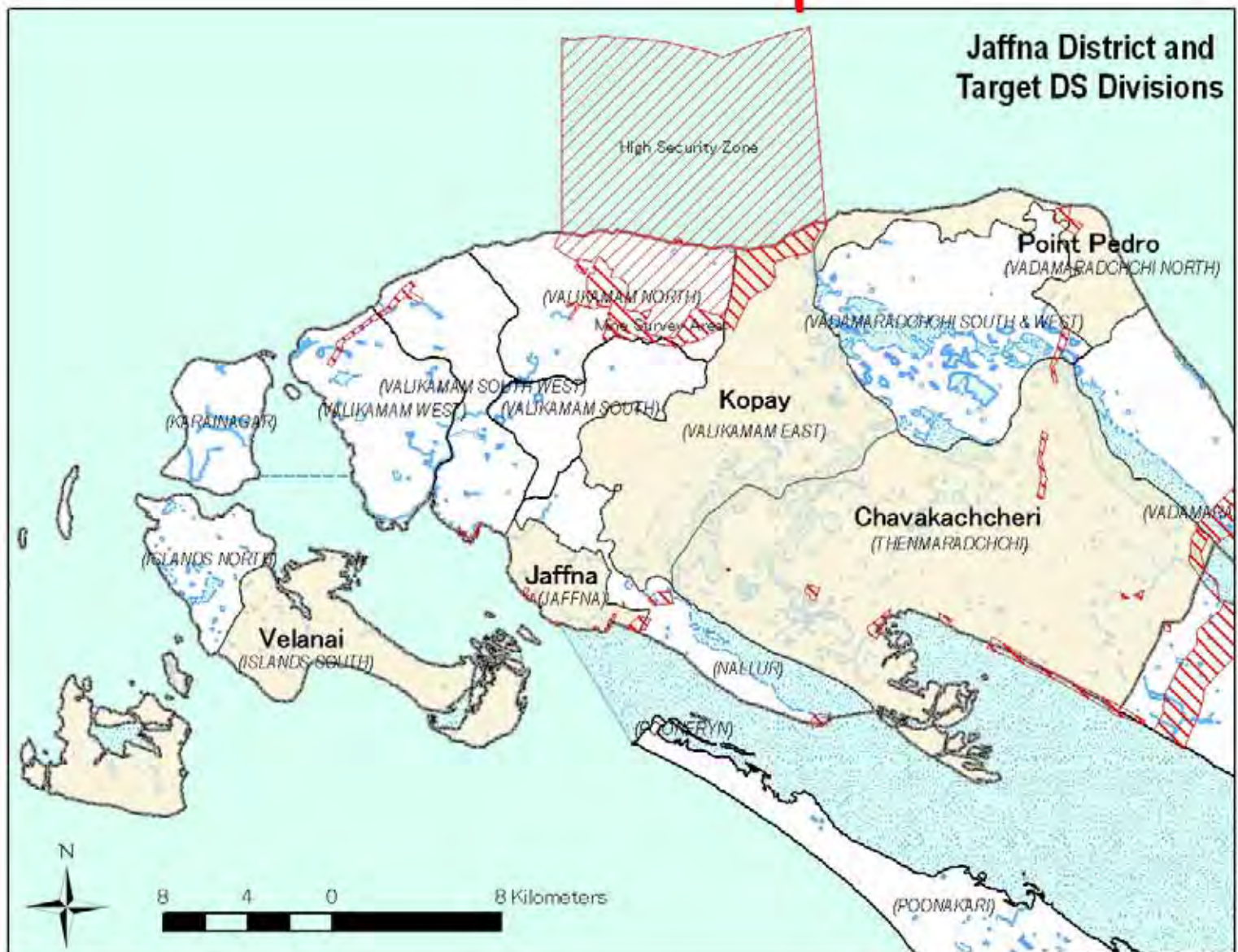
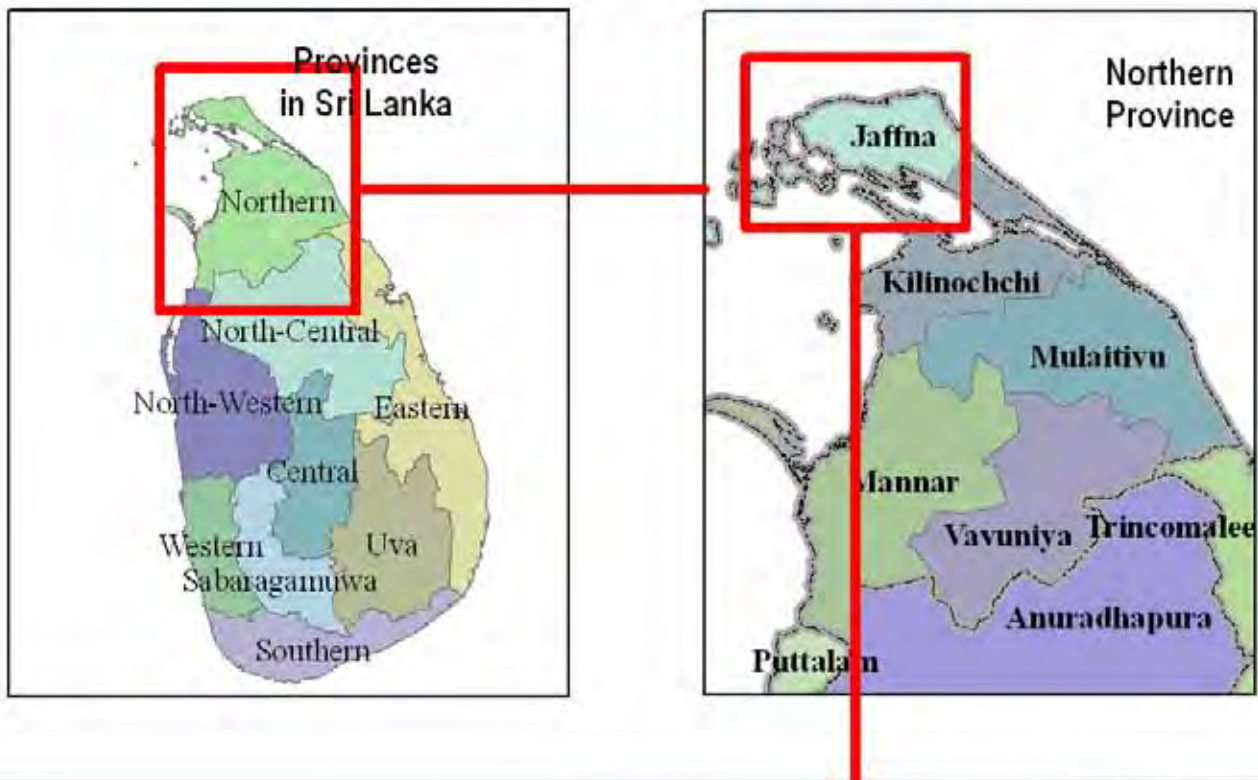
Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Sri Lanka for their close cooperation extended to the project.

November 2011,

Kiyofumi KONISHI
Director General
Economic Infrastructure Department
Japan International Cooperation Agency

The Project for Development Planning for the Rapid Promotion
Of Reconstruction and Development in Jaffna District

Location Map of the Project



The Project for Development Planning for the Rapid Promotion Of Reconstruction and Development in Jaffna District

Photographs



1st Workshop for Development in Jaffna District
held on 19th Feb. 2011



2nd Workshop for Development in Jaffna District
(Fisheries Sector) held on 15th Jul. 2011



QIPP Tank Renovation (Before)



QIPP Tank Renovation (After)



QIPP Jetty Renovation (Before)



QIPP Jetty Renovation (After)

The Project for Development Planning for the Rapid Promotion Of Reconstruction and Development in Jaffna District

Photographs



AC-1 Seed processing facility of SEEDCO
Thilnelvely, Nallur



AC-2 Farmers training at DATC
Thilnelvely, Nallur



AC-3 Mango awareness program - Pruning
demonstration - at Chavakachcheri



AC-5 Coconut Nursery (IRC)
Atchchveli, Kopay



FC-1 Workshop in FCS Unions Federation Level
at FCS Union Federation Ltd,-Jaffna



FC-2 Making Rope for Seaweed Farming by
Community Women for Seaweed farming
at Pungudutivu, Velanai DS Division

The Project for Development Planning for the Rapid Promotion Of Reconstruction and Development in Jaffna District

Photographs



**FC-3 Installation of pen for sea cucumber
at Navanthurai**



**FC-4 Demonstration of FAD
in Katkovalam, Point Pedro**



**FC-6 Reconstruction of the Regional College of
Fisheries and Nautical Engineering (IRC)**



**CC-1 Palmyrah craft making
at Velanai WRDS, Velanai**



**CC-4 Vaccination by Volunteer Vaccinator
at Thavalai Iyattalai WRDS, Chavakachcheri**



**CC-5 Capacity building training
for Widows' society Members, Chavatkadu**

The Project for Development Planning for the Rapid Promotion Of Reconstruction and Development in Jaffna District

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Acronyms and abbreviations

ADB	The Asian Development Bank
AI	Agricultural Instructor
AIn s	Artificial Insemination
CBO	Community Based Organization
DAD	Department of Agrarian Development
DAPH	Department of Animal Production and Health
DFAR	Department of Fisheries and Aquatic Resources
DOA	Department of Agriculture
DS	Divisional Secretariat
FAD	Fish Aggregating Device
FCS	Fishermen's Cooperative Society
FO	Farmer's Organization
FS	farmers' cooperative society
GA	Government Agent
GDP	Gross Domestic Products
GS	Grama Sevaka
HSZ	High Security Zone
IDP	Internally Displaced Person
IRC	Infrastructure Rehabilitation Component
JICA	Japan International Cooperation Agency
KKS	Kankesanthurai
LIBCO	Livestock Breeders Cooperative Society
LKR	Sri Lankan Rupees
LTTE	Liberation Tigers of Tamil Ealam
MFARD	Ministry of Fisheries and Aquatic Resources Development
NARA	National Aquatic Resources Research and Development Agency
NGO	Non-governmental Organization
O&M	Operation and Maintenance
PDB	Palmyrah Development Board

PDP Jaffna	The Project for Development Planning for the Rapid Promotion Of Reconstruction and Development in Jaffna District
PS	Palm development cooperative society
PWSN	people with special needs
QIPP	Quick Impact Pilot Project
RDO	Rural Development Officer
SEEDCO	Seed Production Cooperative Society
SHG	Self Help Group
SWE	salt water exclusion
UNIDO	United Nations Industrial Development Organization
UOJ	University of Jaffna
USD	United States Dollars
WHF	Woman Headed Family
WHO	World Health Organization
WRDS	Woman Rural Development Society

Executive Summary

This executive summary is to present the essential aspects of the Final Report. The Final Report contains nine chapters, and each chapter of this executive summary corresponds to the individual chapters of the Final Report.

Chapter 1. Introduction

This chapter provides basic information about the Project (or PDP Jaffna as the short name of the Project). The following presents main points.

(1) Background of PDP Jaffna

PDP Jaffna is intended to attain the two-fold objectives. The first is to assist rebuilding socio-economic activities of the district people by formulating a regional development plan and Road Maps and by implementing the Quick Impact Pilot Project (QIPP) and the Pilot Projects. The second objective is to indicate a way to reconstruct the regional economy by, among other things, strengthening various Community Based Organizations (CBOs) such as Farmer's Organization (FO), Fishermen's Cooperative Society (FCS) and women's organization (WRDS).

After the first assignment of the Project Team in April 2010, the Team carried out project activities in cooperation with Government Agent (GA) of Jaffna and relevant government agencies, both local and central. The field activities of PDP Jaffna were completed at the end of September 2011 although some activities will continue under the management of the concerned agencies and implementing partners, including a Non-Governmental Organization (NGO) and a national research institute.

Project area is identical to Jaffna District which is a part of Northern Province and has 15 Divisional Secretariat (DS) Divisions. The local population is predominantly Sri Lankan Tamils. Jaffna District financially and socio-economically plays a key role within Northern Province. Thus the reconstruction and development of Jaffna District is expected to affect positively socio-economic conditions in the rest of Northern Province as well. For instance, PDP Jaffna has supported agricultural and fisheries training institutions located in Jaffna; they have mandates to deliver services not only within the district but over the entire Northern Province.

Unlike Sri Lanka's overall economy which drastically changed from an agrarian economy in 1950 to its current sector composition led by the service sector, the economy of Jaffna has been forced by the internal conflict to remain largely dependent on the primary industries. The on-going recovery of the local economy has resulted partly from new investment by Colombo capitals and donor projects but largely from new markets opened for local crops and fish after the A9 road opened.

(2) Implementation Guidelines of PDP Jaffna

The following descriptions also are additional pieces of basic information, starting from a conceptual framework for development planning and focused sectors to the significance of the Pilot Projects and the QIPP.

- Since the manufacturing industry still remains weak, and tourism is in infancy stage in Jaffna District, the recovery and growth of the entire economy of the district will be led by the agriculture, fisheries and construction sectors at least for a few years to come.
- A transition is underway from the urgent relief stage during and immediately after the conflict to the sustainable rehabilitation stage and eventually to the longer-term development stage. However, people having different needs coexist in many areas of Jaffna, and thus it must be understood that these three stages are not mutually exclusive and actually exist simultaneously. This requires taking into consideration needs in context specific to each of these stages.
- One of issues emerging increasingly critical concerns environmental and resources sustainability. Typical cases in this point are the pollution and overuse of groundwater caused by agriculture and the need for more balanced exploitation of fish resources in the fisheries sector.
- The Project has focused on agriculture and fisheries sectors based on the following facts:
 1. Traditionally, the majority of people in Jaffna have earned livelihood from farming and fishing.
 2. Other industries, with the exception of construction industry, are still weak and disadvantaged with inadequate infrastructure.
 3. Many returnees are engaged in farming and fishing and will continue to do so in the future.
- Despite a kind of mini-boom of commerce and finance taking place in the city centre, the majority of the Jaffna people still live in semi-urban and rural areas in which CBOs are an important socio-economic fabric. The Project, therefore, has also paid attention to the capacity strengthening of CBOs. The Project also analyzed needs felt by Internally Displaced Persons (IDPs) and other socially vulnerable groups and reflected them on development planning as much as possible.
- The Project has worked out the Road Maps for the future of agriculture, fisheries and community development, with the conceptualization along three axes of category, type of intervention, and timeframe.
 1. The first axis is the category which is nothing but geographical division observed within Jaffna's agriculture and fisheries since geography is always important in planning the primary industries. Despite the district's relatively small size, its agriculture is quite diversified while fisheries should be diversified in the future.
 2. The second axis is the types of development intervention. To identify needed interventions, two broad segments of intervention - the improvement of producer's income and the institutional development – were set up, and these two segments were further divided into various kinds of intervention.
 3. The third axis is temporal or a timeframe, which is usually divided to the three segments of short-term (5 years from present), mid-term (6-10 years from present)

and long-term (over 10 years from present) futures in development planning. In the Road Maps, short-term is sub-divided into immediate (2 years from present from present) and short-term (5-6 years from present) in order to emphasis the importance of actions in the immediate future.

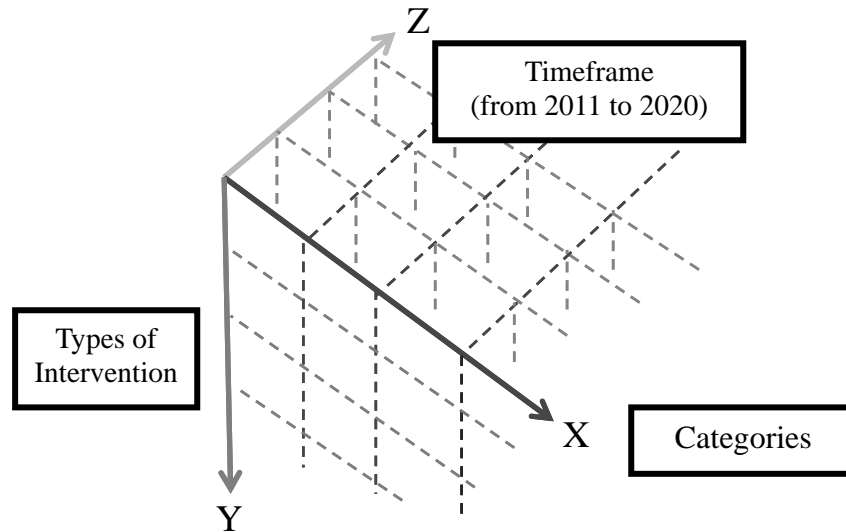


Figure 1: Three Axes for Constructing the Roadmaps
Categories, Intervention Types, and Timeframe

Chapter 2. Overview of Jaffna

This chapter summarizes the present situation of Jaffna District. The following is the main descriptions:

(1) Natural Geography

Jaffna Peninsula is located at the northernmost tip of Sri Lanka and is separated from India by the Palk Strait. Jaffna District consists of this peninsula and seven inhabited islands, being connected to the mainland Sri Lanka by a narrow strip of land called Elephant Pass. The district is in the dry zone; the island area of the district is particularly dry. In 2009, Jaffna recorded only 59 annual rainy days, which was the least among 20 major cities in Sri Lanka. The maximum precipitation occurs from October to December during the northeast Monsoon although some showers are also observed from April to May.

(2) Population

The population of the district was more than 738,000 in the 1980s, but then it declined due to the flight of people during the conflict, which lasted for three decades. The total population was 625,761, in April 2010. Yet, this is larger than the combined total populations of the four other districts in Northern Province. The last census was taken in Jaffna in 1981, and the new one is underway in 2011. The results of the new census will be available toward the end of 2011, and therefore was unavailable for the Project.

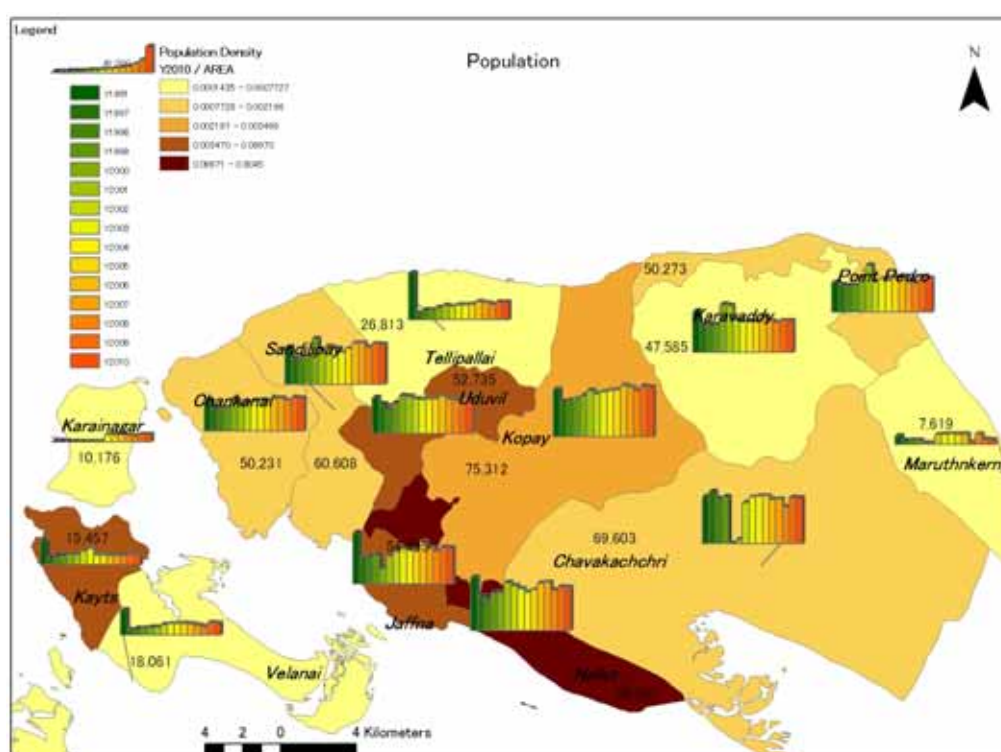


Figure 2: Map of DS Division-wise Population from 1981 to 2010¹

¹ Director of Planning, GA Office

In Jaffna District, the total number of IDPs was 45,275 while 64,144 individuals returned their homeland as of June 2011.

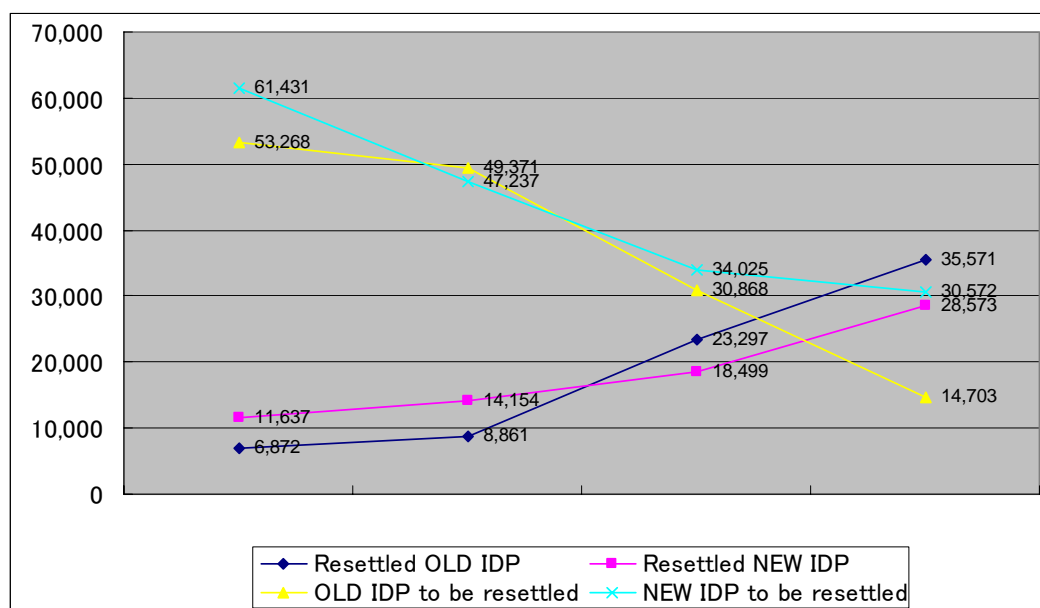


Figure 3: Resettlement of New and Old IDPs from March 2010 to June 2011²

There are several types of IDPs/returnees reflecting different periods of displacement³. There was the rapid increase of resettlement since September 2010, especially for old IDPs because of the intermittent release of High Security Zones (HSZs) and the accelerated demining operations. Some of the returnees to former HSZs seemed not to live in their original place but lived in rented house or with friends/relatives continually, although they registered as resettled returnees.

The issues for IDPs/returnees are resettlement or housing, poor livelihood means, and the mental and physical disorders caused from the prolonged conflict. Many of them planned to move out of current residences to recover their assets or gain better livelihoods in elsewhere. The “most vulnerable” IDPs need food ration, welfare support, housing assistance, support for temporary job, psychosocial care, and other social supports. The “vulnerable” IDPs require the permanent job, housing assistance if their living at temporary shelter, and connection with CBOs. “Relatively fair” IDPs require active role to play in CBOs, leader training, access to microfinance and support to marketing for their products.

(3) History

Jaffna has a history of more than 2000 years of inhabitation and has been the cultural, spiritual and economic centre of Sri Lankan Tamils. The majority of Sri Lankan Tamils, including those who achieved successes in their career or in business in Colombo or abroad, tend to consider that their origin is Jaffna. Just before the resumption of the conflict in 1990, Liberation Tigers of Tamil Eelam (LTTE) had

² District Secretariat Jaffna, “Population of Jaffna District as at 31.03.2010, 30.09.2010, 31.01.2011, and 31.05.2011” and “Resettlement and Release Status in Jaffna District up to 31.03.2010, 20.09.2010, 11.02.2011, and 09.06.2011”.

³ New IDPs means that IDPs who were displaced after 2006. Their return patterns include; assisted return from Vanni IDP Welfare Centre in Vavuniya, and return to friend’s/relative’s house or rented house in Jaffna after evacuating from Vanni. Old IDPs means that IDPs who were displaced before 2006. Their return patterns include; return from friend’s/relative’s house, rented house or IDP Welfare Centre in Jaffna after release of HSZ.

controlled Jaffna Peninsula until 1995 when the district was retaken by government forces. However, even after 1995, the district had suffered isolation, the lack of security and some influence from LTTE.

Table 1: Brief history of Jaffna District

1215	The Jaffna kingdom came into existence.
1620	The Portuguese captured Jaffna's King.
1658	Jaffna city surrendered to the Dutch after a bitter three-month siege.
1795	The British took over Jaffna.
1948	Jaffna was one of the three districts in the north when independence of the island was
1978	Parts of the district were transferred to newly created Mullaitivu District.
Jul. 1983	The armed conflict was started with the guerrilla attack by Liberation Tigers of Tamil Eelam (LTTE) on the Sri Lankan army in Jaffna, which was followed by an anti-Tamil riot in Colombo and other parts of the country.
1987	The Indo-Sri Lanka Peace Accord was signed and the Sri Lankan Government accepted the devolution of power to the provinces as the 13th Amendment to the Constitution of Sri Lanka. India agreed to send the Indian Peace Keeping Force. (The Northern and the Eastern provinces merged into a single province).
1990	Indian troops began to be withdrawn.
1990	LTTE gained control of Jaffna Peninsula, marking the first time LTTE was able to bring the densely populated areas of Jaffna and Mannar Island under its full control.
1995	Jaffna has been retaken by government forces and has been officially held by the
Feb. 2002	The ceasefire agreement between the Sri Lankan Government and the LTTE was signed.
Dec. 2004	Tsunami, the worst disaster in recent Jaffna history attacked the Eastern coast.
Aug. 2006	The war started again in the north and the A9 Highway was closed to bring isolation of
Jan. 2008	The Government formally announced its withdrawal from the Ceasefire Agreement.
18 th May 2009	The armed conflict was over with the clearance of Vanni area by SLA.

(4) Economy

Sri Lanka's gross domestic products (GDP) grew robustly by 8% in 2010 from a low growth of 3.5% in 2009 resulted from the global economic crisis. Sri Lanka is now at the lower level of the middle-income countries with a per capita GDP of USD 2,399 in 2010. Sri Lanka's poverty rate, which had accounted for 15.2% of the population in 2006, declined to 7.6% in 2010.

It is also a sobering fact in Sri Lanka that considerable regional economic disparities exist among the nine provinces. Northern Province is the least developed; it holds 5.8% of the total Sri Lankan population but contributes only 3.3% of the GDP.

The economic growth of Northern Province in 2010 is estimated to mount to staggering 15%. The growth in Jaffna District must be no less than 15%, given much less damages incurred in Jaffna in comparison to other districts of Northern Province during the last fighting. Jaffna's main economic sectors (agriculture, fisheries, and currently construction, and to some extent, commerce and finance) made a jump start and are sustaining growth since the end of the fighting. Despite the backwardness and poverty that still prevail in the district, the current economic growth no doubt has begun trickling down to the grassroots level.

Prior to the conflict, Jaffna contained many small-scale industries that manufactured household items or processed food. However, most of the owners of these businesses left or closed the shops during the conflict. A recent fact finding mission of United Nations Industrial Development Organization for Jaffna's

manufacturing proposed that development of manufacturing should be pursued along support to agriculture and fishery, the two currently active sectors. The mission prioritized specifically commercial rice mills, ice and freezing plants, and the boat and engine repairing workshops.

In the post-conflict Sri Lanka, tourists from overseas significantly increased by 46% to 654,476 persons in 2010, and this year (2011) will likely register further increase by 40% in 2011. Tourism has suddenly become a key service industry in Jaffna as well after 2009 though tourists to Jaffna are predominantly Sri Lankans. However, tourism in Jaffna does not have a sound industrial basis; service quality is sometimes questionable and the effective government supervision is absent.

(5) Government Administration

The local government administration works at five levels: province, district, DS Division and GN Division, and local authorities such as municipality, urban council and Pradeshiya Sabha. While province and local authorities are based on local self-governance with officials elected by residents, other levels are aimed at administrative functionality. In Jaffna, the central government has been working directly as in the case of the Ministry of Agrarian Development and Wild, Ministry of Fisheries and Aquatic Resources Development (MFARD) under the coordination of GA. However, some ministries are under the Provincial Government which was introduced as a part of the 13th Amendment of the Constitution under the Indo-Lanka Accord in 1978 for the purpose of the power devolution. The Governor of Northern Province was appointed by the President only after the end of the conflict, in July 2009. In February of 2011, Northern Province Office shifted from Trincomalee to Jaffna but is expected to settle eventually in Mankulam, a town between Kilinochchi and Vavuniya in 2013. Yet, it may be difficult to carry out the planned transfer on schedule, because this will require considerable development of infrastructure in advance in Mankulam. The election of Provincial Council is expected in 2012.

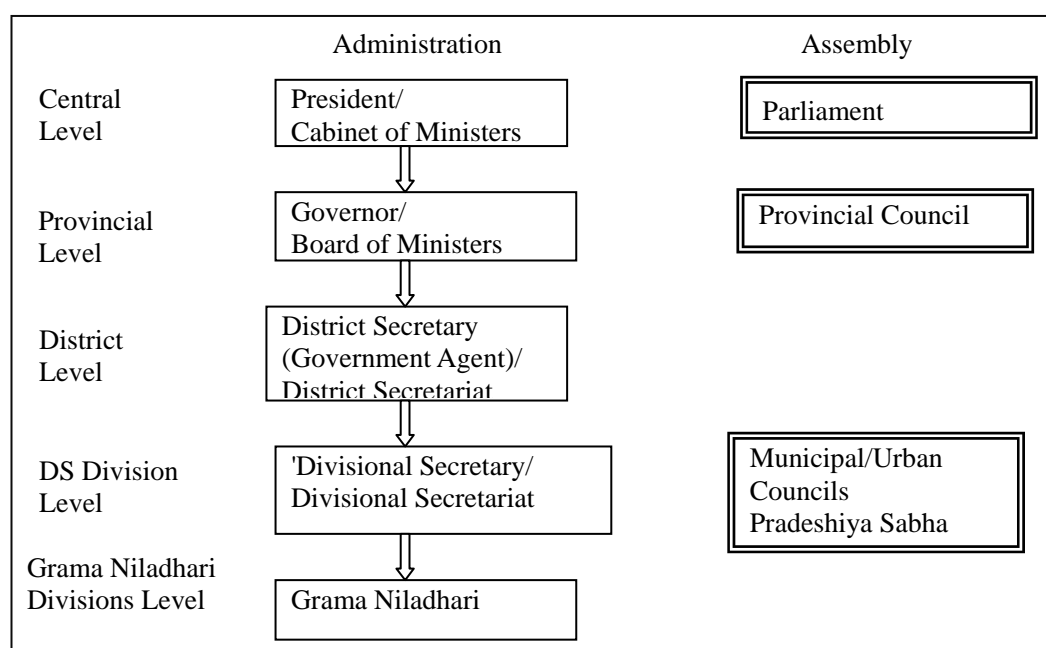


Figure 4: Government Administrative Structure in Sri Lanka

(6) CBOs in Jaffna

In Sri Lanka, the role of CBOs for community development and productive activities has been well recognized and promoted under many government programmes. Table below summarizes major CBOs in Jaffna.

Table 2: CBOs, Government Departments and Officers in Charge, and their Roles

Name of CBOs	Roles	Departments in charge
CBOs for Village Development /Community Development		
Rural Development Society (RDS)	•CBOs for village development activities	•Department of Rural Development
Women Rural Development Society (WRDS)		
Community Center	•CBO for community development	•Assistant Commissioner of Local Government
CBOs for producers		
Fishermen's Co-operative Societies (FCS)	•FCSs function for development of fisheries activities and fisheries	•DFAR •Department of Cooperative Development
Farmers' Organizations (FO)	•Field-level base for agriculture development	•Department of Agrarian Development
Cooperative society for producers	•Field-level base for productive activities	•Department of Cooperative Development •Relevant Department of productive activities
CBOs for special target		
Samurthi Bank society	• CBO for National Samurthi program	Samurdhi Authority
Youth club	• CBO for youth affairs	National Youth Service Center ;NYSC
Other cooperative societies		
Multi Purpose Co-operative Societies (MPCS)	•Nationwide co-operative retail and purchasing network	• Department of Cooperative Development
Thrift & Credit Co-operative societies (TCCS)	•Cooperative society for Thrift & Credit activities	• Department of Cooperative Development

Before 1983, many active CBOs functioned in Jaffna, but since then the conflict has weakened their activities. After the end of the conflict in 2009, the government and NGOs have commenced effort to invigorate CBOs.

Institutional weakness and development gap are issues of CBOs in Jaffna, reflecting effects of the conflict and the past projects, social change after the end of the conflict, and the local characteristics of Jaffna's communities. Besides, dependency and the lack of diversity in their activities are also concerns. Considering the characteristic of Jaffna's communities, to develop CBOs requires their institutional strengthening and the social inclusion of vulnerable people into CBO activities.

(7) Socially Vulnerable People

Woman Headed Families (WHFs) living in the district were 31,995 as of August 2011, which accounted for as much as 17% of all the households. The widows are socially vulnerable, since many have to act as heads of households and rear their children even though they have little work experience. Moreover, their presence in public arenas tends to be restricted, and thus they have to struggle against social discrimination as well as poverty. Almost all of the widows were poor and had very limited means of increasing their family incomes. Many of them had no income at all, relying on governmental or social and family assistance.

There were 4,796 persons with disabilities in the district. Many of them were caused by the conflict, either directly, such as damage from landmines or shelling, or indirectly, such as effects of severe conditions on pregnant women and infants living in refuge camps among other conditions. They naturally face more difficulty in securing a livelihood than others.

Other vulnerable groups include Samurdhi, or poverty-stricken, families. Livelihood and housing were main issues for them. They worked as an unskilled labour, and having a permanent job was difficult. There lived in poor communities, even before the conflict, and community of low social class. Young people who with limited social experiences under the deteriorated situation are also one of vulnerable groups.

(8) Environmental Issues

The environmental issue of groundwater is now of urgent importance in the district. This includes groundwater pollution, freshwater shortage and the infiltration of saline water. In addition, the degradation of vegetation and the pollution around rubbish dumping grounds are emerging as an environmental issue. If the population of Jaffna District increases and its economic activity intensifies, the environmental problems will doubtlessly worsen. The freshwater shortage and water pollution may reach critical levels. One positive development is “Jaffna and Killinochci Water and Sanitation Project”, which has just started to supply safe drinking water through the Asian Development Bank (ADB) financing.

(9) Existing Policies and Plans

The following is major existing policies and plans with relevance to Jaffna's future:

Table 3: List of Existing Plans

National level	Mahinda Chintana (2006-2016)	This indicates general direction of national developmental policy as a vision of the President.
Provincial Level	Joint Plan for Assistance for Northern Province in 2011	The government and donors jointly indicates future development vision of the Northern Province.
	Northern Development Plan (Uthuru Vasanthaya or Wadakkin Wasantham)	Upon the end of the conflict, this indicates a plan of restoration and development based on government funds and donor funds in the Northern Province.
	Five-Year Investment Programme (2009-2013), Northern Province	This indicates five-year investment requirements by ministries and agencies under the Northern Province Government.
District Level	Jaffna District Five-Year Plan (2010-2014)	This indicates accumulated sums of required development budgets for five years by DS division and by agency in Jaffna District.
Municipality Level	Vision of Jaffna MC Development Plan	With support from the Ministry of Urban Development, this indicates a city development plan for the Jaffna City.
	Vadamarachichi North Division 2011 Socio-Economic Profile	With support from GIZ, this indicates a development plan for Vadamarachichi North Division, which was compiled through participatory process.
	Islands South Division 2011 Socio-Economic Profile	With support from GIZ, this indicates a development plan for Islands South Division, which was compiled through participatory
	Valikamam West Division 2011 Socio-Economic Profile	With support from GIZ, this indicates a development plan for Valikamam West Division, which was compiled through participatory process.

(10) External Support

International financing institutions and many donors have already operated in Jaffna, collectively covering a wide range of development activities from humanitarian aid to the rehabilitation to reconstruction and further to the longer-term development. The following table summarizes donor assistance in major sectors in Jaffna.

Table 4: Major Donor Assistance in Jaffna District

Sector	Donor	Projects
Housing	India	50,000 houses in the whole Northern Province
	World Bank	7400 houses under Reawakening Project
Electricity	China	Chunnakam Power Station and associated transmission lines
Water	ADB / France	<ul style="list-style-type: none"> • Water supply from Kilinochchi • Sewage treatment system • Water supply in Point Pedro
Road	ADB	Jaffna - Point Pedro Road
	China	<ul style="list-style-type: none"> • Karainagar Causeway • Jaffna - Point Pedro Road • Jaffna - KKS Road • Jaffna - Palay Road
Bridge	UK	Sangupiddy Bridge
Railways	India	Omantai-Palay Line
Commercial Port	India	KKS Port
Fishing Port	UNOPS	Pasayoor Anchorage
	Denmark	Gurunagar Port
	Korea	(possibility) Myliddy Port
Airport	India	(possibility) Palay Airport
Industry	India	Atchuveeli Industrial Estate
Health	Japan / India	Jaffna Teaching Hospital
Education	ADB / World Bank / UNICEF	Construction of elementary and secondary schools

Chapter 3. Agriculture

This chapter focuses on the agriculture sector in Jaffna. The following depicts some important aspects:

(1) Overview

- In 2009, the district had 62,269 farming households, which was 52% of all households, and 30,408 on-farm labourers.
- Main crops are rice (cultivated in 10,000ha), onion (1,920ha), banana (675ha), mango (655ha), grape (88ha) and various vegetables.
- Livestock rearing is an integral part of farming. Around 11 million litres of milk, 485 tons of meat and 35 million eggs are produced annually.
- The types of cultivated crops differ by area according to topography and soil type. Paddy is cultivated in lowland areas as shown in Figure 5. Vegetables and fruits are found mainly in inland highland areas. Palms, such as coconut and palmyrah, are raised in sandy soil areas along coastal dunes and islands as shown in Figure 6. Livestock are seen all over the district. Four agricultural development categories mentioned in Chapter 5 are reflecting these agricultural traits..



Figure 5: Extent of paddy field in each DS (ha)⁴

⁴ Note: Gradation shows the concentration of paddy fields. Source: The authors, based on District Secretariat, 2009

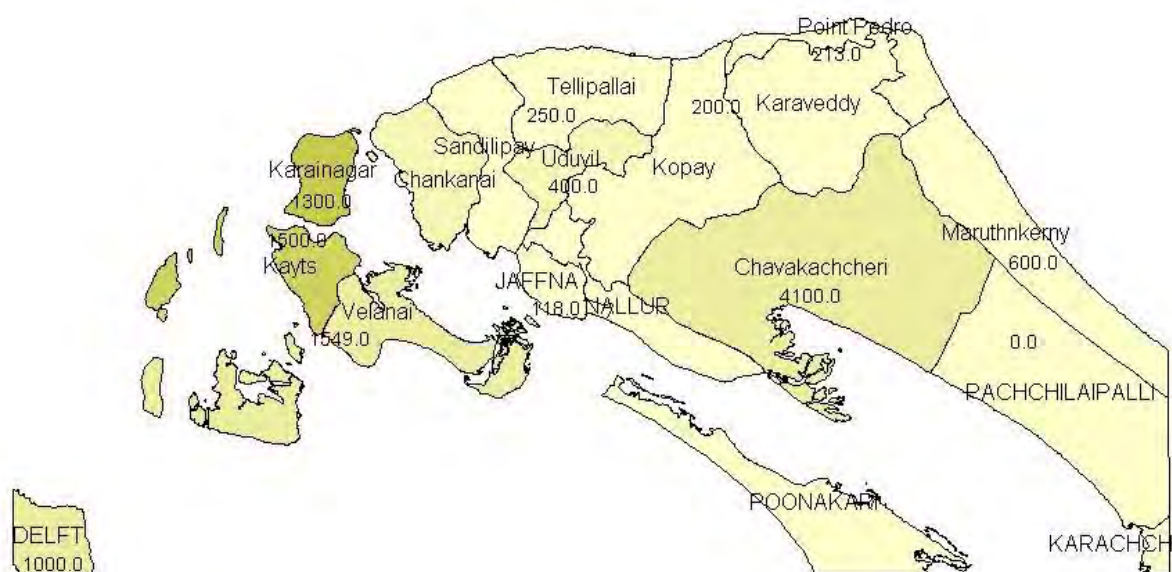


Figure 6: Extent of Coconut field in each DS (ha) 2002⁵

- The population of the peninsula depends entirely on the groundwater to meet its agricultural, industrial and domestic needs because there is no permanent river. Approximately 80% of this groundwater is being used for agriculture.
- There are 992 minor irrigation tanks, 23,737 agro wells and 2,433 ditches in Jaffna. These tanks, wells and ditches were not maintained properly during the conflict. A numbers of tanks have now been restored, but some more restoration work is needed. In 2009, DAD listed that 72 minor tanks, 200 agro wells and 250 ditches were heavily damaged and should be given first priority to restore. Among them, 32 tanks had been restored with the support of donors including JICA by April 2011.
- The conflict had devastated the local agriculture production, but the production has been recovering and now restored more than 90% of the pre-conflict level in terms of paddy and livestock production. Although the pace of production recovery varies product by product, it is expected that overall recovery to the pre-conflict level will be attained by 2013. Changes in the extent of paddy cultivation and the number of cattle are shown in Figure 7 and Figure 8

⁵ Note: Gradation shows concentration of coconut tree. Source: Made by authors based on CCB (2010)

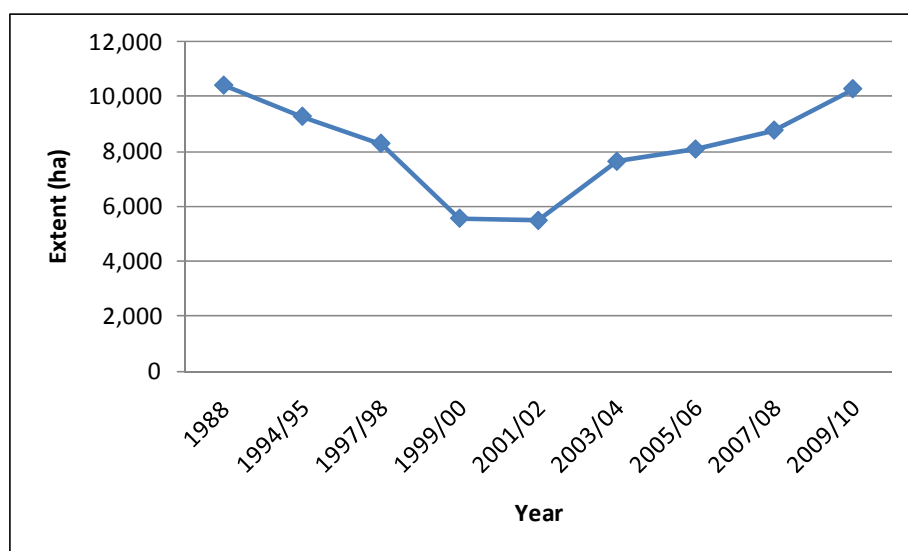


Figure 7: Change in the extent of paddy cultivation during 1988-2009⁶

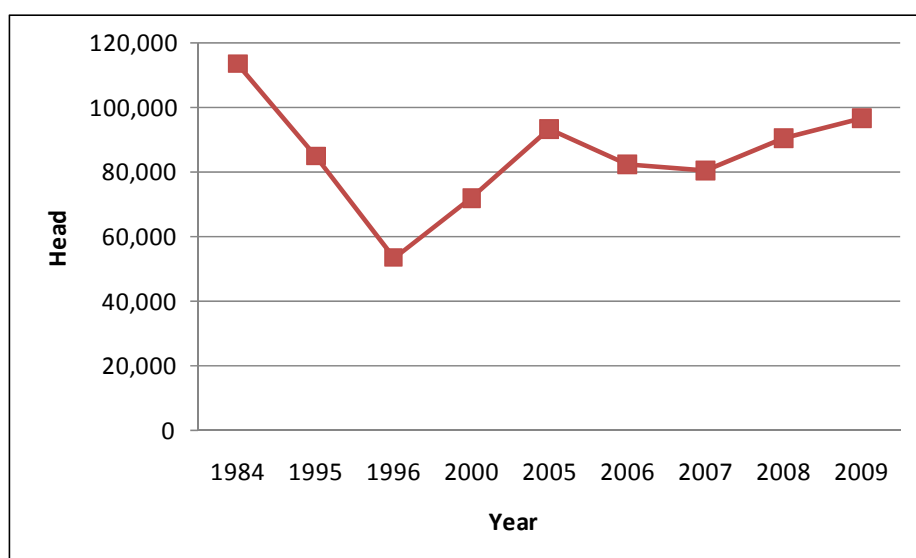


Figure 8: Change in the number of cattle during 1984-2009⁷

(2) Concerned Institutions

- Government agencies concerning the agriculture sector are Department of Agriculture (DOA), Department of Agrarian Development (DAD), Department of Animal Production and Health (DAPH), Coconut Cultivation Board (CCB) and Palmyrah Development Board (PDB). Department of Irrigation (DOI) and University of Jaffna (UOJ) also play an important role in the sector.
- DOA takes responsibility for agriculture education and extension service for farmers. DAD carries out the activities of agrarian and agriculture development including registration of agricultural lands, the supply of agricultural inputs and registration of FOs. DAPH provides veterinary service and livestock

⁶ District Planning Secretariat of District Secretariat (1989-2009). Annual Report of Integrated Agricultural Development & Extension Programme 1989 –2009, Jaffna district

⁷ Jaffna District (2003). Programme framework for resettlement, rehabilitation, reconstruction and development, -“JAFFNA PLAN, District Planning Secretariat of District Secretariat (2009). Integrated Agricultural Development & Extension Programme 2009 –2010 Maha and 2010 Yala, Jaffna district and DAPH (2010), Statistical information, Jaffna district

- education and extension. CCB and PDB are responsible for production and development of coconut and palmyrah, respectively.
- PDP Jaffna has adopted the rehabilitation of the central coconut nursery of CCB as a pilot project with Infrastructure Rehabilitation Component (IRC). The nursery will provide local farmers with quality coconut seedlings to restore the local coconut production.
 - According to the quarterly report of the district secretariat released April 2011, major donors supporting to agriculture sector are the World Bank and ADB. The World Bank was financing tank renovation as well as the construction of the Agriculture Service Centre buildings and irrigation unit offices. ADB was financing the rehabilitation of salt water exclusion (SWE) bunds. In addition, Food and Agriculture Organization of the United Nations (FAO) distributed paddy and vegetable seeds, fruit seedlings, chicks, tools and equipment to the farmers during July 2010 - June 2011. FORUT, CARITAS, World Vision and some other NGOs are providing agricultural assistance to IDPs and returnees. The Road Maps for Agriculture Development presented in the end of this report are not including those ongoing projects supported by donors.
 - There are 212 registered FOs in the district. FOs' major activities are the maintenance and renovation of communal small agricultural infrastructure, and mediation/coordination between government agencies and farmers as a representing organization of farmers. FOs are often disadvantaged with the lack of economic activities, in addition to weakness observed in leadership and administration capacity and financial base.
 - Besides FOs, 10 commodity-based farmers' cooperative societies (FSs), 11 Livestock Breeders Cooperative Societies (LIBCOs), 19 palm development cooperative societies (PSs) and a seed production cooperative society (SEEDCO) are functioning locally. The FSs have been recently emerging after being established under the guidance and support of DOA. On the other hand, LIBCOs were established more than 20 years ago with the support of DAPH and PSs more than 30 years ago with that of PDB. SEEDCO was established in 2001 under the guidance of DOA. SEEDCO is strongly supported by DOA and looks like an affiliated organization of DOA.
 - Figure 9 below shows relation among supporting agencies, CBOs and farmers. DOA, DAD, DAPH, CCB and PDB are supporting farmers and respective CBOs in each relevant field directly or indirectly.

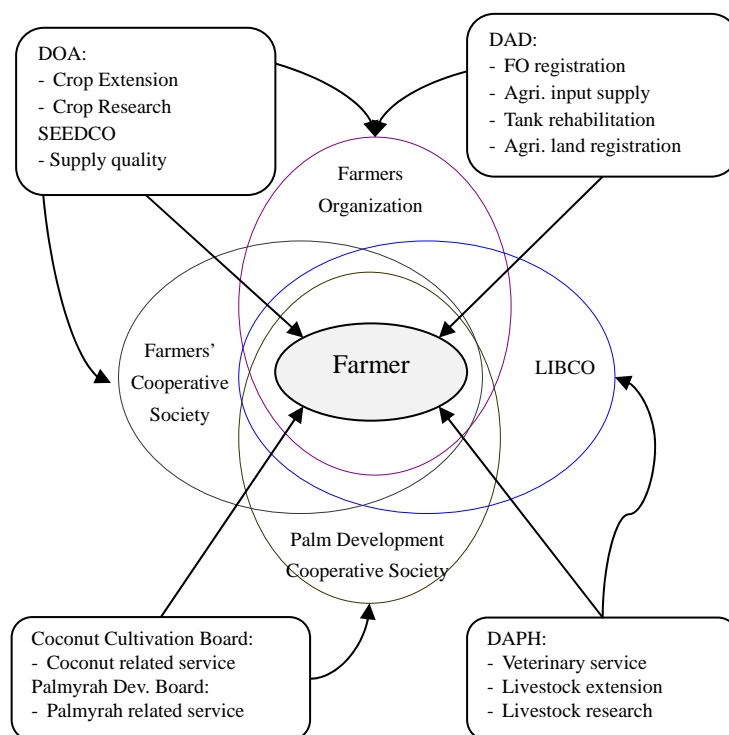


Figure 9: Governmental Support to the Farmers

- There exist two national level policy papers, two provincial plans and a district level outline of livestock sector development. “National Agriculture Policy (NAP) for Food and Agricultural Export Crops and Floriculture” by Ministry of Agricultural Development and Agrarian Services in 2007 described that the NAP facilitates not only to maintain income maximization through optimal utilization of resources as its overriding objective, but also achieve a balanced development between the agriculture sector and other sectors by enhancing sector integration with the rest of the economy. “A Ten Year Horizon Development Framework, 2006–2016, Discussion Paper” by Department of National Planning, Ministry of Finance and Planning in 2006 envisaged that the agriculture sector would grow at faster rate of 4-5%. “Five Year Investment Programme (2009–2013) Northern Province” by Northern Provincial Council, 2009 indicated that the objective of the agricultural development is to revitalize agriculture for livelihood restoration and surplus production, leading to commercialized farming and agric–business development along with the promotion of income generation activities for the targeted groups such as vulnerable, farm women and affected youth and make aware of the new options available for development. “Master Plan for Crop Sector Development- Northern Region” by PDOA, Northern Province in 2010 specified that major objective in crop agriculture is to convert from subsistence agriculture system into commercially oriented agriculture systems by promoting the production of high value market-led crops. “Outline for Livestock Development” by DAPH/Jaffna in 2010 specified that the mission of the livestock development is promoting modernized, commercialized animal husbandry methods to reach self sufficiency in livestock production. Despite some weakness in these plans, they certainly indicate development direction and actions to be taken. The Road Maps for Agriculture Development are consistent with the objectives and priority areas defined in these plans.

(3) Key Issues

- Assistance to returnees and IDPs: Thousands of hectares of land have been abandoned due to the displacement of people. Peoples are returning to such areas. Subsistence food cultivation is a need for returnees. At the same time, cash income sources must be provided for IDPs.
- Water Resources: Jaffna Peninsula depends on the annual rainfall of about 1,200mm received mostly during the October-to-December monsoon. Dry season agriculture depends largely on the groundwater reserved in shallow karstic aquifer during rainy season. Farmers face water shortage during dry season caused by over-pumping of groundwater.
- The farmers also struggle with salinity in a considerable portion of the district. Major causes of salinity problem are over-exploitation of groundwater and damage of SWE bunds over the long period of the internal disturbance. Altogether 16,000ha of land were abandoned in Jaffna due to saline/alkaline problems.
- Since the use of fertilizers and irrigation water is high, groundwater has become not only saline but polluted. Approximately 65% of farm wells were polluted with excess nitrate/nitrogen in areas where intensive agriculture is practiced.
- Promotion of water saving agriculture, restoration of tanks and SWE bands and promotion of proper use of fertilizer are carried out to overcome the problems of water resources. Further thrust of such activities is needed.
- Production: Major issues on production side include i) labourer shortage because of competition with other industries, particularly with construction industry ii) the low quality and inadequate quantity of seeds and planting resources, iii) the lack of supply of quality livestock breeds, iv) inadequate extension services, v) difficulty of obtaining manure and compost, vi) crop damages made by wild monkey (Figure 10), wild boar and stray cattle, and vii) pesticide residue on food. It is recommended to take actions including introduction of mechanized agriculture, improvement of seed supply system, enhancement of supplying improved breeds of livestock, strengthening on extension service, promotion of integrated farming, implementation of mammalian pest control and promotion of proper use of pesticide.



Figure 10: Reported Area of Monkey Damage⁸

⁸ Figure 10. Note: Gradation shows degree of damage. Source: Made by authors based on interview to AIs

- Marketing and agro-processing: The reopening of the A9 road has drastically changed market linkages and Jaffna agriculture entered in a competition with southern products and markets. Therefore, in marketing and agro-processing, challenges include i) promotion of popular traditional crops and suitable new crops, ii) modernization of marketplaces and storage facilities, iii) capacity building of CBOs, iv) processing of vegetables and fruit, v) improved marketing of milk and animal products.
- Strengthening CBOs in the Agriculture Sector: FO is generally a government-guided CBO and tend to be passive. It is recommended to “activate” stagnant and passive FOs which counted as many as a half. FSs also have the problems of weak leadership, poor management and insufficient capitals, and should be strengthened.

Chapter 4. Fisheries

Chapter 4 discusses the present situation of fisheries in Jaffna District and their future.

(1) Overview

- In 2009, the fishing population of 89,232, with 20,715 fishing households, lived in scattered coastal communities of Jaffna.
- Sri Lanka experiences two monsoon periods, southwest monsoon during the period from May to September and northeast monsoon during the period from November to February. Jaffna District is relatively sheltered from the southwest monsoon and the near-shore wave climate is mainly influenced by the less severe northeast monsoon.
- Fishery production in Jaffna District steadily recovered after the 2004 tsunami, and the catch in 2005 maintained 15,158 tons. This figure dropped slightly to 13,432 tons in 2006 due to an escalation in the fighting. It decreased even further to 2,963 tons in 2007 and 2,671 tons in 2008 (Figure 11). This marked drop in production lasted for 34 months from August 2006 to May 2009.

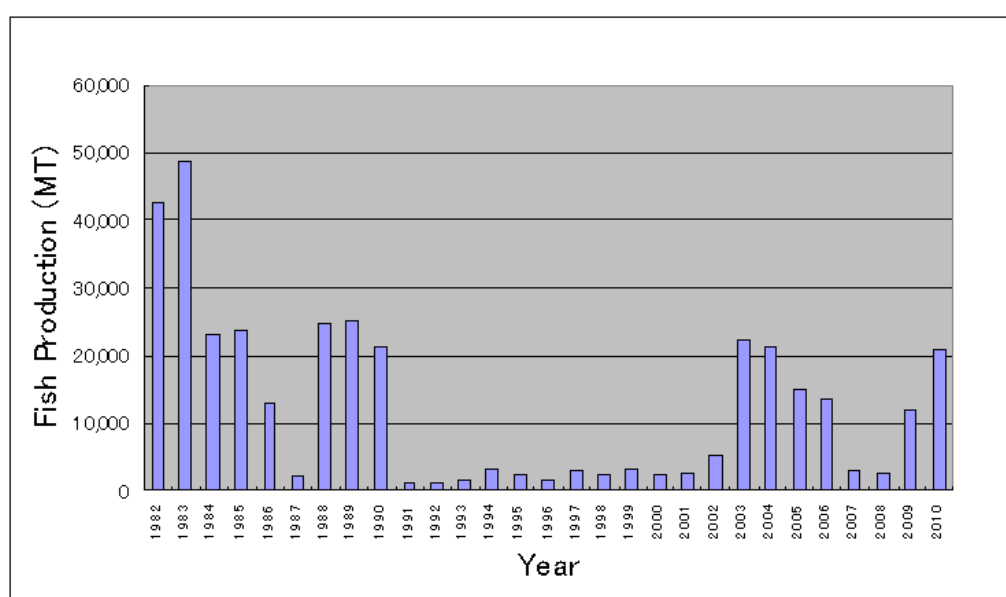


Figure 11: Annual Fishery Production in Jaffna District (1982–2010)

- Since June 2009, however, the fisheries production has registered a rapid recovery because fishing operations has become mostly normalized; the motivation of local fishermen has also been raised by an increase in fish prices and the reduced price of fishing supplies thanks to improved accessibility to Colombo through the reopened A9 road.
- Fishing boats, sustained extensive damage during the 2004 tsunami, increased rapidly thereafter. The increase, however, concentrated on traditional craft and 18 feet Fiberglass Reinforced Plastic boats since most fishermen of Jaffna District were unable to build up a sufficient capital to invest in multi-day boats. This situation has begun to change recently. As of July 2011, 23 multi-day boats are operating in the district.

- The total fishery production was 20,739 ton in 2010. Main catches are rock fish (18%), carangid or paraw (13%), blood fish (12%), prawn (10%), shark/skate (8%), and small fish caught by shore seine (6%) in 2010 (Figure 12).

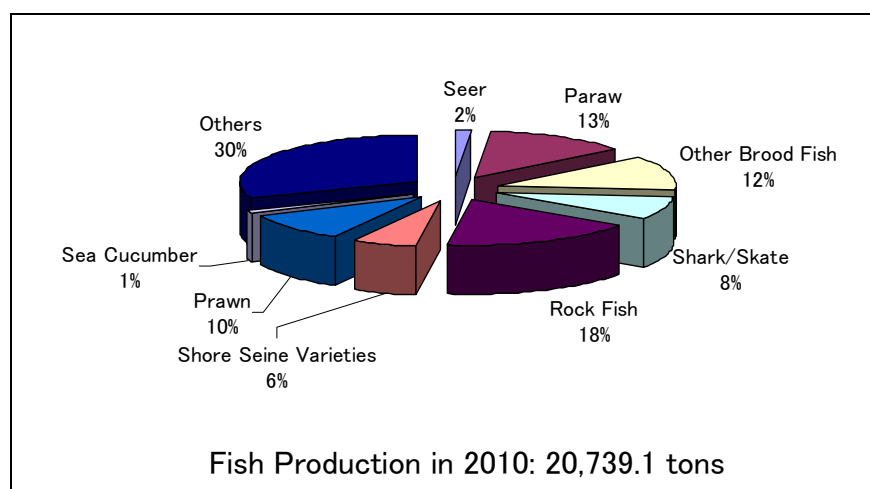


Figure 12: Composition of Fishery Production of Jaffna District in 2010

(2) Concerned Institutions

- Government agencies directly concerned with fishers are Department of Fisheries and Aquatic Resources (DFAR) and National Aquatic Resources Research and Development Agency (NARA) under MFARD, and the College of Fisheries under the Ministry of Youth Affairs. The Department of Fisheries at UOJ also academically contributes to development of the sector.
- The MFARD is composed of one Department, two Authorities and three organizations. DFAR is composed of 15 divisional offices throughout the country and takes role of fisheries resources management, development of fisheries industry and fishers' livelihoods. NARA takes responsibility in scientific research in fishery fields.
- Many foreign donors are interested in fisheries sector development in Jaffna peninsula, including rehabilitation of a fishery anchorage in Pasayoor assisted by United Nations Office for Project Services, fishing harbour in Gurunagar with Danish assistance, fishing harbour in Myliddy for which Korean International Cooperation Agency has expressed its interest for assisting, and fishing net factory in Gurunagar which India is said to be assisting soon. PDP Jaffna has conducted a pre-feasibility study for construction of a fishing harbour in Point Pedro. It appears that harmonized works are underway in fishing harbour development in the district so far, and the Road Map for Offshore Fisheries Development was prepared on the basis of this situation.
- The district registers 118 FCSes, out of which 106 are considered active. FCSes have been weakened by the conflict, and their member fishermen still often encounter difficulties in getting necessary support from the FCSes. The Table 5 shows activities and issues of the present FCSes in the district. Yet, the FCSes are the most important organization for local fishermen, and many socially vulnerable people also earn small incomes by engaging marginal works associated with the FCSes. It is recommended that long-term assistance is provided for the capacity building of the FCSes.

Table 5: Activities and Issues of FCSes in the Jaffna District

Activities	Issues
<ul style="list-style-type: none"> - Providing fish landing facilities - Managing fish auction - Facilitating for fish marketing - Providing credit - Maintaining statistical report - Coordinating conflict solution among members 	<ul style="list-style-type: none"> - They lost many facilities during the conflict. - Auction is often done on the open space. - They face keen competition with dealers from Colombo. - Idiwala Bank does not work well. - Production statistics are often poor. - Conflicts are often occurred because coastal fishing grounds are limited and many small fishing boats are operating there.
<ul style="list-style-type: none"> - Contributing communities 	<ul style="list-style-type: none"> - Income sources of FCSes are limited.

The College of Fisheries is responsible for fishery education and training in the district; many NGOs and donors entrust the implementation of fisheries training to the College which is the only institute for practical fisheries education in the entire Northern Province. However, it suffered a shortage of staff, lack of facilities and poor teaching aids because the original building of the college was destroyed in 1990 due to the conflict. The college restarted the training courses at the present rental house with two teaching staff in December 2000.

- There exist a national level policy paper and a provincial plan for fisheries sector development. The national level policy paper titled “Ten Year Development Policy Framework of the Fisheries and Aquatic Resources Sector 2007-2016” was published by MFARD in March 2007 to describe various policy measures. Issues and indicators to be achieved from 2007 to 2016 for the country include fish production from 389,170 ton to 493,602 ton (27% up) and the expansion of offshore fleet from 2,464 boats to 3,243 boats (32% up), etc. The Plan titled “Fisheries Sector Development in Northern Province of Sri Lanka” was published by MFARD in 2010 to present an action plan in Northern Province. For Jaffna District, this envisages by 2013 the introduction of 150 one-day boats and 15 multi-day boats, the development of four fish landing sites/coast protections, 13 anchorages/jetties, 3 fishing harbors in Myliddy, Thondaimanaru and Gurunagar. The Road Maps for Fisheries Development are consistent with the national development policy as well as the action plan for Jaffna District.

(3) Key issues

- Infrastructure Rehabilitation: There are 128 fish landing sites scattered along the coastline of the district (Figure 13). The condition of fishery infrastructure, including jetties, fish auction halls, and fish markets, is generally very poor as a result of the long conflict. Many fishermen sell fish in open space without shade, which quickly spoils the freshness of and thus the value of catch. A strong need is felt by local fishermen for strengthening fisheries infrastructure.



Figure 13: Main Fish Landing Sites in Jaffna District

- Production sustainability: Small fishing crafts have rapidly increased in the district since 2006. They operate fishing in water near to shore. The destruction of coastal resources could possibly occur if nothing preventive is done. In order to avoid such a calamity, it is recommended that DFAR and other relevant organizations take prompt actions such as the establishment of a fisheries management system in the district.
- Strengthening CBOs: FCSes in Jaffna District have a generation issue and therefore it is recommended to promote capacity building for FCS core staff. Many FCSes have capable staff who have made those FCSes core CBO's in coastal communities for many years. However, they have aged, and now is the time to hand over their roles to younger generation. The young staffers of FCSes need to develop their capacity concerning modern organization, sustainable fishing practices, offshore fisheries exploitation and aquaculture development, fishing household management, and other issues in the present context.
- Offshore Fisheries development: Offshore fishery resources largely remain untapped by Jaffna fishermen primarily because they do not have multi-day boats except a few cases, which developed very recently. Infrastructure development such as construction of fishing harbours should proceed in parallel with the construction of multi-day boats. Offshore fishing exploitation with multi-day fleet is one of good solutions for the well-balanced fisheries resources exploitation to lead sustainable fisheries development in Jaffna.
- Aquaculture development: Some had the opinion that brackish water areas in the district were unsuitable for aquaculture since the salinity was too high there. Even if this kind of opinion may reflect the truth, the district still has extensive marine water areas suitable for aquaculture development around the islands. One possible means to avoid the depletion of coastal fish resources is aquaculture development. PDP Jaffna has implemented pilot projects for aquaculture of seaweed and sea cucumber, with the objective to educate residents in coastal communities on new income generation opportunities.
- Training service : The College of Fisheries plays an important role in fisheries education and training in the district. Upon the completion of the assistance from PDP Jaffna, the College will in turn be able to support the district people to develop offshore fisheries, aquaculture and fish processing.

Chapter 5. Basic Development Policy Framework

This chapter summarizes a set of basic concepts and policy matters that are relevant in formulating Road Maps for the development of agriculture, fisheries and community development.

(1) Grand Vision of Jaffna toward 2020

As a reference to ponder the Road Maps, the Grand Vision of Jaffna toward 2020 embodies a long-term vision, as opposed to a detailed plan, for the future of Jaffna in the post-conflict era. The Vision is outlined with three aspects: i) economic growth forecast by economic segment, ii) challenges of the individual economic sectors and iii) strategic role of Jaffna.

Based on the province-wise GDP statistics from the national economic account published by the Central Bank of Sri Lanka, a prediction was made about the future economic growth of Jaffna District, with a set of assumptions as listed below:

Assumptions

- 1) The annual GDP from Jaffna District in 2010 is equivalent to or slightly more than the 15% registered in the whole Northern Province.
- 2) The current boom of the primary industries in Jaffna contributes considerably to the current high economic growth. After 2012, however, more stable but lower economic growth (around 3–4%) will prevail in the primary industries.
- 3) The secondary industries, typically manufacturing and construction, are also supporting the robust post-conflict economy. The construction boom will continue for at least another three or four years.
- 4) On the other hand, the manufacturing sector does not seem to be enjoying immediate growth due to the lack of a reliable infrastructure base. However, a number of the on-going infrastructure development projects will be completed by around 2015.
- 5) Effects of the improved infrastructure alone will enable growth of more than 10% for the secondary industries, with local capital alone.
- 6) If, on the other hand, the socio-political environment adequately improves as well in the near future, the manufacturing sector will witness super growth with accelerated Foreign Direct Investment.
- 7) The tertiary industries will not be able to grow as remarkably fast as the other two economic segments. This is primarily because the ratio of the tertiary segment to the other two segments is already abnormally high in Jaffna.
- 8) Nonetheless, Jaffna's status as the center of commercial activities in Northern Province will be further strengthened over time, particularly after the rehabilitation of the Palay Airport and the KKS Harbour. As a result, the net growth of 5-7% will be possible in tertiary industries.
- 9) Assumptions do not include population growth, for Sri Lanka's population growth is less than 1% in 2011 and is rather small vis-à-vis economic growth forecast in the range of 6%-12%.

1. In 2010, the shares of the three economic segments in Jaffna were 15.1% for the primary industries, 8.3% for the secondary industries and 76.6% for the tertiary industries. The same shares in 2020 are forecasted to be 15.5%, 17.1% and 67.4% respectively. Although agriculture and fisheries would still remain as Jaffna's traditional economic dynamos in 2020, a shift of gravity toward the secondary industries would be a clear trend. As a result, the composition would be somehow nearer to the today's national average.

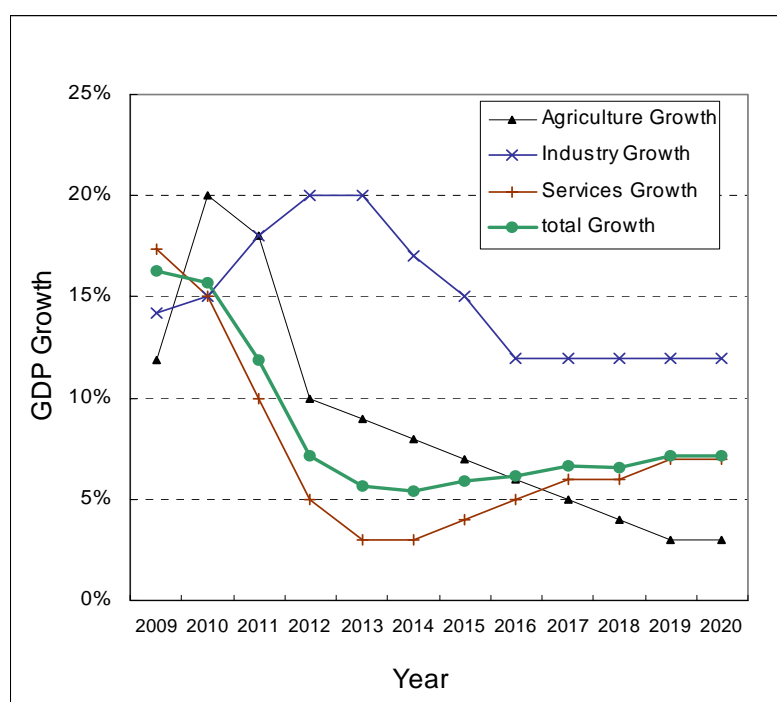


Figure 14: Estimated Economic Growth Rates in Jaffna to 2020

The per capita GDP in Jaffna would double to reach around USD2,000 around the year 2020. Incidentally, the value of USD2,000 is equivalent to the national per capita GDP in 2009. The Team's forecasting tends to be conservative to stay on the safe side, but if the manufacturing and transportation sectors are able to begin to flourish before 2015, the level of USD2,000 would be realized earlier than predicted here.

2. The analysis on challenges of the individual economic sectors reveals that, in the former half of the 2010s, Jaffna should attain, among other things, i) an economic jump start with agriculture, fisheries and construction sectors, ii) completion of consolidating basic economic infrastructure and social infrastructure, and iii) catching up with advanced technology. In the latter half of the decade, what should be done include i) realizing balanced economic development with growth points of manufacturing, commerce and finance sectors, ii) making Jaffna a transportation hub with south Asia and southeast Asia and iii) preparing business environment conducive to Foreign Direct Investment.

3. Finally, the analysis of future strategic role of Jaffna suggests that substantial upgrading Jaffna's function as a regional transportation hub would be of a vital national interest from the viewpoint of fierce competition between the Colombo Port and other Indian port, particularly the Cochin Port. The economic rivalry will be fiercer in the future over what city will be emerging as the leading container-shipping hub in South Asia. Jaffna's KKS Harbour could best function as a feeder port of the Colombo Port once the roads and railway is reconstructed between two cities. This is not a matter of local interests but of national interests.

(2) Framework for Agriculture Development

Overall vision of the agriculture sector is proposed as to recover the pre-conflict production level and to develop sustainable agriculture while conserving the environment. The strategy, goal and target for different stages for the agriculture sector was constructed in four categories reflecting agricultural traits in three distinct agri-geographical areas within the district plus livestock development which is a ubiquitous component of farming practice throughout the district. The four categories are i) vegetable and fruit production in highland, ii) lowland paddy production, iii) sandy soil agriculture at outlying islands and sand bars, and iv) livestock production.

Vegetable and fruit production in highland

As for vegetable and fruit production in highland, the development strategy was recommended as "recovering the production of the local specialties such as mango, onion and banana to the pre-conflict level and expanding the offshore market." Goals towards 2020 were recommended as; i) The increased number of quality local specialties would be marketed nationally and internationally, and ii) A significant contribution to the district economy would be made.

Based on the targets in the different stages and goals in this category, the Team projected the achievable changes in terms of various indicators for the development of vegetable and fruit production, as shown in Table 6 below.

Table 6: Indicators for the Development of Vegetable and Fruit Production in Highland Areas

Time span		Figure for pre-conflict period	Immediate target (2011–2012)	Short-term target (2013–2016)	Mid-term target (2017–2020)	Long-term goal (2021–)
Issues and indicators						
Improvement of income						
Stable supply of inputs	Supply of vegetable seed from SEEDCO (Mt) 0.5 (2010)	n/a	0.75	1.0	1.5	1.5
Sustainable management of resources	Level of ground water pollution	n/a	Under WHO limit	Under WHO limit	Under WHO limit	Under WHO limit
	Practice of flood irrigation	n/a		Reduce the practice of flood irrigation to 1/4 of the cultivated area	Reduce the practice of flood irrigation to 1/4 of the cultivated area	Reduce the practice of flood irrigation to 1/4 of the cultivated area
Improvement in productivity	Red onions (Mt) 28,960 (2009)	30,968 (1989)	40,000	48,000 (up 20%)	50,000 (up 5%)	50,000
	Bananas (Mt) 18,503(2008)	n/a	20,000	24,000 (up 20%)	24,000	24,000
	Mangos (Mt) 2,375(2008)	n/a	3,000	4,000 (up 20%)	5,000 (up 10%)	5,000
	Grapes (Mt) 921(2008)	n/a	2,000	3,000	4,000	4000
Improvement in marketing	Sales outlets of FSs (Nos)	n/a	1	2	2	2
Improvement in infrastructure	Cold Storage (Nos)	n/a	1	3	10	15
Institutional development						
Strengthening agriculture related peoples' organization	Sales outlets of FSs (Nos)	n/a	1	2	2	2
Strengthening of public service providers	Training opportunities for extension officers (days/year/person)	n/a	20	20	20	20

Lowland paddy production

The development strategy of lowland paddy production should be “recovering the paddy field to the pre-conflict level and improving its rate of self-sufficiency.” Goals towards 2020 were set up as: i) Efficiency and profitability of paddy cultivation would be improved, and ii) The 40% self-sufficiency of rice would be achieved in the district. Proposed indicators for the development of lowland paddy production is as shown in Table 7 below.

Table 7: Indicators for the Development of Lowland Paddy Production

Time span		Figure for pre-conflict period	Immediate target (2011–2012)	Short-term target (2013–2016)	Mid-term target (2017–2020)	Long term goal (2021–)
Issues and Indicators						
Improvement in income						
Stable supply of inputs	Seed supply from SEEDCO (Mt)	n/a	100	100	100	100
Sustainable management of resources	No appropriate indicator	-	-	-	-	-
Improvement in productivity	Sown extent (ha) 10,500 (2009)	10,383 (1988)	11,500	13,000	13,000	13,000
	Production (Mt) 25,210 (2009/2010)	n/a	30,000	33,000	33,000	33,000
Improvement in marketing	No appropriate indicator	-	-	-	-	-
Improvement in infrastructure	Renovated tanks and canals (Nos) 32 (2010)	n/a	50/year	50/year	50/year	50/year
Institutional development						
Strengthening of agriculture related peoples' organization	Innovative FOs to improve paddy production (Nos)	n/a	15/year	15/year	15/year	15/year
Strengthening of public service providers	Training opportunities for extension officers (days/year/person)	n/a	5	5	5	5

Sandy soil agriculture at outlying islands and coastal areas

For sandy soil agriculture, “recovering suitable crops for sandy soil to the pre-conflict level and achieving self-sufficiency and promoting value added sale” was adopted as the development strategy. Goals towards 2020 were set up as: i) Local demand for coconut and palmyrah would be satisfied 100% by local produce, ii) Value added products of coconut and palmyrah would be marketed nationally and internationally, iii) New crops would be introduced and become popular, iv) Green belt would be established with palmyrah, coconut, cashew, neem etc. v) palmyrah exploitation and utilization would reach 70%. Proposed indicators for the development of the sandy soil agriculture are as shown in Table 8 below.

Table 8: Indicators for the Development of Sandy Soil Agriculture

Time span		Figure of pre-conflict period	Immediate target (2011–2012)	Short-term target (2013–2016)	Mid-term target (2017–2020)	Long-term goal (2021–)
Issues and indicators						
Improvement in income						
Stable supply of inputs	Production of coconut seedling of improved variety (seedlings/year)	n/a	200,000	300,000	300,000	300,000
	Production of Palmyrah seedlings: (Nos) 10,000 (2011)	n/a	35,000	50,000	75,000	100,000
	Production of Palmyrah Seeds (Nos)	n/a	500,000	500,000	500,000	500,000
Sustainable management of resources	No appropriate indicator	-	-	-	-	-
Improvement in productivity	Extent of coconut (ha) 2,542 (2009)	4,992 (2002)	4,000	6,000	8,000	10,000
	Palmyrah product utilization (%) 20% (2010)	n/a	40%	50%	60%	70%
	Functioning Palmyrah model farms (Nos) 2 (2011)	n/a	5	10	15	15
	Extent of new crops (ha)	n/a	5	20	80	More than 80
Improvement in marketing	Outlet for Palmyrah product (Nos) 6 (2011)	n/a	8	10	10	10
Improvement in infrastructure	Improved facilities	n/a	Palmyrah Product Complex	Palmyrah Research Institute	-	-
Institutional development						
Strengthening of agriculture related peoples' organization	Number of coconut societies at the village level	n/a	60	90	425	425
	Sales of palm development cooperative societies (increment %)	n/a	Increase 10%	Increase 20%	Increase 30%	Increase 40%
Strengthening of public service providers	Training opportunities for extension officers (days/year/person)	n/a	10	10	10	10

Livestock production

The development strategy of livestock production should be “considering livestock as a part of integrated farming. Recovering the number of livestock to the pre-conflict level and improving its rate of self-sufficiency in the district by introducing suitable breed and promoting value added sale.” Goals towards 2020 were set up as: i) Local demand for livestock products would be satisfied 100% by local production, ii) Value added products of livestock would be marketed nationally and internationally, iii) Livestock rearing would be maintained as a part of integrated farming. Proposed indicators for the development of livestock production are shown in Table 9 below.

Table 9: Indicators for the Development of Livestock Production

Time span		Figure of pre-conflict period	Immediate target (2011–2012)	Short-term target (2013–2016)	Mid-term target (2017–2020)	Long-term goal (2021–)
Issues and indicators						
Improvement of income						
Stable supply of inputs	Cattle Artificial Inseminations (AIns) (Nos) 7,871(2009)	n/a	9,000	10,000	11,000	11,000
	Chicks (Nos) 72,210 (2009)	n/a	80,000	100,000	100,000	100,000
Sustainable management of resources	Nitrate nitrogen level of groundwater	n/a	Under WHO's limit	Under WHO's limit	Under WHO's limit	Under WHO's limit
Improvement of productivity	Number of cattle 96,668 (2009)	113,562 (1984)	100,000	110,000	120,000	120,000
	Number of poultry 296,460 (2009)	578,522 (1984)	400,000	500,000	500,000	500,000
	Number of goats 51,942 (2009)	96,193 (1984)	70,000	100,000	100,000	100,000
	Milk (litters) 10,897,075 (2009)	n/a	10,000,000	12,000,000	14,000,000	15,000,000
	Average milk production per head of cow (dairy female)	n/a	3 litters	4 litters	5 litters	6 litters
	Mutton (kg) 112,596(2010)	n/a	123,000	135,000	150,000	150,000
	Eggs (Nos) 40,831,820 (2009)	n/a	41,600,000	42,800,000	44,000,000	50,000,000
Improvement of marketing	Improvement of Sales outlets: (Nos) 50 out of 54 functioning (2010)	n/a	10 outlets/year	10 outlets/year	10 outlets/year	-
Improvement of infrastructure	Organized livestock market (Nos)	n/a	3	5	10	15
Institutional development						
Strengthening of agriculture related peoples' organization	Strengthened LIBCO (Ex. Processing centre operated by LIBCO) (Nos)	n/a	5	8	11	11
Strengthening of public service providers	Feed storages at VS office (Nos)		4	10	15	17

(3) Framework for Fisheries Development

Overall development vision of the fisheries sector is proposed as “to realize sustainable fisheries development through well-balanced fishery resources exploitation and the formulation of a resources management system.” Similarly to the agriculture sector, three categories for fisheries development in Jaffna are set up. They are i) establishment of sustainable coastal fisheries, ii) offshore fishery development, and iii) aquaculture development. The development strategies should be i) realizing the balanced exploitation of ocean resources through the transfer of fishing efforts from coastal fisheries to

new activities in off-shore fisheries and aquaculture, ii) establishing a community-based fisheries management system, and iii) improving post-harvest including fish processing and cold chains.

Establishment of sustainable coastal fisheries

Goals towards 2020 for sustainable system of coastal fisheries should be: i) annual fish production of 25,000 tons would be sustained, ii) the rehabilitation and reconstruction of fisheries infrastructure would continue without fail, iii) ice-making plants and other fisheries-associated industries would be developed and increase their production to catch up with the level of fish production, iv) community-based fishery management would be more popular in the short term and would become more formalized in the mid-term, v) mutual assistance system of FCSes would be strengthened for socially vulnerable community members. Proposed indicators for the sustainable system of coastal fisheries are shown in Table 10 below.

Table 10: Indicators for Establishment of a Sustainable System for Coastal Fisheries

Category			Coastal Fisheries			
Goal			Establishment of Sustainable System for Fisheries			
			Immediate (2011-2012)	Short-term (2013-2016)	Mid-term (2017-2020)	Long-term (2021-)
Livelihood Enhancement	Input supply	Ice making capacity	50 ton	150 ton	300 ton	1,000 ton
	Optimum Utilization of Resources	Community-based fishery management	Introduced on the District level	Popularized in the District	formalized in the District	
		Co-management system			Introduced in the District	Generalized in the District
	Productivity Improvement	Fisheries production (ton)	22,000 ton	25,000 ton	25,000 ton	25,000 ton
		Fisheries value (LKR)	LKR 4,400M	LKR 5,000M	LKR 5,500M	LKR 6,000M
		Processed fish production (ton)	1,000 ton	1,200 ton	1,200 ton	1,200 ton
		Processed fish value (LKR)	LKR 500M	LKR 600M	LKR 600M	LKR 600M
		Fish export from the District (ton)		50 ton	500 ton	5,000 ton
		Fish export from the District (LKR)		LKR 15M	LKR 150M	LKR 1,500M
	Marketing Improvement	Number of local fish exporters		10 companies	20 companies	30 companies
		Rehabilitation & construction of fish auction hall	15	15	15	15
		Rehabilitation & construction of fish market		2	2	2
	Infrastructure Improvement	Rehabilitation & construction of fish landing sits/jetties	5	5	5	10
		Number of fishermen's locker	10	15	15	15
		Number of ice storage	10	15	15	15
		Number of safety infrastructure for fishing	10	15	15	15
Institutional Development	Strengthening of Fishermen's Cooperative Societies	Rate of active fishermen	25%	30%	35%	40%
		No. functioning Idiwala bank	12	20	30	30
		No. of new model FCS	2	10	30	50
		Improvement of mutual assistant system of FCSs	Improved in certain extent	Well improved		
	Strengthening of District Level Administration	No. of Fish inspectors	10	20	20	25
		No. of fish landing sites which new statistic system covers in the District		20	60	128
	Strengthening of National Level Administration					

Offshore fishery development

Goals towards 2020 for offshore fisheries development should be: i) annual production of the sub-sector would be up to 7,500 tons per year with 150 multi-day boats, ii) processing of fish caught by offshore fisheries would mount to around 1,500 tons per year, iii) the direct fish export from Jaffna's offshore fisheries would start in the short term, and it would steadily increase, iv) new fishing harbour would be constructed for multi-day boats at two sites in the district. Proposed indicators for offshore fisheries development are shown in Table 11 below.

Table 11: Indicators for Offshore Fisheries Development

Category			Offshore Fisheries			
Goal			Exploitation of Deep Sea Fishing Ground			
			Immediate (2011-2012)	Short-term (2013-2016)	Mid-term (2017-2020)	Long-term (2021-)
Livelihood Enhancement	Input supply	No. of fuel supply station for multiday boats		2 stations	5 stations	10 stations
		No. of water supply stations for multiday boats		5 stations	10 stations	20 stations
	Optimum Utilization of Resources	Covering ratio of Vessel Monitoring System		20%	50%	75-100%
		Covering ratio of license system			20%	50-100%
	Productivity Improvement	No. of Multi-day boat	30 boats	70 boats	150 boats	400 boats
		Fish catch production (ton)	1,500 ton	3,500ton	7,500 ton	20,000 ton
		Fish catch value (LKR)	LKR 300M	LKR 700M	LKR 1,500M	LKR 4,000M
		Processed fish production (ton)			1,500 ton	4,000 ton
		Processed fish value (LKR)			LKR 600M	LKR 1,600M
		Fish export from the District (ton)		50ton	1,000ton	5,000ton
		Fish export from the District (LKR)		LKR 15M	LKR 300M	LKR 1,500M
	Marketing Improvement	Number of local fish exporters		10 companies	20 companies	50 companies
		Construction of fish market for offshore fishery		1	3	5
	Infrastructure Improvement	No. of fishing harbor for multiday boat		1	2	3
		No. of mooring site for multiday boat	1	3	6	14
Institutional Development	Strengthening of Fishermen's Cooperative Societies	No. of offshore fishery cooperative societies		1	3	10
		No. of member fishermen of offshore fishery cooperative societies		500	1,500	5,000
		No. of credit apply for building multiday boat	5	25	75	200
	Strengthening of District Level Administration					
	Strengthening of National Level Administration					

Aquaculture development

Goals towards 2020 for aquaculture development should be: i) the total aquaculture production quantity and value would reach 500 tons per year and LKR 50 million, respectively, ii) two fish seed production centers would be constructed to produce seeds, including shrimp seeds (1,000,000 pcs./year), sea cucumber (200,000 pcs./year), and milkfish fingerlings (100,000 pcs./year), iii) four aquaculture

cooperative societies would be established, and another four FCSes would develop themselves according to a new model of FCS adapted to aquaculture activities with about 600 members of fish farmers working in aquaculture subsector, iv) socially vulnerable people would obtain sustainable income from aquaculture business. Proposed indicators for aquaculture development are shown in Table 12 below.

Table 12: Indicators for Aquaculture Development

Category			Aquaculture			
Goal			Development of New Technology for Fish Production			
			Immediate (2011-2012)	Short-term (2013-2016)	Mid-term (2017-2020)	Long-term (2021-)
Livelihood Enhancement	Input supply	Seed supply		Shrimp: 500,000	Shrimp:1,000,000 Sea cucumber: 200,000 Milkfish fingerling:100,000	Shrimp: 5,000,000 Sea cucumber: 500,000 Milkfish fingerling: 500,000
	Optimum Utilization of Resources	Release the stock to Jaffna lagoon		Shrimp: 100,000	Shrimp:200,000 Sea cucumber: 40,000	Shrimp: 1,000,000 Sea cucumber: 100,000
	Productivity Improvement	Aquaculture production (ton)	56 ton	193 ton	500 ton	1,000 ton
		Aquaculture value (LKR)	LKR 5M	LKR 18M	LKR 50M	LKR 110M
	Marketing Improvement					
	Infrastructure Improvement	No. of fish pen	5	20	50	100
		No. of fish cage			10	30
		No. long line for sea weed	60 units*	200 units	500 units	1,000 units
		Area of fish pond		5ha	20ha	50ha
Institutional Development	Strengthening of Fishermen's Cooperative Societies	No. of aquaculture cooperative societies		2	4	7
		No. of new model FCSfor aquaculture		2	4	7
		No. of fishers who belong to aquaculture cooperative societies		225	580	1,180
		Involvement of socially vulnerable people	Returnees & WHFs are involved in aquaculture	Returnees & WHFs get sustainable income from aquaculture		
	Strengthening of District Level Administration	No. of aquaculture staff		2	4	7
		No. of technical staff in seed production center		2	5	8
	Strengthening of National Level Administration					

PDP Jaffna made an interesting figure titled “Expected Future Fishing Ground in Jaffna District” (Figure 15). This is the first map ever made to visualize the current and potential use of the sea surrounding Jaffna by the local fisheries and aquaculture, which is significant to consider the present and future use of the fishing ground.

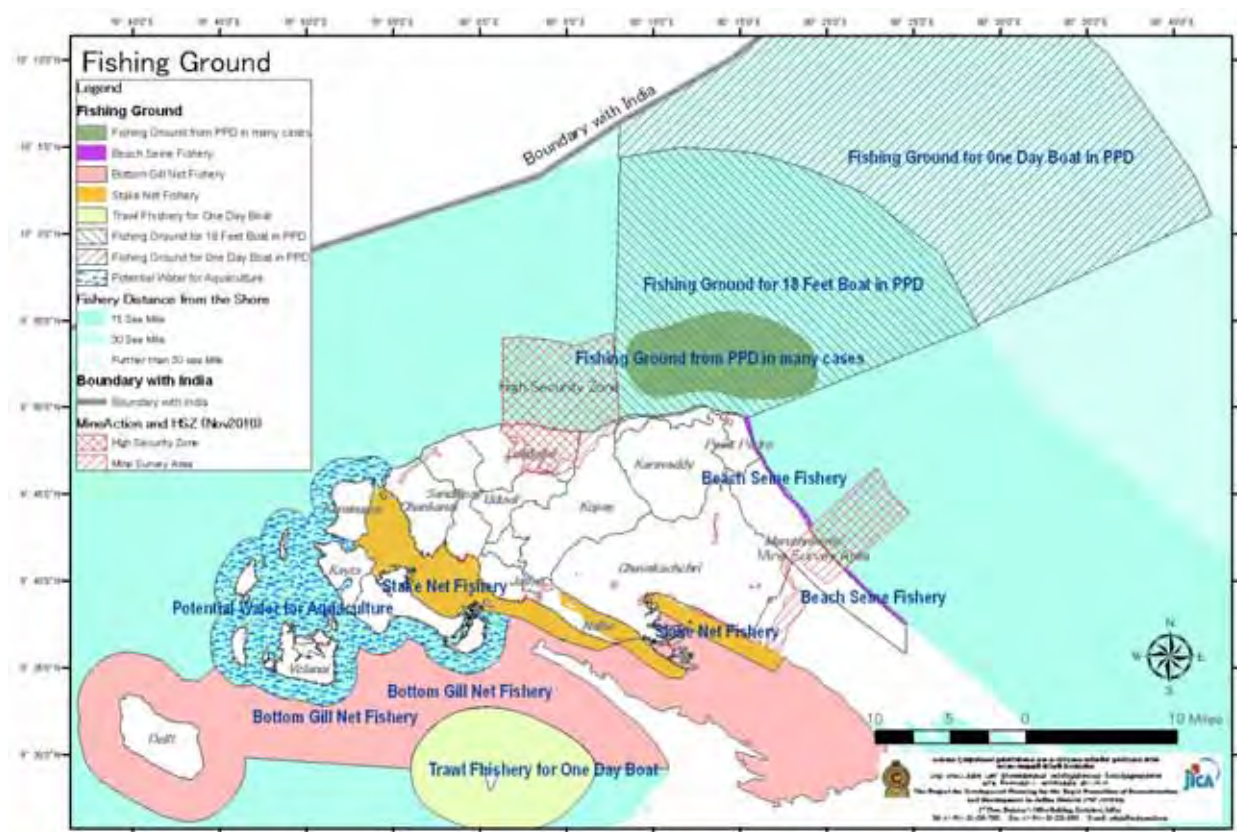


Figure 15: Expected Future Fishing Grounds in Jaffna District

(4) Framework for Community Development

There are various types of CBOs in Jaffna, such as CBOs for producers and general village development as well as self-help activities. Strengthening of CBOs of producers is important in enhancing sustainability in production activities with inclusive mechanism. CBOs for village development and self-help activities also need to be fostered to improve living environment and social welfare in villages along with strengthening mutual assistant mechanism.

Overall vision of the community development should be to strengthen CBOs along with the promotion of mutual assistance, whereas it increases sustainability in village development. In a community development context, two pillars of strategies should be the institutional development of CBOs and the promotion of social inclusion of socially vulnerable people.

Institutional development

The institutional development of CBOs requires i) assuring the adoption of the community approach for community development projects and improving the condition of CBOs, and ii) improving the setup to promote the community approach. Assuring the adoption of the community approach for community development projects suggests communities to acquire planning skills and learn management techniques for community development, and the levels of community participation should be designed on the basis of the capacity and condition of the communities. On the other hand, improving the setup to promote the community approach includes the assessment of the availability of human resources and awareness of the

community approach for service providers, and training for basic knowledge and skills to facilitate community development.

Social inclusion

The social inclusion in communities requires i) assessing living conditions and needs, ii) providing sufficient assistance to meet the basic needs, iii) promoting resettlement process, and iv) supporting the establishment of a platform. First, an assessment of community situation is necessary to find appropriate means to involve them in the restoration and development activities. Second, sufficient support to meet the basic needs for socially vulnerable people must be ensured because some socially vulnerable people suffer limited assistance and little income. Third, completion of the resettlement process and meeting the housing needs of IDPs is necessary at early stages since more than 45,000 IDPs in the district were considered to live in temporary housing. Fourth, some socially vulnerable people have psychological disorders or trauma of the conflict, and they need a platform to communicate with others as an initial step toward community involvement.

Chapter 6. Quick Impact Pilot Projects (QIPP)

This chapter reports exclusively on the QIPP. It is important for the conflict affected population to restore their livelihoods with the support of quick-impact-type rehabilitation of infrastructure. The additional objective of the QIPP was to examine effective approaches and methodologies for rehabilitation and reconstruction of the conflict affected Jaffna. The QIPP has been undertaken immediately after the beginning of PDP Jaffna.

The Team conducted the site investigation such as field reconnaissance surveys, key informant interviews at the proposed sites, and survey on social and environmental aspects. Based on the results of the surveys and a set of selection criterion, seven tanks and two jetties were selected as the targets of the QIPP. Given possible problems in the procurement and distribution of construction materials as well as climatic obstacles during the rainy season, the QIPP was planned as urgent rehabilitation projects with short-term timeframes as shown in Figure 16.

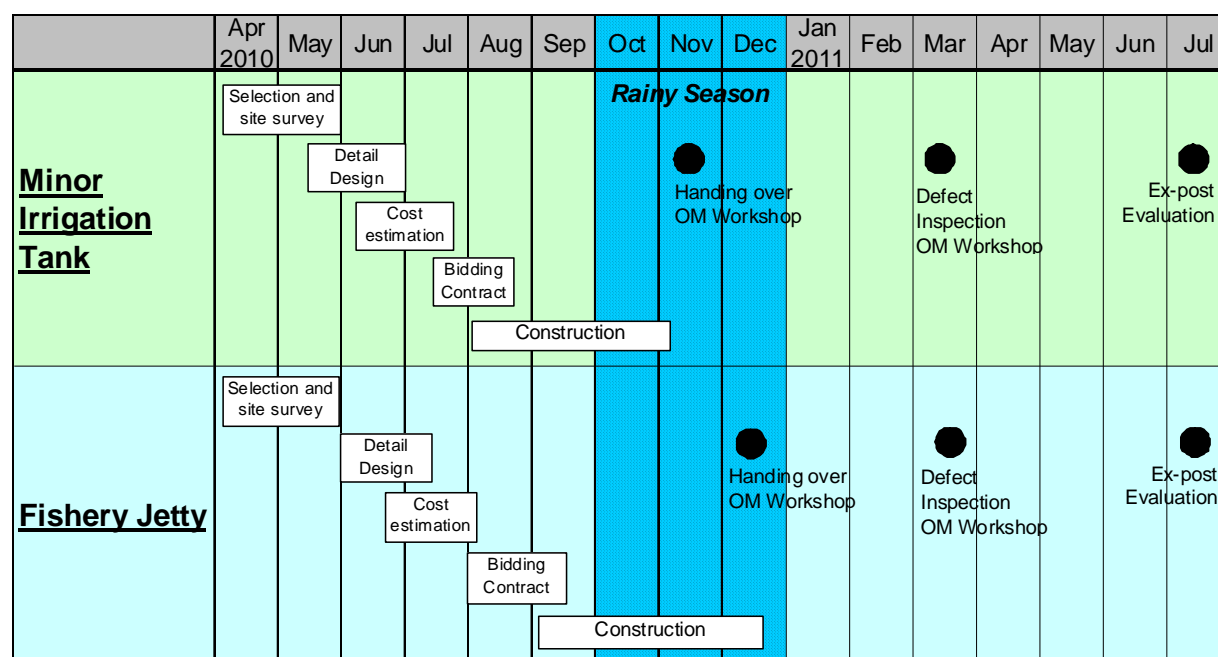


Figure 16: Timeframe of QIPP

The selected irrigation tanks and related facts are summarized in the Table 13. The Team, DAD and FOs reached a consensus concerning the scale and method of renovation of these small tanks. A community contract with an associated FO was applied when the amount of the renovation work was estimated to be less than LKR 2 million. All the renovation works but one for Vellavarayan Kulam (T14) were implemented under community contract. The actual construction period was longer than planned because the renovation works faced difficulties due to bad weather and the inadequate management capacity of the contractors including the FOs. Through meetings and workshops, PDP Jaffna has facilitated the FOs in enhancing their ownership and participation to the renovation works from the planning stage. Also, in

collaboration with DAD, assistance was provided FOs to develop an Operation and Maintenance (O&M) action plan that specified the type and frequency of O&M activities required for each tank.

Table 13: Selected Minor Irrigation Tanks and Beneficiaries⁹

Tank No.	Tank Name	Name of FO	Members	Direct Beneficiary (Tank Users)	Indirect Beneficiary
T4	Uppuruvil Kulam	Madduvil Centre	425	30	300
T8	Vannan Kulam	Vellampokkaddi	52	60	75
T10	Pukkaiyan Kulam	Nunavil West	284	50	120
T11	Varakaipirai Kulam	Puttur East	680	70	300
T14	Vellavarayan Kulam	Sulipuram	520	30	360
T15	Uchchalai Kulam	Ilavalai North	302	50	200
T17	Sangaththakerni Kulam	Velanai South	80	50	280

As the result of the renovation work, the storage capacity of each tank increased. The total storage capacity after the renovation works is 45,747m³ with 83% increase. This outcome will contribute significantly to improved fresh groundwater recharge and water availability for increased agricultural production of 340 tank users. One benefit under the community contract was capacity building of FO members through the process of construction management and developing O&M plans. Another benefit was income generated for villagers and IDPs as construction labourers. (Please see Page P-1 for the renovated tanks before and after the renovation.)

The selected fishing jetties and related facts are summarized in the Table 14. The Team, DFAR and FCSes reached a consensus concerning the design and method of renovation of the fishery jetties. To ensure durability against waves, the jetties were designed with the construction of durable and longstanding amour stone structure; this new feature is expected to have a positive impact on local jetty structures and causeways in the future. The renovation works of both jetties were subcontracted to a local contractor through a competitive bidding. Thanks to the efficient works by the contractor, the actual construction period was shorter than planned. Although the involvement of FCSes to the renovation work was limited, PDP Jaffna has facilitated FCSes to develop the O&M action plans for each jetty through workshops.

Table 14: Selected Jetties and Beneficiaries¹⁰

Jetty	GN Division	Existing Structure	FCS	Members	Jetty Users
Navanthurai	Jaffna West	66m long, 3.6m wide with landing area	St. Mary	288	288
			St. Nicholas	280	280
			Kalaivani	80	6
Kakativu	Sandilipay	60m long, 4.4m wide (mostly destroyed)	Chavatcaddu	850	500
			Navali	70	50
			Kakativu	100	95
			Uyarappulam	105	20
			St. Joseph	100	30

⁹ Source: the Team

¹⁰ Source: the Team

The renovation works restored the proper functions of the jetties. As a result, a total of 1,269 fishermen, including returnees, as jetty users received the benefit of the renovation. (Please see Page P-1 for the renovated jetties before and after the renovation.)

The QIPP brought positive impacts to the beneficiaries although the urgent rehabilitation works have faced some difficulties in satisfying at the same time the two needs of the intensive labour use and the work quality. The notable learned lessons are summarized below.

- 1) The contractors in Northern Province had hardly been involved in construction projects during the conflict, so they seriously lack overall construction management skills.
- 2) The management capacity of FOs under the community contract tended to be insufficient. Often observed was the lack of information sharing among their members. It may be caused by frequent displacement of people during the conflict. Also, the FOs are weak in community mobilization and financial arrangement.
- 3) DAD and DFAR have capable administrative and technical officers. However, the low fulfillment of official staff positions and the lack of budget are serious issues in Jaffna District; these issues hinder efficient and effective restoration works by themselves and their participation to the donor-funded projects.
- 4) Urgent rehabilitation using labour intensive methods can generate income for people including returnees, IDPs and other vulnerable groups, while labour intensive methods may have limitations in quality control of construction works within a limited period.
- 5) Safety management in construction works should be emphasised to contractors and stakeholders, taking into consideration the risk of landmines and Unexploded Ordnances as well as insufficient emergency medical services in Jaffna.
- 6) The Project has attempted to build the capacity of CBOs through workshops on O&M, leadership and accounting. This assistance provided a good opportunity for the CBOs to rethink their roles and responsibilities.

Chapter 7. Implementation of Pilot Projects

This chapter presents important facts concerning the implementation of the Pilot Projects implemented by PDP Jaffna.

(1) Significance of the Pilot Projects

The Pilot Projects were designed in such a way that they would produce expected outcomes and lead to useful lessons in designing the Road Maps and formulating relevant future programmes and projects.

(2) Selection Process

Owing to time and other constraints in PDP Jaffna, the 5 DS Divisions were selected out of 15 DS Divisions in the district for the implementation of the Pilot Projects. They are Jaffna, Velanai, Chavakachcheri, Kopay, and Point Pedro. In selecting the five DS Divisions, the Team also considered their geographical representation from varied areas within the district.

Ideas of pilot projects were provided by various institutions, including relevant agencies, other public institutions, farmers, donors, NGOs as well as from within the Team. In an early preliminary selection process, attention was paid to i) practicality of implementation, ii) security, iii) avoidance of duplication with projects of other donors, and iv) project quality and mindset. In finalizing the selection, the Team has appraised the pilot projects by using the following criteria: i) overall effectiveness and efficiency, ii) technical impact, iii) economic impact, iv) social impact, v) environmental impact, and vi) capacity of implementing institutions. An important awareness is that meeting community development needs, which are normally scattered over a myriad of communities in the region, often requires interventions of a considerable size outside of the needy communities.

(3) Approved Pilot Projects

The following is the name of and brief explanation on implemented pilot projects. AC means pilot projects in the agriculture field, FC for fisheries and CC for the community development.

AC-1: Strengthening of Seed Production Cooperative Society

This pilot project supported SEEDCO by providing a seed processing facility and associated trainings for increasing the quantity of as well as to improving the quality of paddy and vegetable seeds, which are to be distributed to farmers in the district.

AC-2: Strengthening of Agricultural Extension Service

This pilot project was carried out with DOA aiming to strengthen the agriculture extension services by providing audio visual equipments and quality training. The pieces of equipment are being utilized to provide quality training to farmers, youth and farm women.

AC-3: Strengthening of Mango Growers Society

This pilot project was carried out with DOA and the Mango Growers' Society aiming to improve the productivity of mango cultivation and strengthen the capability of the Society.

Several trainings programs were provided for the farmers. And necessary tools were provided for the Society.

AC-4: Promotion of Mushroom Cultivation

This pilot project was carried out with DOA aiming to promote mushroom cultivation among local farmers by providing a mushroom spawn production laboratory, cultivation demonstration sheds and training programs for DOA officials and the farmers.

AC-5: Rehabilitation of Atchchuveli Coconut Nursery

This pilot project was a combination project with IRC to recover fully the production of Atchchuveli Coconut Nursery of CCB so that a large number of local farmers can obtain quality seedlings from the nursery at a reasonable price. The pilot project reconstructed facilities and provided machines with related training programmes as well.

AC-6: Improvement of Milk Processing Facility in Point Pedro

This pilot project was carried out with LIBCO Point Pedro aiming to help its milk processing activities which showed good result so far and thus generate more demand for local farmers' milk and consequently increase farmers' income. The pilot project provided milk processing facility and necessary trainings to LIBCO and its member farmers.

FC-1: Integration of Community-based Fishery Management Systems on the District Level

This pilot project aimed to integrate community-based fishery management on the district level through an inventory study on traditional fishing customs, self-controls and fishery regulations, which local fishermen in the district have initiated and implemented in respective areas.

FC-2: Introducing Seaweed Farming as an Alternative Livelihood

This pilot project was carried out with Pungudutivu East FCS aiming to introduce the techniques of commercial seaweed (*Eucheuma. sp*) farming, thus it would enable an alternative livelihood activity in coastal communities. It was implemented through the subcontract with Sewalanka Foundation which provided technical training, capacity building, material of aquaculture facility and mother seaweed plant.

FC-3: Sea Cucumber Farming as an Alternative Livelihood Enhancement

This pilot project was carried out with three FCSes of Gurunagar, Navanthurai and Mandaithivu aiming to confirm sea cucumber culture potential in terms of biological factors, site suitability and cost effectiveness, so that it would enable an alternative livelihood activity in coastal communities in the district. It was implemented through the subcontract with NARA for the provision of technical training, capacity building, aquaculture facility and spat (baby sea cucumber).

FC-4: Introduction of Fish Aggregating Device (FAD) to Small-scale Fishermen

This pilot project was carried out with Katkoyalam FCS aiming to use fishing grounds effectively for small scale fishermen; they would have easy access to fishing grounds with FAD, and fishing would be cost-efficient with less consumption of fuel. It was implemented directly by the Team, who provided material for constructing the FAD and technical training on the construction and installation.

FC-5: Construction of Fish Auction Halls to Assist FCSes

This pilot project was carried out with eight FCSes aiming to activate FCSes in the district of

which activities were weakened during the conflicts. It was implemented through the subcontract with Sewalanka Foundation, which constructed fish auction halls and other related facilities, and provided technical training and capacity building to the target FCSes.

FC-6: Reconstruction of the Regional College of Fisheries and Nautical Engineering

This pilot project aimed at capacity building of the College so as to make the College the leading and prominent fisheries and nautical engineering training and education institute in Northern Province. In addition to the provision of trainer's training, IRC supported the construction of school building and provision of training equipment.

CC-1: Business Development and Marketing of Coir and Palmyrah Products

This pilot project aimed to empower a WRDS in producing coir and palmyrah products by conducting capacity building and technical trainings, and constructing a center for the business.

CC-2: Business Development and Marketing for Food-Processing Products

This pilot project aimed to empower a WRDS producing Jaggery sweet products by conducting capacity building and technical trainings, and constructing a center for the business.

CC-3: Promotion of Mushroom Cultivation Business

This pilot project aimed to empower a WRDS in mushroom cultivation business by conducting capacity building and technical trainings, and providing equipment for the business.

CC-4: Small-scale Business Development (poultry)

This pilot project aimed to empower a WRDS in poultry business by conducting capacity building and technical trainings, and providing chicks with repayment obligation to the beneficiaries.

CC-5: Support for the Widows' Society

This pilot project aimed to empower a Widow's Society by improving access to financial services, capacity building training and coordination between the Self Help Groups (SHGs) and a financial institution.

Chapter 8. Monitoring and Evaluation of and Lessons Learned from the Pilot Projects

This chapter presents details concerning the monitoring and evaluation of the Pilot Projects and lessons learned from their implementation. Learned lessons were reflected in the Road Maps to an extent possible. The following are some notable points observed through their implementation.

(1) Baseline Survey for Pilot Projects

Prior to the implementation of the Pilot Projects, PDP Jaffna had conducted a baseline survey to understand the socio-economic situation of the target communities and to collect performance indicators for the individual pilot projects. The survey results were effectively utilized as baseline information when conducting pilot projects monitoring and evaluation. Among recommendations from the implementation agency drawn from the baseline study are: i) additional time can be spent on creating awareness, ii) the maintenance of records and financial accounting can be improved, iii) the initiatives can be specially designed for socially vulnerable groups.

(2) Monitoring, Evaluation and Lessons Learned in Agriculture Sector

All the pilot projects of the agriculture sector are expected to finish successfully and achieve their objectives. They will certainly contribute to improve the productivity of agriculture through supplying quality paddy seed, mushroom spawn and coconut seedlings, improved skills and knowledge of farmers and increased milk processing capacity. Capacity development was achieved in many ways, such as increasing involvement of member farmers to activities of FSs and building up capacity of agricultural instructors, operators of the facilities and the machineries and administrative staff of the FSs.

The construction of small buildings and the procurement of machineries took more time than expected. It is advisable to schedule construction work and procurement with adequate time. The period of pilot projects should be at least one and half years for verifying agricultural activities since many crops are harvested once a year.

The success of the Pilot Projects was attributable to the commitment of concerned governmental agencies, including DOA, CCB and DAPH. However, considering the frequent postponement of pre-scheduled training programs and farmers' need for latest technologies, the Team felt a necessity of enhancing, in quality and quantity, the human resources of these government agencies.

Leadership is the most essential part in developing organizations. The LIBCO Point Pedro has a long history, and it was able to develop its sales outlets successfully. This success has been brought about by the good leadership of a veterinary officer posted in Point Pedro. The Mango Society and the Mushroom Society are still young and their leaderships are not strong enough. They should be continuously supported until the leadership being nurtured while avoiding the development of dependency.

A total of 116 (10% of the total number of recipients) socially vulnerable people received training under the five agricultural pilot projects. The Team observed that many IDPs did not have their own land for cultivation and thus would rather work as daily labours than attend to the training programs, which means losing their one-day earning. To provide the opportunities for training to IDPs, the provision of daily allowance to them may be necessary.

The performance and achievements of the individual pilot projects in agriculture are as follows:

- Strengthening of Seed Production Cooperative Society (AC-1): SEEDCO's capacity to process quality seed was increased to triples. Since facility operators have acquired technical know-how, SEEDCO is now technically as well as institutionally sound in operating the new facility. It was expected to increase supply of quality seeds by this project and thus the productivity of paddy cultivation was expected to be improved. To secure the stable supply of quality seed, SEEDCO should be further developed and equipped with cold storage facilities, a seed testing unit, etc.
- Strengthening of Agricultural Extension Service (AC-2): One thousand farmers acquired agricultural knowledge on various important subjects through training sessions provided by DOA. Change of pre-post test results showed the improvement of knowledge by 20% in average. Extension officers were also trained on audio visual technology so that they can now provide the training sessions visually. Lessons learned from this pilot project were; i) DOA was operating training programs with a limited number of instructors; and ii) Farmers and agricultural officials of DOA are eager to learn more about farming practices adopted in the south and in other countries. It was requested to increase number of officers and to provide more training opportunities for officers and farmers.
- Strengthening of Mango Growers Society (AC-3): Mango growers got aware of pruning mango trees to improve mango productivity and practiced leaned technology. 480 mango trees were pruned during and after awareness programs in Chavakachcheri DS. The Society was established in 2009 and was still young and institutionally weak, with the leadership that was not strong enough to lead the Society effectively. They needed further support from DOA.
- Promotion of Mushroom Cultivation (AC-4): Mushroom spawn have now become constantly available in Jaffna. Mushroom cultivation will be demonstrated to farmers at the newly established demonstration sheds. As a result, more farmers are expected to produce mushroom. The Mushroom Society is still young and needs continuous support from DOA. Marketing is a next challenge for the Society.
- Rehabilitation of Atchchuveli Coconut Nursery (AC-5): The CCB's nursery has increased its capacity of supplying seedlings. It produced 60,000 of seedlings in 2010, and expected to produce 130,000 in 2011 and 150,000 in 2012 to meet very high demand for coconut seedlings. Recommended actions for future projects include the promotion of coconut cultivation, including king coconut cultivation and setting up an additional coconut nursery in Jaffna to meet the local demand.
- Improvement of Milk Processing Facility in Point Pedro (AC-6): Although the practical operation of the milk processing facility was delayed until late September 2011 due to unexpected delay of delivering equipment, the LIBCO was equipped with the infrastructure to expand its sale of processed milk. However, their products have to withstand competition with southern products; therefore, quality

improvement and control are essential. On the other hand, milk supply should be increased so enhancement of milk collection outlets and promotion of dairy farming are recommended to do.

(3) Monitoring, Evaluation and Lessons Learned in Fisheries Sector

All the pilot projects for the fisheries sector have finished successfully. Most have actually achieved their objectives to initiate sustainable fisheries development through well balanced fisheries resources exploitation and the formulation of a resources management system. The pilot projects are expected to contribute to improve the productivity of local fisheries through integrating a fishery management system, introducing new production techniques such as aquaculture and FAD, improvement of infrastructures, improved skills and knowledge of fishermen and associated professionals. Moreover, capacity development progressed in many ways, such as strengthening of managing ability of FCS Unions' Federation, institutional skill-up of FCSes for new type of fishery production, strengthening mutual assistant system for socially vulnerable members, and strengthening training and educational abilities in fisheries institution.

Aquaculture development in Jaffna will be in the initial stage of a continuous trial-and-error process for many years ahead. When future aquaculture pilot projects are planned for enhancement of income generation in communities, it will be advisable to assist communities with plural means of income generation or to select communities which already receive assistances from donors or NGOs. This is because aquaculture trials take time before generating incomes. Once an aquaculture trial become successful, a full-scaled outreach programs should be carried out in coastal communities.

More than 800 socially vulnerable people were involved in the fisheries pilot projects. Social inclusion of vulnerable people in communities was effectively promoted by strengthening mutual assistant system of the target FCSes.

Factors contributing to the successes of the pilot projects are the selection of good implementing partners, close coordination with DFAR, exploitation of local potential skills and knowledge, leadership in target CBOs, and the high motivation of beneficiaries and CBO's executives. In the meantime, impeding factors included the difficulty in acquiring administrative permissions and unpredictable natural conditions in water temperature, weather fluctuation and unknown biological cycle of the target species. The lack of social rules was also a difficulty when FAD was introduced.

The performance and achievements of the individual pilot projects in fisheries are as follows:

- Integration of Community-based Fisheries Management System on the District Level (FC-1): This pilot project has been more successful than previously expected. This is because DFAR in Jaffna has cooperated well in recommending district fishermen to introduce a registration system for traditional stake net fisheries when the Team worked for it with FCS for community-based consensus making through a series of workshops. Finally, the management system has been integrated on the district level

and formalized by the ratification of participants in a workshop of FCS Unions Federation. Constant follow-up and feed-back are essential for FCS Unions and the Federation, along with continuous supervision by DFAR.

- Introducing Seaweed Farming as an Alternative Livelihood (FC-2) and Sea Cucumber Farming as an Alternative Livelihood Enhancement (FC-3): Although PDP Jaffna cannot yet complete the activities of these two aquaculture pilot projects, they have progressed well and verified the potentialities of aquaculture in the district. However, it is still too early to jump on the conclusion; now is only about half year after the implementation. Observation should be continued for a production cycle of at least one year. Fortunately, Sewalanka Foundation and NARA, implementing partners of these pilot projects, have committed to continue the activities.
- Introduction of Fish Aggregating Device (FAD) to Small-scale Fisherman (FC-4): This pilot project has proven its technical effect for attracting fish school because fishermen actually caught fish around two installed FADs. However, they were then lost when drift nets entangled with the FADs. There was also misunderstanding between beneficiaries and neighbour fishermen owing to the lack of a rule in using the FADs in fishing ground. It was learned that the rule making should be done at first among many fishermen who use the same fishing ground even though that is time consuming. Continuation of discussions is required to make a consensus among them for the installation and use of FAD. In Indonesia, fishermen have to pay a charge to the owners of FAD whenever they use a FAD belonged to others. This can be a reference in Jaffna.
- Construction of Fish Auction Halls to Assist FCSes (FC-5): This pilot project has progressed well and completed in the end of October, 2011. PDP Jaffna faced a difficulty to clear land issues including land ownership and land permission. A series of training for beneficiaries have been implemented for technical improvement and capacity development of the target FCSes. Nearly 800 socially vulnerable people participated in the trainings.
- Reconstruction of the Regional College of Fisheries and Nautical Engineering (FC-6): The construction of the school building and provision of training equipment were lately completed. Trainer's trainings were conducted together with site visits to the aquaculture pilot projects. Development of knowledge and teaching capacity of the College teachers was confirmed in their reports of the training.

(4) Monitoring, Evaluation and Lessons Learned for Women in Community

All the pilot projects for women in communities finished successfully. All the concerned WRDSs achieved their goals of enhancing techniques, widening the varieties of products, and raising the quality of products. The WRDSs enhanced their institutional capacity, management capacity, production capacity and sustainability, although variations were observed. Capacity development was achieved in many ways, such as producing more active members, encouraging proper record keeping, nurturing social roles, establishing links with government agencies, and enhancing leadership.

Compared with their previous participation in WRDS activities, more socially vulnerable people were engaged to join to the pilot projects. A total of 666 socially vulnerable people received training under the

five pilot projects in women's projects, which is equivalent to 45% of the total number of trainees. Social inclusion was effectively promoted by society members, government officers and other relevant stakeholders.

Many in the Grama Niladhari (GN), Rural Development Officer (RDO), and Woman Development Officer were involved in the pilot projects. Most of them had visited the WRDSs once a month or less often before PDP Jaffna, but their monitoring became more frequent, especially during the period for facility construction. Beneficiary selection was conducted transparently and involved the appropriate government officers. This helped the pilot projects be successful by minimizing the risk of conflict within the communities.

During the planning stage, it is recommended to do a detailed situation analysis on social needs, the product environment, and marketing. The selection of strongly performing WRDSs in the DS Division was an appropriate strategy for creating quickly role models in the areas, however, the capacities of committee members should have been given more importance during the selection. All the WRDSs found financial sustainability challenging, even though some of them have set up a system for gaining a regular income.

The contributing factors to their success includes the selection of committed implementing agencies, close coordination with relevant stakeholders, the availability of resources in the local area, motivated committee members, and the utilization of marketing opportunities. At the same time, impeding factors emerged as difficulty in acquiring materials, increases in price of raw materials, and problems in the social system such as different social stratification.

The performance and achievements of the individual pilot projects for women in community are as follows:

- Business Development and Marketing of Coir and Palmyrah Products (CC-1): 40 members (23% of the registered members) received technical training on coir industry and palmyra handicrafts products. The varieties of products increased and their quality improved with the support of relevant agencies. The WRDS built strong networks among government agencies and resource persons through the help of the implementation agency (JSAC). Active social mobilization, transparent beneficiary selection, and proper monitoring led to the success of the pilot project.
- Business Development and Marketing for Food-processing Products (CC-2): 35 members (45% of registered members) acquired new techniques, such as sap testing, calcium carbonate separation, and storage. The members learned techniques for improving the quality of the products and extending the period of preservation. Active participation and contribution of the WRDS members, the GN, and the RDO was one of the contributing factors to the success of this pilot project. The WRDS maintained the "family details" records of its members, which helped turn committee members' attention towards their members and provide them with suitable support. This method can be duplicated in other societies to enhance the social inclusion.

- Promotion of Mushroom Cultivation Business (CC-3): 24 members (44% of registered members) learned new techniques for improving the hygienic conditions and quality of mushrooms and establishing the conditions suitable for mushroom cultivation. Selecting the WRDS whose members were active in participation and the enthusiastic support provided by the GN have contributed to the success of the pilot project. The beneficiaries were motivated to initiate mushroom production because some of them identified the needs of the area's products based on their previous experience.
- Small-scale Business Development (Poultry) (CC-4): The number of skilled members increased to 40 (12% of registered members). They learned new techniques such as chicken vaccination, feeding, and farm maintenance. Identification of suitable and interested beneficiaries through proper screening brought the success of the pilot project, involving many WHFs. A 40% repayment plan of supported amount enhanced the beneficiaries' motivation to succeed.
- Support for the Widows' Society (CC-5): Four SHGs with 20 members (18% of registered members) were formed by the end of this pilot project. Four members received bank loans for family fishing activities and small business. The Society represented a model case of widows organized in a society. The group counseling support played an important role as a platform in which widows could share their experiences and challenges.

Chapter 9. Road Maps toward 2020

Finally, this chapter proposes a Road Map for each of category in agriculture, fisheries and community development toward 2020 and beyond. In total, nine Road Maps are developed: four categories for agriculture development, three for fisheries development and two for community development through a process of 11 steps. The Road Maps depict major actions necessary for accomplishing the above-discussed visions set for the individual categories. The drafts of these Road Maps were distributed at the First Development Workshops in Jaffna held in February 2011 and the Second Development Workshop in July 2011 for review by participants, and the results of the discussion at the Workshops were reflected in them.

(1) Eleven Steps for Making Road Maps

The following eleven conceptual steps were set up to formulate the Road Maps.

1. Analyzing thoroughly the present status of the sectors in Jaffna District.
2. Identifying major production categories in each sector.
3. Describing the ideal status of each of identified categories in contrast to the present status.
4. Listing up important actions to ensure evolution from the present status to the ideal status.
5. Sorting out and placing the listed actions in a developmental framework.
6. Relocating the listed actions in a more realistic time line.
7. Selecting the most critical actions to realize the ideal status.
8. Reviewing the above process at *the First Development Workshop in Jaffna*.
9. Finalizing the Road Maps at *the Second Development Workshop in Jaffna*.
10. Programming development by converging critical actions.
11. Formulating concrete projects and specifying their details.

(2) The Road Maps for Agriculture Development

The Team identified the actions required for achieving a development framework for each of the four categories as indicated in Chapter 5. Among the required actions in the development framework, the Second Workshop selected the most critical actions for achieving the goals. Through discussions with related agencies and stakeholders during the two Development Workshops, the four Road Maps were worked out for the agriculture sector (see attached at the end of this report). Under the Road Maps the following four programs and fifteen projects were proposed.

The Highland Vegetables and Fruits Production Development Programme

Red onions, mangos, bananas, and grapes are traditional produce grown in Jaffna, and are highly consumed in Sri Lanka. Ensuring the development of these traditional Jaffna specialties, while at the same time developing new local specialties, is necessary to develop highland vegetables and fruits production. On the other hand, supporting IDPs and returnees, strengthening agricultural extension service and

conserving environment are the necessary action to be taken along with them. This programme aims to fulfil such necessity for the highland vegetables and fruits development through conducting; 1) Supporting IDPs and Returnees, 2) Strengthening the Agri-Extension Service Capacity, 3) Providing Environmental Education, 4) Promoting Jaffna Specialties, and 5) Promoting New Crops (e.g., mushrooms). 1) Supporting IDPs and Returnees, 2) Strengthening the Agri-Extension Service Capacity and 3) Providing Environmental Education are the common issues with the lowland paddy production development. Therefore those would cover the area of lowland paddy production as well.

Table 15: The Highland Vegetables and Fruits Production Development Programme

No.	Project title	Project description	Duration (period)
1	Supporting IDPs and returnees	<ul style="list-style-type: none"> - Provision of initial inputs to IDPs and returnees - Encouragement to IDPs and returnees to join FSs and FOs - This project would cover the category of lowland paddy production as well 	2 years (2011–2012)
2	Strengthening agri-extension service capacity	<ul style="list-style-type: none"> - Provision of training to Agricultural Instructors (AIs) - Modernization of District Agriculture Training Centre - Establishment of cyber extension network - This project would cover the category of lowland paddy production as well. 	5 years (2012–2016)
3	Providing environmental education	<ul style="list-style-type: none"> - Provision of training sessions on proper use of fertilizer and agrochemicals for farmers - Provision of education programme on ground water management to farmers and students - Implementation of campaigns - This project would cover the category of lowland paddy production as well. 	2 years (2012–2013)
4	Promoting Jaffna specialties	<ul style="list-style-type: none"> - Provision of technical training to farmers - Provision of farming materials and machinery to model farmers or societies - Establishment of sales outlets - Strengthening growers' societies - Facilitating farmers' access to financial institutions - Conducting market research - Implementing a project for mammalian pest control 	5 years (2011–2016)
5	Promoting new crops (e.g., mushrooms)	<ul style="list-style-type: none"> - Management of mushroom center - Strengthening of growers' society - Provision of training to farmers - Provision of marketing support 	4 years (2011–2015)

The Lowland Paddy Production Development Programme

The market competitiveness of Jaffna's paddy production is weak compared to other rice-growing areas. However, the paddy is the staple crop and cultivation should be maintained from a food security perspective. This programme aims to sustain and improve the rate of self-sufficiency by improving productivity via strengthening the supply of quality paddy seed and improving post-harvest technology.

Table 16: The Lowland Paddy Production Development Programme

No.	Project title	Project description	Duration (period)
1	Strengthening the supply of quality paddy seed	<ul style="list-style-type: none"> - Provision of technical training to farmers - Strengthening of SEEDCO (Establishment of seed testing laboratory, provision of a truck, capacity building for SEEDCO management and workers) - Introduction of seed bins to FOs and farmers 	5 years (2011–2016)
2	Improving post-harvest technology	<ul style="list-style-type: none"> - Conducting a baseline survey - Strengthening FOs - Provision of training to farmers - Introduction of paddy storage facilities to villages - Improvement of parboiling and milling technologies 	5 years (2013–2016)

The Sandy Soil Agriculture Development Programme

Coconut and palmyrah were heavily damaged during the conflict and have yet to be recovered. The recovery of these crops can bring immediate and ensured income to local residents. This programme aims to recover the productions to pre-conflict levels and to promote value-added sales, while supporting IDPs and returnees.

Table 17: The Sandy Soil Agriculture Development Programme

No.	Project title	Project description	Duration (period)
1	Palm cultivation for IDPs and returnees	<ul style="list-style-type: none"> - Provision of free seedlings and fertilizer to IDPs and returnees - Assurance of vulnerable groups' membership in the Palm Development Cooperative Societies 	2 years (2011–2012)
2	Reinforcing the supply of coconut seedlings and coconut cultivation technology	<ul style="list-style-type: none"> - Capacity building of Atchchuveli coconut nursery - Supplying subsidized seedlings - Establishment of an additional coconut nursery - Provision of technical training to farmers 	5 years (2012–2016)
3	Improving and developing palmyrah products	<ul style="list-style-type: none"> - Provision of training to Palm development cooperative society (PS)s' members, sap collectors, distillers, and handicraft makers - Researching improvements to Palmyrah products - Capacity building of PSs - Provision of financial support for the renovation of the production facilities - Strengthening sales outlets 	6 years (2012–2017)

The Livestock Production Development Programme

As an integral part of farming in Jaffna, the raising of livestock is important for food, manure, and draught power. The number of livestock should be further increased to reach to pre-conflict levels and livestock productivity should be improved, while conserving environment. This programme aims to improve productivity of livestock by replacing livestock with improved breeds, practicing improved rearing technologies and value addition, while supporting IDPs and returnees.

Table 18: The Livestock Production Development Programme

No.	Project title	Project description	Duration (period)
1	Livestock for IDPs and returnees	- Provision of initial inputs to IDPs and returnees - Encouragement to IDPs and returnees to join LIBCOs	2 years (2011–2012)
2	Supplying improved breeds of chicks and goats	- Strengthening regional poultry farm Atchchuveli - Encouraging private mini-poultry breeders - Encouraging private goat breeder farms (in divisions)	4 years (2012–2015)
3	Promotion of Artificial Insemination (AIns)	- Strengthening the Artificial Insemination (AIns) Centre - Provision of subsidy for AIns	4 years (2012–2015)
4	Improvement of livestock management	- Provision of technical training to farmers - Reconstruction of livestock housing facilities - Expanding fodder crops cultivation - Establishment of village wise pasture and fodder units	5 years (2011–2016)
5	Reinforcing the milk processing capacity of the LIBCO	- Establishment of milk processing unit at LIBCO - Capacity Building of LIBCO - Provision of training to farmers - Improvement of sales outlets of LIBCO	5 years (2011–2016)

(3) The Road Maps for Fisheries Development

Similarly to the agriculture sector, the three Road Maps were worked out for the fisheries sector (see attached at the end of this report). Under the Road Maps the following three programs and eleven projects were formulated.

The Programme for Strengthening Fishermen's Organization in Coastal Communities

Participants from the both Development Workshops concurred that the coastal fishery resources are being threatened by Indian trawlers and the rapid increase of small-scale fishing crafts in the district. As such, the participants concluded that maintaining the sustainability of the coastal fisheries system is of utmost importance and that the strengthening of fishermen's organizations is necessary to achieve this goal. This programme aims to fulfill it through coastal fisheries infrastructure development, improvement of coastal fishery resources management and enhancement of modernized FCS model.

Table 19: The Programme for Strengthening Fishermen's Organization in Coastal Communities

No.	Project Title	Project Description	Duration (Period)
1	Coastal Fisheries Infrastructure Development Project (Phase 1)	- Formulation of fish landing infrastructure development plan - Rehabilitation and improvement of fish auction halls - Rehabilitation of infrastructures in the fish landing site including resting place, fishing gear storage, toilet and shower room, water tank, fuel and ice storage and their supply systems	5 years (2011–2016)
2	Coastal Fisheries Infrastructure Development Project (Phase 2)	- Continuation of rehabilitation and improvement of fish auction halls - Rehabilitation of infrastructures in the fish landing site including resting place, fishing gear storage, toilet and shower room, water tank, fuel and ice storage and their supply systems	3 years (2007–2020)
3	Coastal Fishery Resources Management Project	- Inventory record of FCS best practices - Full-scale integration and promotion of community-based fisheries management system - Research on coastal fishery resources - Establishment of fisheries database in DFAR - Trial operation of a co-management system	5 years (2011–2016)
4	New FCS Model Project	- Development of FCS executives and staff in terms of leadership, laws and regulation, and fishery household management - Institutional research and support for the fisheries credit system - Establishment of mutual assistant system for socially-disadvantaged members of FCS - Rehabilitation and reconstruction of office building and equipment	5 years (2011–2016)

The Offshore Fisheries Development Programme

There were 13 multi-day boats as of February 2011. This number increased to 23 boats after five months by July 2011. This increase in demand for boats reflects changes in the district's movement toward offshore fishing grounds. This programme is composed of fishing harbour development, multi-day boat development; and enhancement of offshore fisheries and resources management to realize the district offshore fisheries development.

Table 20: The Offshore Fisheries Development Programme

No.	Project Title	Project Description	Duration (Period)
1	Fishing Harbour Development Project	<ul style="list-style-type: none"> - Formulation of fishing harbour development plan in Point Pedro - Construction of Point Pedro Fishing Harbour (1 site) - Construction of fishery anchorages (4 sites) 	5 years (2011-2016)
2	Multi-day Boat Development Project	<ul style="list-style-type: none"> - Technical assistance for local boatyards to build multi-day boats - Capacity building of boat technicians - Construction of public slipway for building multi-day boats - Foundation of institutional subsidy for local production of multi-day boats 	5 years (2011-2016)
3	Offshore Fisheries and Resources Management Project (Phase 1)	<ul style="list-style-type: none"> - Research on offshore fishery resources - Stock assessment for fishery resources - Formulation of offshore fishery resources development plan 	3 years (2013-2016)
4	Offshore Fisheries and Resources Management Project (Phase 2)	<ul style="list-style-type: none"> - Introduction of fishery license system - Establishment of Vessel Monitoring System - Organizational strengthening of offshore fisheries cooperative societies 	3 years (2017-2020)

The Aquaculture Development Programme

Jaffna District is still in the initial stages of aquaculture development and thus, numerous trials are required to confirm the feasibility of various potential species in the district. This programme is composed of aquaculture technology development and strengthening of Fisheries Department at UOJ to realize the district aquaculture development.

Table 21: The Aquaculture Development Programme

No.	Project Title	Project Description	Duration (Period)
1	Aquaculture Technology Development Project (Phase 1)	<ul style="list-style-type: none"> - Implementation of various types of aquaculture trials - Outreach of aquaculture technology to fish farmers in the district - Technical capacity building for fish farmers in the district - Formulation and implementation of social inclusion measures for socially-disadvantaged people in the aquaculture project - Formulation of aquaculture development plan in Jaffna - Formulation of development plan for the Department of Fisheries at UOJ 	5 years (2011-2016)
2	Aquaculture Technology Development Project (Phase 2)	<ul style="list-style-type: none"> - Full-scale promotion of aquaculture technology to fish farmers in the district - Establishment and management of an seed production center for fish seed production and technical training - Implementation of community-based aquaculture pilot projects 	3 years (2017-2020)
3	Development Project for UOJ	<ul style="list-style-type: none"> - Construction of laboratory for aquaculture research in UOJ - Capacity development of teaching staff and research workers in the aquaculture field at UOJ 	2 years (2017-2019)

(4) The Road Maps for Community Development

Similarly to other sector, the two Road Maps were worked out for the community development sector (attached as chart 39: Roadmap 8 and chart 40: Roadmap 9 at the end of this report). Roadmap 8 intends to enhance "institutional development" of CBOs among community development framework mentioned at Chapter 5. Roadmap 9 recommends the required actions and potential projects for "social inclusion". Under the Road Maps, the following two programs and twelve projects were formulated.

Programme for institutional development is designed so as to strengthen CBOs through experiences in project operation for improvement of community infrastructures and livelihood measures that are urgent needs in Jaffna. Communities are required to engage themselves in whole process, from planning stage to the consolidation stage. Projects should include both physical and soft components; that is to say, financial support, provision of equipment, social mobilization and technical support. Besides, communities would be facilitated to promote social inclusion, avoiding marginalizing vulnerable groups in projects. Capacity development of government officers should be added to assure sustainability of projects.

Table 22: The Programme for Institutional Development

No.	Project Title	Project Description	Duration (Period)
1	Community Infrastructure development for rehabilitation	Improving community infrastructure such as water supply, roads, community centers, and facilities with community approach with following components. - Social mobilization - Capacity development training - Infrastructure development with community participation - Improvement of skills for the operation and maintenance of developed infrastructures - Strengthening of network with stakeholder - Provision of opportunities for communities to get together	1 year (2011-2012)
2	Community Infrastructure development	- Social mobilization - Community planning & monitoring - Capacity development training - Infrastructure development with community contract - Improvement of skills for the operation and maintenance of developed infrastructures - Strengthening of network with multiple stakeholder - Promotion of opportunities for communities to get together	3 years (2012-2014)
3	Improvement of livelihood measures for quick recovery	- Social mobilization - Capacity development training - Community planning and monitoring - Skill training (technical, management, and marketing) designed according to the beneficiaries' capacity - Small-scale facility development with community participation	1 year (2011-2012)
4	Improvement of livelihood measures	- Social mobilization - Capacity development training - Community planning and monitoring - Skill training (technical, management, and marketing) to introduce innovative skills - Facility/infrastructure development with community participation - Improvement of skills for the operation and maintenance of developed facilities - Provision of access to formal financial institutions	3 years (2012-2014)
5	Micro finance activities	- Group saving and crediting - Social mobilization	3 years (2011-2013)
6	Awareness of the community approach	- Assessing available human resources - Making the stakeholders aware of the community approach	3 years (2011-2013)
7	Improvement of set up to provide services for community approach	- Developing the capacity of government officers and local NGOs - Planning the development of training mechanisms - Developing training mechanisms for stakeholders	5 Years (2013-2017)

Social Inclusion Programme

Social Inclusion Programme aims to include socially vulnerable people in development process. It is important to formulate development strategies especially for these groups, based on the detailed survey and analysis of their current situation. Other proposed projects, such as capacity development of government officers in promoting social inclusion, leadership enhancement of CBO members, and promoting mutual assistance among socially vulnerable people, will contribute to realize independent and sustainable lives of socially vulnerable people.

Table 23: The Programme for Social Inclusion

No.	Project Title	Project Description	Duration (Period)
1	Survey on socially vulnerable groups on their issues and needs	<ul style="list-style-type: none"> - Survey on socially vulnerable groups on their issues and needs in order to formulate development strategies - Training for government officers at the field level on information collection and monitoring 	1 year + review (2011-2012)
2	Capacity development of government officers in charge of community development	<ul style="list-style-type: none"> - Training of government officers in charge of community development in research/evaluation, management, special technique/knowledge, and so on - Supplement of shortage of staff 	3 years (2013-2015)
3	Leadership training for CBO members	<ul style="list-style-type: none"> - Assessment of training needs - Selection of beneficiaries - Implementation of leadership training to CBO members - Monitoring and evaluation 	3 years (2013-2015)
4	Group counseling training to establish the platform among people with special needs (PWSN)	<ul style="list-style-type: none"> - Assessment of training needs - Selection of beneficiaries - Implementation of capacity building training to PWSN including group counseling - Monitoring and evaluation - Formulate SHGs 	5 years (2013-2017)
5	Formulating models on livelihood development	<ul style="list-style-type: none"> - Individual/institutional opportunities for livelihood development, including resource, technical, legal, financial, marketing support - Targeting PWSN or CBOs to include PWSN 	5 years (2014-2018)

(5) Implications for Longer-term Development

Implementation of PDP Jaffna in general and the Pilot Projects in particular, has provided us with insights that will be useful when carrying out the Road Map-recommended programs and projects in the future. Here, we will discuss their broader implications beyond the scope of the individual sectors for supporting Jaffna's well-balanced and strategic development in a long run. The discussion will shed light on the aspects of technology, infrastructure, institutions, markets, and special care for vulnerable people.

Technology

A fundamental weakness we observed in the local society—regardless of sector—was the lack of knowledge in new technologies and innovations. For almost three decades, the district has been an isolated enclave. For example, seaweed farming is not a new thing at all; seaweed farming began in Southeast Asia at the same time the violent conflict flared up in Northern Province. Since then, for the three decades, no attempt has been made to experiment seaweed farming in isolated Jaffna. Agriculture in Jaffna also seems to be lagging in the new, environmentally-friendly global trend. At present, organic

farming is everywhere in the world—everywhere but in Jaffna. For Jaffna, time seems to have stopped sometime in the 1980s.

Fortunately, however, many of the new technologies in agricultural, fishery, and small-livelihood sectors are available within Sri Lanka. In fact, the technical bases of many pilot projects were provided by domestic institutions based in the south. They include mushroom spawn production and seaweed culture. The high absorbing capacity of local people should also be mentioned here.

In order to become more globally competitive, every effort should be made to transfer new technologies to local people. For this purpose, extension workers, teachers and NGO staff themselves must be retrained at first. Technical transfer should be pursued through every means, including vocational training, extension service, university education, retraining of public-officers and NGO practitioners.

Infrastructure

In Jaffna District, the construction of bunds to prevent saline water intrusion to farming lands and the projects aimed to reduce salinity of lagoons are underway with funds of the World Bank and ADB. Smaller infrastructures in the agriculture sector are also being constructed steadily, though huge demands for smaller infrastructure will require continued investment for many years to come.

In fisheries, foreign donors now appear to be interested in development of large to medium-sized fishing ports; e.g. KOICA expressed their interest in fishing harbour development in Myliddy; DANIDA is developing a plan for Gurunagar fishing harbour in Jaffna City; and the Indian government is rehabilitating the KKS Commercial Harbour, which might also be used as a base for offshore fishing. PDP Jaffna has prepared a pre-feasibility study on fishing ports in Point Pedro. As a result of these cumulative efforts, the fisheries infrastructure must have been drastically improved in a few years from present.

If we look at infrastructure development in Jaffna in a broader frame, it is clear that once Jaffna's ongoing infrastructure rehabilitation projects are completed -- specifically the KKS Harbour, Jaffna-Colombo railway track, and A9 Highway -- more investment will be forthcoming by companies of the south, Tamil diasporas and India. They will likely invest in agro-processing and fish marketing along with many other businesses. The local people should be prepared to take the best advantage of infrastructure development by the mid-2010s. Particularly, integration between Jaffna and not only the whole Sri Lanka but neighboring countries will be deepened over the time in terms of product price, food safety standard among other things.

Institutions

NGOs were a major player for reconstruction activities so far in agriculture and fisheries sectors, but governmental institutions may play a more important role for development activities from now on. At

the moment, capabilities of government agricultural institutions are limited since many vacancies of official position are not filled and government employees haven't had much chance to be trained. The GOSL should take necessary measures to employ new officers as quickly as possible, in addition to develop the capacity of the existing officers and consider measures to keep their motivation high.

NGOs' roles have also changed from the distributor of humanitarian assistance to development facilitators. Capacity development of local NGOs is also needed to enable NGOs to perform the new role in the post-conflict era. It is hoped that donors will make more conscious efforts to train technically local NGOs staff members. In addition, NGOs themselves should pay more attention to technical and English training to their staff members.

CBOs made a great contribution to people's survival during conflict days, but they are not ready to venture into the new post-conflict era. Probably with the only exception of FCS, it appears that Jaffna CBOs are not necessarily better organized or better performing than their peers in the south. FOs are characterized as government aid-receivers and short of genuine cooperative. Their transformation to genuine cooperative with independent economic activities would be considered in the near future. However, this is a challenge that should be first dealt with on a national and not a regional level.

Another issue to be addressed is needs for good coordination among related institutions. Government agencies involved in the agriculture sector are DOA, DAD, DAPH, DOI, CCB, PDB and some more. Many of their activities are interlinked and sometimes even overlapped. Before the implementation of the proposed projects, the implementing agency should share project information with relevant institutions and coordinate project activities.

Markets

Socio-economic situation in Jaffna is changing rapidly. After the A9 opened, some of Jaffna's traditional fruits and vegetables have fetched higher prices thanks to a huge market in the south. Market consideration is one of very important elements agriculture and fisheries development. The A9 case demonstrates that partnership with private marketing businesses will be an essential element for future projects designed for income generation on a grass-root level.

A big change in products market would be expected once the current rehabilitation works at the KKS Harbour finish. A resultant rise in trading between Jaffna and India will likely bring about significant opportunities and, at the same time, threats to local primary industries through direct competition with Indian agricultural and fishery products. This impact could be as large as that of the A9 opening in 2009. Nonetheless, global competition is something unavoidable in today's world, and further dismantling of trade barrier is expected among SAARC countries. The best policy is to be prepared for another sea change in the market.

For this purpose, universities and national research institutes can possibly contribute to this issue by taking initiative for research on a possible future sea change in market conditions.

Special Care to Vulnerable People

The most urgent and essential needs of communities are the recovery of available livelihood measures such as agriculture, livestock and fisheries production. As the GOSL is already well aware of, offshore fisheries and aquaculture can potentially provide a number of new employment. The benefits would also accrue to the socially vulnerable people. At present, many impoverished women are able to earn some income by processing fish, but more fish would be available for processing if offshore fisheries are developed significantly. For this purpose, capacity development of CBOs should primarily target CBOs that are directly related to production activities, typically FO and FCS.

However, women should be approached through an alternative assistance channel because FOs and FCSes are generally male-oriented in Jaffna. Support should be granted to WRDSs as a channel to improve women's livelihoods.

As a means of social inclusion, assessing the variety of socially vulnerable groups is a must. Even among WHFs, there are different types of vulnerability with different needs. The assessment of target groups is necessary when designing interventions of support for women. For example, the vulnerable may not be able to attend training program intended for them because the participation means losing their one-day earning. It is therefore recommended to compensate the vulnerable peoples' earning; the provision of free training to the vulnerable is not always good enough. This is one of lessons we learned with PDP Jaffna.

Finally, some CBOs already have a supporting mechanism for socially vulnerable people in the area. The Tharaka Widow's Society provides an arena for sharing experiences and discussion. These available resources should be extended to form a role model for other societies. This sort of model functions should and could be further explored in Jaffna.

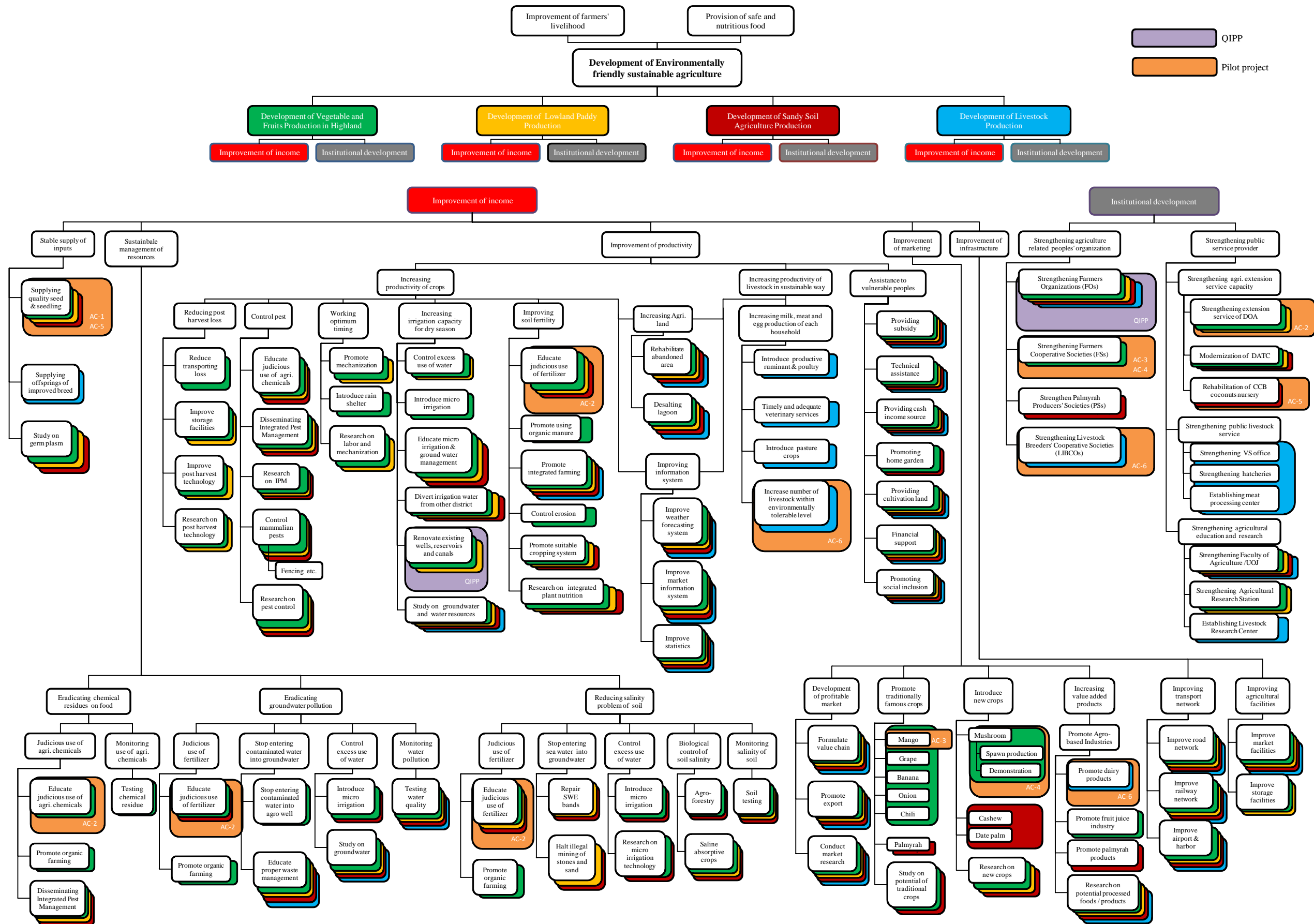


Figure 17: Objective Analysis for Agriculture Development of Jaffna District

Table 24: Framework for Agriculture Development in Jaffna District 1: Vegetable and Fruit Production in Highland

Category			Vegetable and Fruit Production in Highland		
Strategy			Recovering the production of the local specialties such as mango, onion and banana to pre-conflict level and expanding the offshore market		
Issues to be solved			Immediate (2011-2012)	Short-term (2013-2016)	Mid-term (2017-2020)
Income Improvements	Stable supply of inputs		<ul style="list-style-type: none"> Reinforcement of supplying locally produced quality vegetable seed, onion seed bulb and fruit seedlings <u>AC-1 Strengthening of SEEDCO</u> Establishment of stable supply system of mushroom spawn <u>AC-4 Establishment of mushroom centre</u> Provision of initial input on grant basis for IDPs and returnees Provision of subsidized farm input such as fertilizer, tools, machineries 	<ul style="list-style-type: none"> Reinforcement of supplying locally produced quality vegetable seed and fruit seedlings including virus-free seedlings Establishment of stable supply system of mushroom spawn Provision of subsidized farm input such as fertilizer, tools, machineries 	<ul style="list-style-type: none"> Implementation of study on germ plasm
	Sustainable management of resources		<ul style="list-style-type: none"> Education to farmers on judicious use of fertilizer and agro. chemicals <u>AC-2 Strengthening extension service</u> Establishment of water saving agriculture models Promotion of organic manure application Monitoring of water pollution and salinity of soil 	<ul style="list-style-type: none"> Dissemination of judicious use of fertilizer and agro. chemicals Dissemination of water saving agriculture Promotion of organic manure application Monitoring of water pollution and salinity of soil 	<ul style="list-style-type: none"> Dissemination of water saving agriculture Monitoring of water pollution and salinity of soil
	Improvement in productivity		<ul style="list-style-type: none"> Experimental introduction of new cultivation technology Promotion of mushroom cultivation <u>AC-4 Establishment of mushroom centre</u> Dissemination of improved cultivation technology of Jaffna specialties (training, introduce new variety) <u>AC-3 Strengthening of Mango society</u> Formulation of mammalian pest control project Minimization of transporting loss of fruits and vegetables, especially Banana 	<ul style="list-style-type: none"> Introduction of new cultivation technology Promotion of mushroom cultivation Dissemination of improved cultivation technology of Jaffna specialties (training, introduce new variety) Implementation of mammalian pest control project Improvement of post harvest technology of fruits and vegetables Promotion of home gardens for IDPs and WHFs 	<ul style="list-style-type: none"> Dissemination of new cultivation technology Improvement of cultivation technology of Jaffna brand vegetables and fruits Introduction of floriculture
	Improvement in marketing		<ul style="list-style-type: none"> Promotion of Jaffna specialties such as grape, banana, mango (Establishment of fruit collection and sales centers) 	<ul style="list-style-type: none"> Promotion of Jaffna specialties such as grape, banana, mango (Strengthening fruits collection and sales centre) Promotion of processed fruits product Improvement of market information system for farmers Establishment of cold chain for fruits and vegetables. 	<ul style="list-style-type: none"> Establishment of tourist fruits farms
	Improvement to infrastructure		<ul style="list-style-type: none"> Renovation of agro wells, reservoirs and canals Rehabilitation of abandoned area 	<ul style="list-style-type: none"> Implementation of rural road improvement project Feasibility study on central wholesale market Establishment of central wholesale market Establishment of cold storage for vegetable 	<ul style="list-style-type: none"> Implementation of rural road improvement project Establishment of central wholesale market
Institutional development	Strengthening organizations for agricultural population	FO	<ul style="list-style-type: none"> Inventory study on innovative FO's activities Establishment of innovative FO model 	<ul style="list-style-type: none"> Implementation of model FO project 	<ul style="list-style-type: none"> Full-scale restructuring of FOs
		FS, LIBCO	<ul style="list-style-type: none"> Strengthening crop-based FSs <u>AC-3 Strengthening Mango society, AC-4 Establishing mushroom centre</u> Encouragement to IDPs and returnees to join FSs 	<ul style="list-style-type: none"> Strengthening crop based FSs Assurance of the vulnerable groups' membership with FSs 	<ul style="list-style-type: none"> Expansion of FS's business activities
	Strengthening public service provider	District level	<ul style="list-style-type: none"> Strengthening agri. extension service capacity <u>AC-2 Strengthening extension service</u> 	<ul style="list-style-type: none"> Modernization of District Agriculture Training Center Improvement of statistical information system Strengthening agri. extension at AI range level Establishment of cyber extension network of agriculture sector 	<ul style="list-style-type: none"> Modernization of research facility of DOA (Research) and/or UOJ
		Provincial level		<ul style="list-style-type: none"> Strengthening of Faculty of Agriculture / UOJ 	

Table 25: Development Road Map 1 Vegetable and Fruits Production in Highland

Pilot Project

Project

Critical Action

As of 14th July 2011

Goal	Objective	2011				2012				2013				2014				2015				2016				2017				2018				2019				2020																							
	Sub-objective	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
I. Income Improvements																																																													
1. Stable supply of Inputs	AC-1	Reinforcement of supplying locally produced quality vegetable seed and fruit seedlings including virus free seedlings (DOA, SEEDCO)																																																											
	AC-4	Establishment of stable supply system of mushroom spawn (DOA)																Implementation of study on germ plasm (UOJ, DOA)																																											
	Provision of initial input for returnees (DOA, NGOs)																																																												
	Provision of subsidized farm input (DAD, DOA, NGOs)																																																												
2. Sustainable management of resources	AC-2	Provision of education to farmers on judicious use of fertilizer and agro chemicals (DOA)																Dissemination of judicial use of fertilizer and agro chemicals (DOA, UOJ, DAD)																																											
	Establishment of water saving agriculture models (DOA, UOJ)																Dissemination of water saving agriculture (DOA, DOI, NWSDB, UOJ)																																												
																	Promotion of organic manure application (DOA, UOJ, Local Gov, NGOs)																																												
	Implementation of monitoring water pollution and salinity of soil (DOA, NWSDB, UOJ, HD, Water committee)																																																												
3. Improvement in productivity	Experimental introduction of new cultivation technology (DOA, UOJ)																Introduction of new cultivation technology (DOA)																Dissemination of new cultivation technology (DOA)																												
																	Improvement of post-harvest technology of fruits and vegetables (DOA, UOJ)																																												
	AC-4	Promotion of mushroom cultivation (DOA)																																																											
	AC-3	Dissemination of improved cultivation technology for Jaffna specialties such as Grape, Banana, Mango (DOA)																																																											
	Formulation of mammalian pests control project (DOA, DAD, Local Gov.)																Implementation of mammalian pests control project (DOA)																Improvement of cultivation technology of Jaffna brand vegetables and fruits (DOA)																												
																	Promotion of home gardens for IDPs and WHFs (DOA, CCB, DAD)																Introduction of floriculture (DOA, UOJ)																												
4. Improvement in Marketing	Minimization of transportation loss of vegetables and fruits, especially banana (DOA, UOJ)																																																												
	Promotion of Jaffna specialties such as Grape, Banana, Mango (DOA)																																																												
																	Promotion of processed fruits product (DOA, IDB, PDB, UOJ)																																												
																	Improvement of market information system for farmers (DOA, UOJ, Local gov.,Private)																																												
5. Improvement to Infrastructure	QJPP	Renovation of agro wells, reservoirs and canals (DAD, DOI, CCB)																																																											
		Rehabilitation of abandoned area (DAD, DOI, NGOs)																Feasibility study on central wholesale market (Municipality, DOA)																Establishment of central wholesale market (Municipality, DOA)								Establishment of cold storages (DOA, IAs,)																			
		Establishment of cold chain for fruits and vegetables (DOA)																																																											
II Institutional Development																																																													
1. Strengthening organizations for agricultural population																																																													
1) Farmers' Organization	Inventory study on innovative FO's activates (DAD)																Establishment of innovative FO model (DAD)																Implementation of model FO project (DAD)								Full-scale restructuring of FO (DAD)																				
2) Producers Cooperative Societies (FS)	AC-3	Strengthening of crop based FSs (DOA, DCD)																																																											
	AC-4	Encouragement to IDPs and returnees to join FSs (DOA,)																Assurance of the vulnerable groups' membership with FSs (DOA)																Expansion of FSs' business activities (DOA, DCD)																											
2. Strengthening public service providers																																																													
1) District level	AC-2	Modernization of District Agriculture Training Center (DOA)																																																											
		Strengthening agriculture extension service capacity (DOA)																																																											
																		Improvement of statistical information system (DOA, DAD, UOJ)																Modernize Research facility of ARS and /or UOJ (DOA, UOJ)																											
																		Establishment of cyber extension network of agriculture sector (DOA, UOJ, DAPH, CCB, PDB, DAD)																																											
2) Provincial level	Strengthening Faculty of Agriculture / UOJ (UOJ)																																																												

Table 26: Framework for Agriculture Development in Jaffna District 2 Lowland Paddy Production

Category			Lowland Paddy Production		
Strategy			Recovering the paddy field to pre-conflict level and improving its rate of self-sufficiency in the district.		
Issues to be solved			Immediate (2011-2012)	Short-term (2013-2016)	Mid-term (2017-2020)
Income Improvements	Stable supply of inputs		<ul style="list-style-type: none"> Strengthening of SEEDCO <u>AC-1 Strengthening SEEDCO</u>, Provision of initial input on grant basis for IDPs and returnees Provision of subsidized farm input such as fertilizer, tools, machineries 	<ul style="list-style-type: none"> Introduction of seed bin to store seed paddy to FO or farmers Provision of cultivation loan (no interest) to seed paddy farmers Provision of subsidized farm input such as fertilizer, tools, machineries 	<ul style="list-style-type: none"> Provision of subsidized farm input such as fertilizer, tools, machineries
	Sustainable management of resources		<ul style="list-style-type: none"> Provision of education to farmers on judicious use of fertilizer and agro. chemicals <u>AC-2 Strengthening extension service</u> Implementation of monitoring water pollution and salinity of soil 	<ul style="list-style-type: none"> Dissemination of judicious use of fertilizer and agro-chemicals Implementation of Monitoring water pollution and salinity of soil 	<ul style="list-style-type: none"> Implementation of monitoring water pollution and salinity of soil
	Improvement in productivity		<ul style="list-style-type: none"> Formulation of a project for post-harvest technology improvement Development of proper package of practices in high, medium and low potential areas Introduction of appropriate mechanized farming (combined harvester, reapers, multi choppers, threshers, two wheel tractor etc.). 	<ul style="list-style-type: none"> Implementation of a project for post-harvest technology improvement (drying, storage, milling, parboiling rice, rice flour, rice flour product) Dissemination of proper package of practices in high, medium and low potential areas 	<ul style="list-style-type: none"> Dissemination of improved post-harvest technology
	Improvement in marketing		<ul style="list-style-type: none"> Creating a linkage with private sector for marketing parboiled rice 	<ul style="list-style-type: none"> Improve market information system for farmers 	
	Improvement to infrastructure		<ul style="list-style-type: none"> Renovation of tanks <u>QIPP</u> Improvement of existing sea water exclusion bund Renovation of agro wells, ponds, reservoirs and canals Rehabilitation of abandoned area Distributing land to IDPs and returnees 	<ul style="list-style-type: none"> Reconstruction of tank network Implementation of rural road improvement project Improvement of drainage system Introduction of village wise improved paddy storage facility. 	<ul style="list-style-type: none"> Implementation of rural road improvement project
Institutional development	Strengthening organizations for agricultural population	FO	<ul style="list-style-type: none"> Inventory study on innovative FO's activities Establishment of innovative FO model Assurance of vulnerable groups' membership with FOs 	<ul style="list-style-type: none"> Implementation of model FO project 	<ul style="list-style-type: none"> Full-scale restructuring of FOs
		FS, LIBCO			
	Strengthening public service provider	District level	<ul style="list-style-type: none"> Strengthening of agriculture extension service capacity 	<ul style="list-style-type: none"> Modernization of District Agricultural Training Center Strengthening of Agrarian Services Center Improvement of statistical information system Establishment of cyber extension service network of agricultural sector 	<ul style="list-style-type: none"> Strengthening of Agrarian Services Center
		Provincial level		<ul style="list-style-type: none"> Strengthening of Faculty of Agriculture / UOJ 	

Table 27: Development Road Map 2 Lowland Paddy Production

Pilot Project

Project

Critical Action

As of 02nd July 2011

Goal			2011				2012				2013				2014				2015				2016				2017				2018				2019				2020																							
	Objective	Sub-objective	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
I. Income Improvements																																																														
1. Stable supply of Inputs		AC-1	Strengthening of SEEDCO (DOA)																																																											
			Implementation of supplying initial input for IDPs and returnees (DOA, NGOs)												Introduction of seed bin to store seed paddy at FO and Farmers (DAD, DOA)																																															
															Provision of cultivation loan to seed paddy farmers (DAD, Banks, Private)																																															
															Provision of subsidized farm input (DAD, NGOs)																																															
2. Sustainable management of resources		AC-2	Provision of education to farmers on judicious use of fertilizer and agro chemicals (DOA)												Dissemination of judicial use of fertilizer and agro chemicals (DOA)																																															
															Implementation of monitoring water pollution and salinity of soil (same as other)																																															
3. Improvement in productivity			Formulation of a project for post-harvest technology improvement (DOA, UOJ)												Implementation of a project for post-harvest technology improvement (DOA, UOJ)												Disseminate improved post-harvest technology (DOA)																																			
			Development of proper package of practices in high, medium and low potential areas (DOA, UOJ)												Dissemination of proper package of practices in high, medium and low potential areas (DOA, UOJ)																																															
			Introduction of appropriate mechanized farming (DOA, DAD, UOJ)																																																											
4. Improvement in Marketing															Create a linkage with the private sector for marketing parboiled rice (DOA)																																															
															Improvement of market information system for farmers (DOA, UOJ, Local gov., Private)																																															
5. Improvement to Infrastructure	QIPP		Renovation of tanks (DAD, FO)												Reconstruction of tank network (DAD, DOI, FO)												Implementation of rural road improvement project (DAD, Pradeshiya Sabha, Local gov.)																																			
			Improvement of existing sea water exclusion bund (DOI)												Improvement of drainage system (DAD, DOI, FO)																																															
			Renovation of existing wells, reservoirs and canals (DAD, FO)												Introduction of village wise improved paddy storage facility (DOA, DAD)																																															
			Rehabilitation of abandoned area (DAD, DOI, NGOs)																																																											
			Distribution of land to IDPs and returnees (DAD)																																																											
II Institutional Development																																																														
1. Strengthening organizations for agricultural population																																																														
1) Farmers' Organization			Inventory study on innovative FO's activities (DAD, UOJ)												Establishment of innovative FO model (DAD)												Implementation of model FO project (DAD)												Full-scale restructuring of FOs (DAD)																							
			Assurance of vulnerable groups' membership with FOs (DAD)																																																											
2) Producers Cooperative Societies (FS)																																																														
2. Strengthening public service providers																																																														
1) District level		AC-2	Strengthening of agriculture extension service capacity (DOA)												Modernization of District Agriculture Training Center (DOA)																																															
															Strengthening of agrarian service centre (DAD)																																															
															Improvement of Statistical information system (DOA,DAD, UOJ)																																															
															Establishment of cyber extension network of agriculture sector (DOA, UOJ, DAPH, CCB, PDB, DAD)																																															
2) Provincial level															Strengthening of Faculty of Agriculture / UOJ (UOJ)																																															

Table 28: Framework for Agriculture Development in Jaffna District 3 Sandy Soil Agriculture in the Outlying Islands and Coastal Areas

Category			Sandy Soil Agriculture Production at Outlying Islands and Coastal Areas		
Strategy			Recovering suitable crops for sandy soil to pre-conflict level and achieving self-sufficiency and promoting value added sale		
Issues to be solved			Immediate (2011-2012)	Short-term (2013-2016)	Mid-term (2017-2020)
Income Improvements	Stable supply of inputs		<ul style="list-style-type: none"> Reinforcement of supplying coconut seedlings of improved variety <u>AC-5 Rehabilitation of coconuts nursery</u> Implementation of supplying free seedlings to IDPs and returnees Implementation of supplying seedlings of coconut and Palmyrah for intercropping. Reestablishment of seed garden for Palmyrah Provision of subsidized farm input such as fertilizer, tools, machineries 	<ul style="list-style-type: none"> Reinforcement of supplying coconut seedlings of improved variety (Establishment of additional coconut nurseries, encouraging private nursery man for quality seedling supply) Provision of subsidized farm input such as fertilizer, tools, machineries 	<ul style="list-style-type: none"> Provision of subsidized farm input such as fertilizer, tools, machineries
	Sustainable management of resources		<ul style="list-style-type: none"> Provision of education to farmers on judicious use of fertilizer and agro. chemicals <u>AC-2 Strengthening extension service</u> Promotion of intercropping and home garden Promotion of organic manure application <u>Implementation of monitoring water pollution and salinity of soil</u> 	<ul style="list-style-type: none"> Dissemination of judicious use of fertilizer and agro. chemicals Promotion of establishing wind/green belts Promotion of organic manure application Implementation of monitoring water pollution and salinity of soil 	<ul style="list-style-type: none"> Promotion of recycling the plant wastes and products. Implementation of monitoring water pollution and salinity of soil
	Improvement in productivity		<ul style="list-style-type: none"> Dissemination of improved coconut cultivation technology (provision of training) <u>AC-5 Rehabilitation of coconuts nursery</u> Experimental introduction of new crops such as cashew nuts and date palm Provision of training on production technology of Palmyrah products Implementation of research for the improvement of coconut and Palmyrah cultural practices; planting, irrigation, fertilizing and pest control 	<ul style="list-style-type: none"> Dissemination of improved coconut cultivation technology Introduction of new crops such as cashew nut and date palm Establishment of Palmyrah model farm with multipurpose trees Establishment of coconut model villages Implementation of research for the improvement of coconut and Palmyrah cultural practices; planting, irrigation, fertilizing and pest control 	<ul style="list-style-type: none"> Dissemination of new crop cultivation Dissemination of Palmyrah model farms Dissemination of coconut model village
	Improvement in marketing		<ul style="list-style-type: none"> Formulation of a project for improvement and development of Palmyrah products; short term market and supply chain research 	<ul style="list-style-type: none"> Implement a project for improvement and development of Palmyrah products; value chain research, upgrading of quality, quality control, improvement of distillers, upgrading of sale outlets, etc. 	<ul style="list-style-type: none"> Expand sale of Palmyrah product Implement a project for improvement and development of Palmyrah products; establish new sales outlet.
	Improvement to infrastructure		<ul style="list-style-type: none"> Rehabilitation of Palmyrah Products Complex 	<ul style="list-style-type: none"> Implementation of rural road improvement project 	<ul style="list-style-type: none"> Implementation of rural road improvement project
Institutional Development	Strengthening organizations for agricultural population	FO			
		FS, LIBCO	<ul style="list-style-type: none"> Establishment of model Palm Development Cooperative Societies Strengthening of coconut and Palmyrah societies (Palm development cooperative societies) 	<ul style="list-style-type: none"> Establishment of model Palm Development Cooperative Societies Strengthening of coconut and Palmyrah societies (Palm development cooperative societies) 	<ul style="list-style-type: none"> Increment of business activities of Palm Development Cooperative Societies
	Strengthening public service provider	District level	<ul style="list-style-type: none"> Rehabilitation of coconut nursery <u>AC-5 Rehabilitation of coconut nursery</u> Strengthening of Palmyrah Development Board 	<ul style="list-style-type: none"> Establishment of additional coconut nursery Improvement of statistical information system Establishment of cyber extension service network of agricultural sector 	
		Provincial level		<ul style="list-style-type: none"> Strengthening of Faculty of Agriculture / UOJ Reestablishment of Palmyrah Research Institute (PRI). 	

Table 29: Development Road Map 3 Sandy Soil Agricultural Production in the Outlying Islands and Coastal Areas

[illegible]

Table 30: Framework for Agriculture Development in Jaffna District 4 Livestock Production

Category			Livestock Production		
Strategy			Considering livestock as a part of integrated farming. Recovering number of livestock to pre-conflict level and improving its rate of self-sufficiency in the District by introducing suitable breed, and promoting value added sale		
Issues to be solved			Immediate (2011-2012)	Short-term (2013-2016)	Mid-term (2017-)
Income Improvements	Stable supply of inputs		<ul style="list-style-type: none"> • Reinforcement of supplying offspring of improved breeds, especially poultry and goat (including encouraging private mini poultry breeder farm and private goat breeder farm / division) • Provision of initial input on grant basis for IDPs and returnees • Provision of assistance to vulnerable people to access to financial institutions • Provision of subsidized farm inputs (ex. heifer calf) 	<ul style="list-style-type: none"> • Reinforcement of supplying offspring of improved breeds, especially poultry and goat • Provision of assistance to vulnerable people to access to financial institutions (Seed money, Subsidy scheme, Bank Loan) • Provision of subsidized farm inputs (ex. heifer calf) 	<ul style="list-style-type: none"> • Assistance to vulnerable people to access to financial institutions (Seed money, Subsidy scheme, Bank Loan) • Provision of subsidized farm inputs (ex. heifer calf)
	Sustainable management of resources		<ul style="list-style-type: none"> • Enforcement of livestock farm legislation • Enforcement of Animal act • Establishment of Bio gas plant • Recycling of livestock/ slaughter house waste 	<ul style="list-style-type: none"> • Establishment of Bio gas plant • Enforcement of livestock farm legislation • Enforcement of Animal act 	<ul style="list-style-type: none"> • Enforcement of livestock farm legislation • Enforcement of Animal act
	Improvement in productivity		<ul style="list-style-type: none"> • Promotion of artificial insemination • Enhancement of heifer rearing scheme • Extension of cultivation of fodder crops • Establishment of feed resource center • Implementation of kids' salvage programme 	<ul style="list-style-type: none"> • Promotion of artificial insemination • Enhancement of heifer rearing scheme • Extension of cultivation of fodder crops (including establishment of pasture and fodder units) • Strengthening of education of livestock rearing technology to youths and women • Promotion of advanced training on value added products for stake holders • Establishment of feed resources center 	<ul style="list-style-type: none"> • Promotion of artificial insemination • Extension of cultivation of fodder crops • Strengthening of education of livestock rearing technology to youths and women • Promotion of advanced training on value added products for stake holders
	Improvement in marketing		<ul style="list-style-type: none"> • Promotion of dairy product consumption - pre school children • Promotion of local milk consumption • Reinforcement of milk processing capacity <u>AC-6 Improvement of milk processing facilities</u> • Implementation of baseline survey on livestock marketing, livestock population 	<ul style="list-style-type: none"> • Promotion of dairy product consumption - pre school children • Promotion of local milk consumption • Diversification of livestock processed products - introducing to the public. • Establishment of cold chain (improvement of milk collection network and milk sales outlets) • <u>Improvement of market information system for farmers</u> 	<ul style="list-style-type: none"> • Promotion of local milk consumption • Establishment of cold chain (improvement of milk collection network and milk sales outlets)
	Improvement to infrastructure		<ul style="list-style-type: none"> • Rehabilitation of abandoned area • Construction of slaughter house • Reconstruction of livestock housing facilities • Establishment of livestock markets, 	<ul style="list-style-type: none"> • Implementation of rural road improvement project • Establishment of livestock markets, • Rehabilitation of abandoned area • Construction of slaughter house • Reconstruction of livestock housing facilities 	<ul style="list-style-type: none"> • Implementation of rural road improvement project • Establishment of meat market
Institutional development	Strengthening organizations for agricultural population	FO			
		FS, LIBCO	<ul style="list-style-type: none"> • Strengthening of LIBCO - for 6 LIBCOs already started <u>AC-6 Improvement of milk processing facilities</u> • Encouragement to IDPs and returnees to join LIBCOs 	<ul style="list-style-type: none"> • Strengthening of LIBCOs • Encouragement to IDPs and returnees to join LIBCOs • Assurance of the vulnerable groups' membership with LIBCOs 	<ul style="list-style-type: none"> • Expansion of LIBCOs business activities
	Strengthening public service provider	District level	<ul style="list-style-type: none"> • Capacity development of human resources for public service of livestock development • Strengthening of Regional Farm Atchchuvley - Poultry • Strengthening of AIns Center 	<ul style="list-style-type: none"> • Strengthening of VS offices and Veterinary Investigation Center (VIC already established but need be improved with facilities) • Capacity development of human resources for public service for livestock development • Strengthening of Regional Farm Atchuvly • Construction of Training Center - plan to start on 2013 • Improvement of statistical information system - include UoJ • <u>Establishment of cyber extension service network of agricultural sector</u> 	
		Provincial level		<ul style="list-style-type: none"> • Strengthening of Faculty of Agriculture / UOJ 	

Table 31: Development Road Map 4 Livestock Production

		Pilot Project												Project												Critical Action												As of 11th July 2011																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Goal	Objective	2011												2012												2013												2014												2015												2016												2017												2018												2019												2020																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Sub-objective	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J

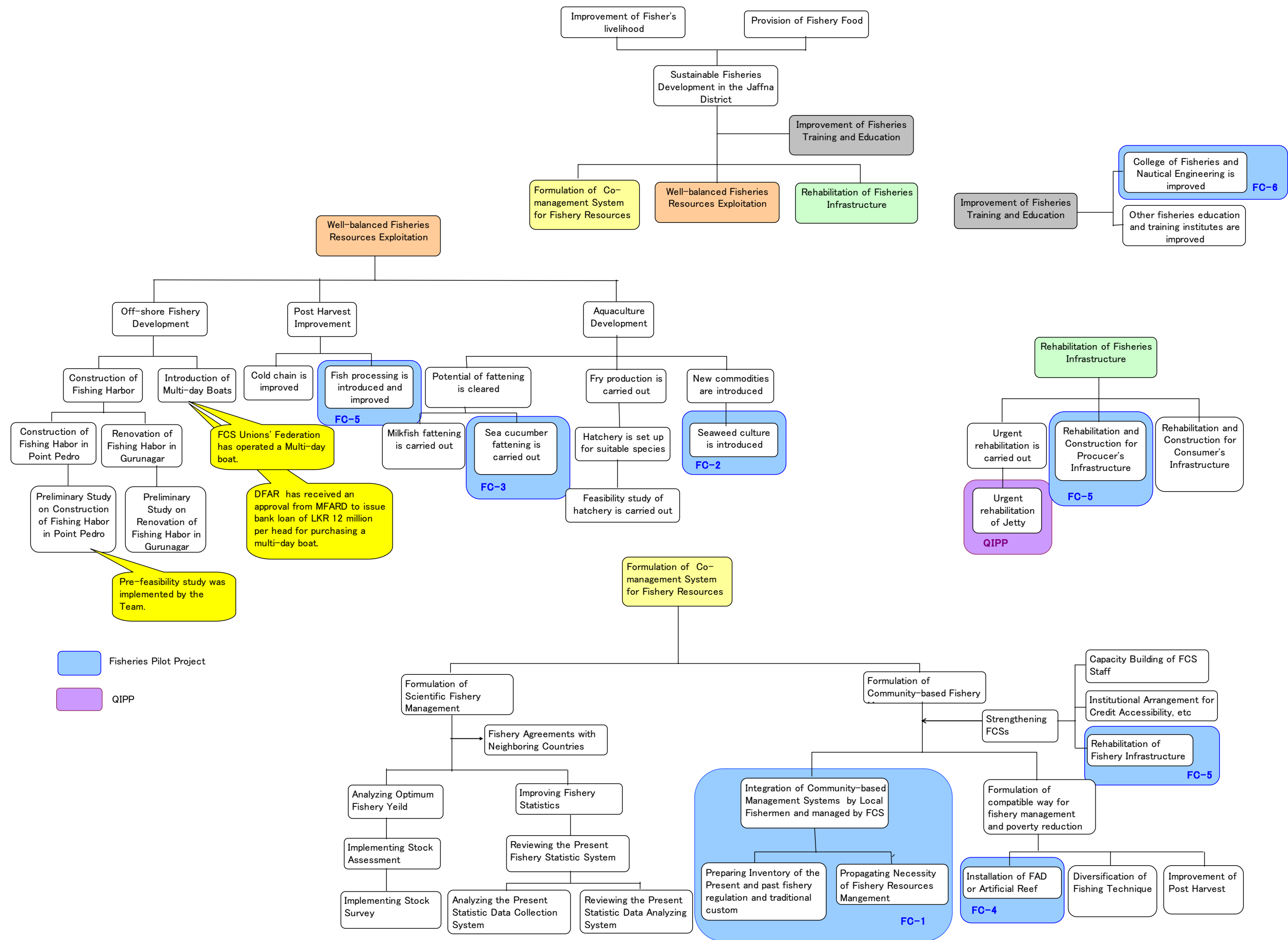


Figure 18: Objective Analysis for Fisheries Development of Jaffna District

Table 32: Framework for Fisheries Development in Jaffna District

Category		Coastal Fisheries			Offshore Fisheries			Aquaculture		
Goal		Establishment of Sustainable System for Coastal Fisheries			Exploitation of Offshore Fishing Ground			Development of New Technology for Fish Production		
Issues	Time span	Immediate Issues (2011-2012)	Short-term Issues (2013-2016)	Mid-term Issues (2017-2020)	Immediate Issues (2011-2012)	Short-term Issues (2013-2016)	Mid-term Issues (2017-2020)	Immediate Issues (2011-2012)	Short-term Issues (2013-2016)	Mid-term Issues (2017-2020)
Livelihood Enhancement	Adequate Operational Supplies	• Inviting ice making plants	• Capacity of ice production at 150ton/day	• Capacity of ice production at 300ton/day		Infrastructure development for fuel and water supply to multi-day boats		Implementation of various trial for aquaculture project	• Continuation of aquaculture project • Establishment of shrimp hatchery	Establishment of seed production center
	Optimum Utilization of Resources	• Introducing community-based fisheries management system • Awareness for fishermen on fishery resources management and conservation Community-based Fisheries Management	• Outreach of community-based fisheries management • Implementation of research on coastal fishery resources	• Introducing co-management system based on coastal fishery resources assessment (Marine Protection Area and license system, etc.)		• Implementation of study on offshore fishery resources • Formulation of offshore resources development plan	• Establishment of fishing vessel monitoring system (VMS) • Introduction of license system based on the fishery resources development plan.	• Study on seasonal variation of water bodies • Implementation of research on aquaculture trials	Research on marine fish breeding (sea bass, sea cucumber, sea horse, etc.)	
	Productivity Improvement	• Test operation of FAD • Outreach of safety operation technology • Introduction of improved fish processing Reconstruction of Fisheries College	• Outreach of FAD • Outreach of improved fish processing • Formulation of coastal fishing ground development plan	• Implementation of coastal fishing ground development plan	• Introduction of multi-day boats • Trial operation of FAD • Outreach of safety operation technology	• Outreach of FAD • Promotion for local production of multi-day boats	• Tuna long line fishery development	• Implementation of various types of aquaculture project including seaweed Seaweed farming	• Continuation of various types of aquaculture operation • Formulation of master plan for aquaculture development • Training on aquaculture for fish farmers	• Full-scale outreach of aquaculture technology to coastal fishers based on the master plan for aquaculture development
	Marketing Improvement	• Rehabilitation and improvement of fish auction hall • Formulation of improvement plan for consumers market including for tourists • Promotion of local fish exporters Construction of fish auction hall	• Continuation of rehabilitation and improvement of fish auction hall • Implementation of improvement plan for consumers market including for tourists • Commencement of direct fish export from Jaffna • Establishment of ice plant	• Establishment of high-end oriented marketing strategy		Study on fish processing industry development	Inviting fish processing factories to Point Pedro.		Introducing seaweed for cosmetic and agriculture sectors	
	Infrastructure Improvement	• Development of fish landing sites • Formulation of fishery infrastructure development plan such as water supply facilities, ice storage, fishermen's locker, access road, etc. • Formulation of fishery infrastructure development plan for safety operation Jetty rehabilitation	• Implementation of fishery infrastructure development plan such as water supply facilities, ice storage, fishermen's locker, access road, etc (Phase 1) • Implementation of fishery infrastructure development plan for safety operation (Phase 1).	• Implementation of fishery infrastructure development plan such as water supply facilities, ice storage, fishermen's locker, access road, etc (Phase 2). • Implementation of fishery infrastructure development plan for safety operation (Phase 2).	• Formulation of fishing harbor development plan in Point Pedro and Myliddy	• Construction of fishing harbor in Point Pedro and Myliddy	• Formulation of fish processing industry complex development plan in Point Pedro harbor.		Formulation of improvement plan for natural environment in Jaffna lagoon	Implementation of improvement plan for natural environment in Jaffna lagoon
Institutional Development	Strengthening of Fishermen's Cooperative Societies	• Inventory record of leading activities practiced by FCSs. • Establishment of new FCS model • Improvement of mutual assistant system for socially vulnerable members Various assistance for Strengthening of FCSs	• Initiating model project for the new FCSs • Assisting to strengthen FCS network	• Full-scale project for strengthening the model FCSs.	Preparation to establish offshore fishery cooperative societies	• Establishment of offshore fishery cooperative societies	• Organizational strengthening of offshore fisheries cooperative societies.	• Involvement of socially vulnerable members to aquaculture activities • Establishment of new FCS model for aquaculture development Various assistance to strengthen FCSes	• Initiating FCS strengthening project as aquaculture development model	• Full-scale implementation of FCS strengthening project as aquaculture development model
	Strengthening of District Level Administration	• Learning and reviewing fishery statistic system. • Establishment of fisheries data base in DFAR	• Introduction of new fishery statistic system based on internet. • Training of capacity building for DFAR officer • Strengthening of Department of Fisheries of University of Jaffna	• Practical use of fishery statistics to fishery management system.	• Study to introduce fishing vessel monitoring system (VMS)	• Feedback to VMS		• Acquiring basic aquaculture knowledge • Strengthening of Department of Fisheries, University of Jaffna • Strengthening of aquaculture curriculum in College of Fisheries • Allocation of NAQDA staff	• Training to aquaculture officers of NAQDA in Jaffna • Establishment of NAQDA and NARA Regional Center in Jaffna • Introducing new scholarship schemes for expert • Formulation of development plan for Department of Fisheries, University of Jaffna	• Capacity building of seed production technicians • Establishment of Faculty of Fisheries in University of Jaffna including department of aquaculture
	Strengthening of National Level Administration				• Study to introduce fishing vessel monitoring system (VMS)	• Introduction of VMS	• Establishment of VMS			
* Red color with underline: Critical actions										

Table 33: Development Road Map 5 Sustainable System for Coastal Fisheries

Goal	Objective	Present Status (Description)	Present Status (Indicator)	2011				2012				2013				2014				2015				2016				2017				2018				2019				2020																				
	Sub-objective			J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
I.. Sustainable System for Coastal Fishery Development																																																												
1. Livelihood enhancement																																																												
1) Adequate operational supplies				Inviting ice making plants								Ice production capacity:150ton/day												Ice production capacity: 300ton/day																																				
2) Optimum utilization of resources				FC-1 Introduction of community-based fisheries management (DFAR) Awareness for fishermen about fishery resources management and concervation (DFAR)								Outreach of community-based fisheries management (DFAR) Implementantation of reaearch on coastal fishery resources assessment (DFAR,NARA)												Introduction of co-management system for coastal fisheries resources (DFAR)																																				
3) Productivity improvement				FC-4 Test operation of FAD (NARA) FC-6 Promotion of safety operation Technology (DFAR, NARA) Improvement of fish processing (PARCIC)								Outreach of FAD (NARA, DFAR) Formulation of coastal fishing ground development plan (including artificial reef development and stock enhancement) (DFAR, NARA) Outreach of improved fish processing (DFAR, COFNE)												Implementation of coastal fishing ground development plan (DFAR, NARA)																																				
4) Marketing improvement				FC-5 Rehabilitation and improvement of fish auction hall (PS/UC, DFAR) Promotion of local fish exporters (DFAR) Formulation of consumers market development plan including for tourist (PS/UC)								Continuation of Rehabilitation and improvement of fish auction hall (PS/UC, DFAR) Commencement of direct fish exportation from Jaffna (DFAR) Implementation of improvement plan for consumers fish market (including for tourists) (PS/UC)												Establishment of high-end marketing strategy for fish products (DFAR, NARA)																																				
5) Infrastructure improvement				Batch 1(Jetty) FC-5 Formulation of fisheries infrastructure development plan for safety operation (DFAR, CFHC) Formulation of fish landing infrastructure development plan including water, ice, fuel supply, fishermen's locker and access road (DFAR, CFHC) Development of fish landing sites (DFAR, CFHC)								Implementation of fisheries infrastructure development plan for safety operation (phase 1) (DFAR, CFHC) Implementation of fish landing infrastructure development plan including water, ice, fuel supply, fishermen's locker and access road (Phase 1) (DFAR, CFHC)												Implementation of fisheries infrastructure development plan for safety operation (phase 2) (DFAR, CFHC) Implementation of fish landing infrastructure development plan including water, ice, fuel supply, fishermen's locker and access road (Phase2) (DFAR, CFHC)																																				
2. Institutional strenghtning																																																												
1) Strengthening of Fishermen's Cooperative Societies				FC-1 Inventory record of leading activities practiced by FCSes (DFAR) Improvement of mutual assistant system for socially vulnerable members of FCSes (DFAR) Establishment of new FCS model (DFAR)								Assisting to strengthen FCS network (DFAR) Initiating model projects for the new FCS (DFAR)												Full-scale project for strengthening the model FCSes (DFAR)																																				
2) Strengthening of District level administration				Learning and reviewing the present fisheries statistic system (DFAR) Establishment of fisheries data base in DFAR (DFAR)								Introduction of new fishery statistic system based on internet (DFAR) Training of capacity building for DFAR Officer (MFARD) Strengthening Department of Fisheries, UOJ (UOJ)												Practical use of fishery statistics to fishery management system (DFAR)																																				
3) Strengthening of national level administration																																																												

Table 34: Development Road Map 6 Offshore Fisheries Development

Goal	Objective	Present Status (Description)	Present Status (Indicator)	2011			2012			2013			2014			2015			2016			2017			2018			2019			2020																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Sub-objective			J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D

Table 35: Development Road Map 7 Aquaculture Development[illegible]

Table 36: Development Road Map 8 Institutional Development

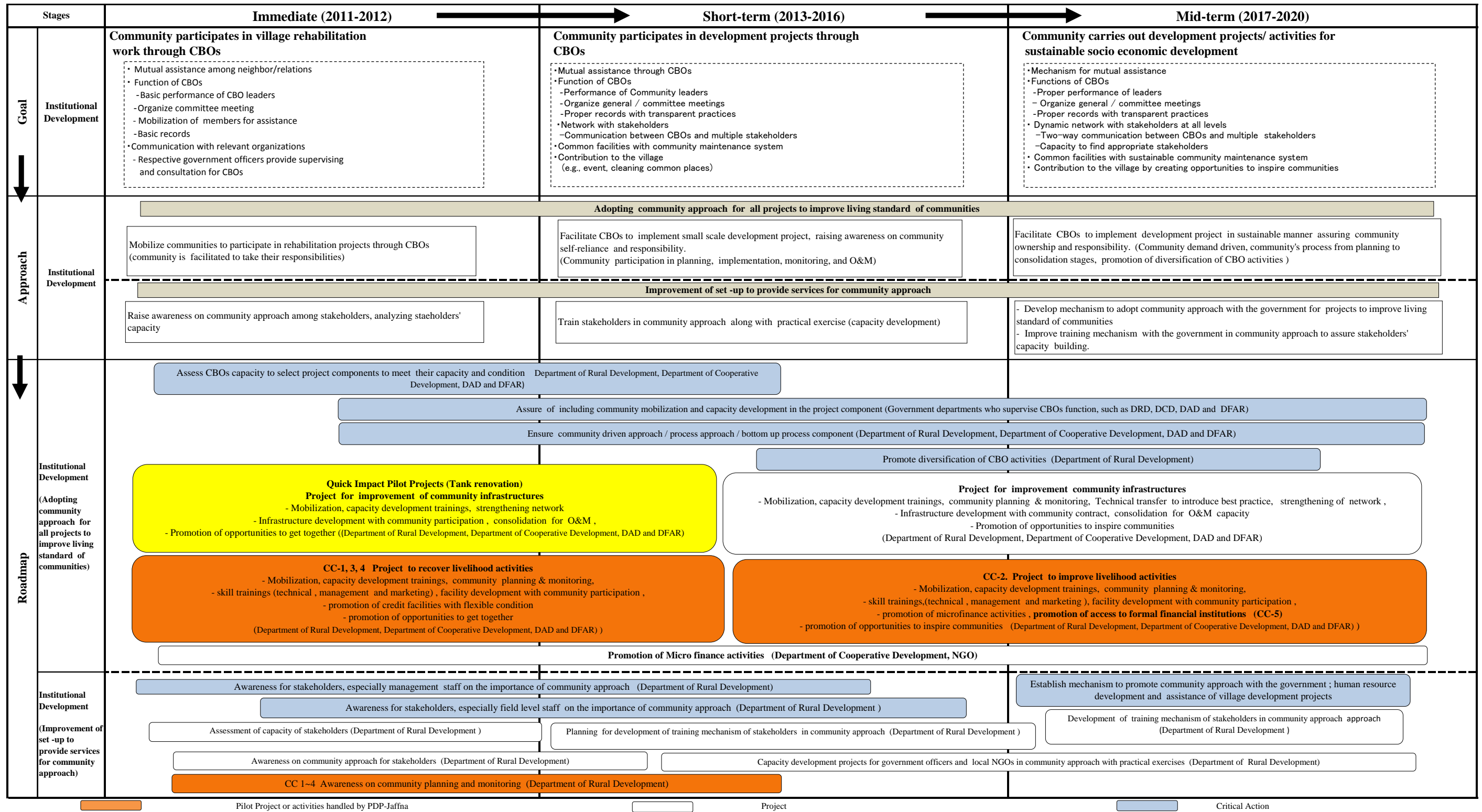




Table 37: Development Road Map 9 Social Inclusion

Stages		Immediate (2011-2012)	Short-term (2013-2016)	Mid-term (2017-2020)
Goal ↓ Approach ↓ Roadmap	Social Inclusion	1 Availability of data/information on socially vulnerable groups/Persons with Special Needs (PWSN) with the relevant government organizations 2 Availability of sufficient support to meet the basic needs for PWSN 3 Completion of resettlement process and meeting the housing needs for IDPs 4 Establishment of platform (an arena for sharing) among socially vulnerable groups/PWSN 5 Connection with religious groups/CBOs for social support 6 Involvement in government officials	1 Availability of data/information on PWSN with the relevant government organizations/community leaders 2 Availability of sufficient support to meet the basic needs for PWSN 3 Completion of resettlement process and meeting the housing needs for IDPs 4 Establishment of platform (an arena for sharing) among socially vulnerable groups/PWSN 5 Connection with religious groups/CBOs for social support 6 Capacity development of government officers 7 Capacity building of CBOs to support socially vulnerable groups/PWSN (included in Institutional Dev't) 8 Availability of individual/institutional opportunities for livelihood development with in-kind, technical, legal, financial, or marketing support 9 Involvement of socially vulnerable groups/PWSN into CBO activities	2 Availability of sufficient support to meet the basic needs for PWSN through established mechanism/system 6 Capacity development of government officers 7 Leadership development among CBO members for socially vulnerable groups/PWSN 8-1 Availability of individual/institutional opportunities for livelihood development with in-kind, technical, legal, financial, or marketing support 8-2 Self-reliant business development by microfinance schemes (included in Institutional Dev't) 9 Involvement of socially vulnerable groups/PWSN into CBO activities 10 Industry development for sustainable employment
	Social Inclusion	*Shaded bar parts can be categorized as the main roles of the Government. 1. Assessment on living condition and needs of socially vulnerable groups and PWSN 2. Provision of sufficient assistance to meet the basic needs for socially vulnerable groups and PWSN 3. Promotion of resettlement process and meeting the housing needs for IDPs 4. Support for the establishment of platform (an arena for sharing) among PWSN 5. Support to connect with religious groups/CBOs for social support	6. Promotion of capacity development of government officers 7. Nurturing leadership among CBO members 8. Promotion of individual/institutional opportunities for livelihood development 9. Promotion to involve vulnerable groups in CBO activities	4. Formation and strengthening Self Help Groups 10. Promotion of industry development for sustainable employment
	Social Inclusion	1. Brief survey on socially vulnerable groups 1. Survey on socially vulnerable groups' issues/needs (DPS) 2. Reviewing and sufficiently supplying assistant mechanisms to support socially vulnerable groups and PWSN (DPS, Social Service Dept of Provincial Council) 3. Expediting the resettlement process to provide permanent houses to IDPs (Ministry of Resettlement, District Secretariat) 4. CC-5: Training on group counseling for widows 4. Group counseling training to establish platforms among PWSN and to formulate SHGs (Social Service Dept, Woman Development Dept) 5. Monitoring the networks between socially vulnerable groups/PWSN and religious groups/CBOs (DS offices) 6. Involvement of the government officers to project activities 6. Capacity development of government officers in charge of community development and supplementation of the shortage of staff (Provincial Admin) 7. Leadership training for CBO members (DRDO, ACLG) 8 CC-1~4: Livelihood development of CBOs to include PWSN 8. Individual/institutional opportunities for long-term livelihood development to targeting PWSN or CBOs to include PWSN (DPS) 9. Providing easy access for participation, information, or benefits to PWSN through CBOs (DS offices) 10. Recovering major infrastructures to develop industries for employment generation		

 Pilot Project or activities handled by PDP-Jaffna

 Project

 Critical Action