



# NARMA Consultancy Pvt Ltd



## Survey Report



## Basic Study on Support for Underprivileged Farmers Implementation Design and Structure



**February 2007**

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# Basic Study on Support for Underprivileged Farmers Implementation Design and Structure

## Introduction

JICA Nepal commissioned NARMA Consultancy Pvt Ltd to conduct Basic study on Support for Underprivileged Farmers Implementation Design and Structure” with a view to assess contribution of KR II scheme on food production and hence eventually on poverty reduction. The specific objectives of the study are:

- Collect the basic information related to food security in Nepal.
- Collect information on institutional system and issues of ongoing projects assisted by development partners related to food security in different regions.
- Collect village or/and community level information on poverty reduction and food security in two districts (one each from mid hills and Terai areas).
- Assess the situation of fertilizer distribution in the remote areas of Nepal.

The study combined both the qualitative and quantitative methods of data collection. The set of questionnaire given by the JICA Nepal was used for collecting information and data. The study has made full use of primary and secondary source of information and has consulted with relevant actors and stakeholders at the centre, district and field.

The study was conducted two districts, representing one high hill (Sindhupalchowk) and one Terai (Chitwan) district of Nepal. Two Villages from each district were selected for collecting village or/and community level information on poverty reduction and food security. Fifteen household (HHs) from each village (5 each from rich, medium and poor households) were surveyed by using the set of questionnaire provided by the JICA

Name of district	Village surveyed	Characteristics
Sindhupalchok	<ul style="list-style-type: none"><li>• Dumphaker</li><li>• Mankha</li></ul>	Village within poor area of the hill region
Chitwan	<ul style="list-style-type: none"><li>• Patihani</li><li>• Meghuli</li></ul>	Village in Terai region (with the Rice-wheat system)

With this introductory section, survey report is organized into five chapters as presented below.

- **Chapter 1-Basic Survey:** presents basic information related to poverty alleviation and food security.
- **Chapter 2-Project Survey :** presents information on institutional system and issues of ongoing projects assisted by development partners related to food security in different regions
- **Chapter 3-Fertilizer Distribution System :** assess the situation of fertilizer distribution in the studied districts
- **Chapter 4-Village Survey:** Presents village or communal level information on current situation, issues, and measures of underprivileged farmers concerning poverty alleviation and food security within 2 villages with differing environment and farming system.
- **Chapter 5-Houshold Survey :** Presents household level information on current situation, issues, and measures of underprivileged farmers concerning poverty alleviation and food security within different economic group (rich class, medium class and poor class)

# Chapter 1: Basic Survey

**Objective:**

To collect basic information related to poverty alleviation and food security.

**Method :**

Conduct an interview with related government stakeholders (such as the Ministry of Food and Agriculture) concerning poverty alleviation and food security, including complementally literature survey

## Definition of poverty

**Definition of National Poverty :** Despite poverty can be defined in a number of ways; it generally uses the cost-of basic-needs (CBN) approach and the direct calorie intake method. Of the two methods, the most common is the CBN approach in which a poverty line is established that represents the level of per capita expenditure required to meet basic needs. In the case of Nepal the poverty line is Rs. 7,696 per person per year (average 2003 Nepalese Rupees). The direct calorie intake method provides an alternative measurement of poverty and is based on the number of people that consume less than an estimated minimum calorie requirement. For Nepal, this requirement is 2144 kilocalories per person per day (CBS, 2005).

According to government's most recent estimate (Nepal Living Standard Survey 2003/04), 31 percent of the population, around eight million people – live below the national poverty line.

## Regional poverty alleviation policy

**Reason for the western hilly region to have high poverty prevalence:** There are a number of reasons for the high poverty prevalence in western hilly regions. These include:

- (a) In general , agricultural productivity is low, due to factors such as low rainfall and poor soil quality
- (b) Daily agricultural wage rate is low in western region compared to the eastern region
- (c) A large majority of young men undertake seasonal or temporary migration to India for poorly paid labour works (Male migration to other parts of the country or to India for off-farm income is very common )
- (d) Farmers with small and marginal landholdings constitute the majority of farmers in the western hilly regions.
- (e) Landslides and floods are more common in the western hilly regions than in other regions.

### **Policy for poverty alleviation and food security in the western hilly region:**

Nepal has no specific policy for poverty alleviation and food security specifically formulated taking into account western hilly regions. However, the overall policy for poverty alleviation and food security are provided by the two major plan documents (a) Tenth Plan (2002-07). This is also widely known as the Poverty Reduction Strategy Paper (PRSP) and the other is the Agriculture Perspective Plan (1995-2015). On the top of these two policies the government has promulgated the National Agriculture Policy 2004. The brief descriptions of these three policies are presented below:

#### **(a) 10<sup>th</sup> Plan /PRSP (2002-07). Strategy Paper (PRSP/Tenth Plan) with four pillars as follows:**

The Tenth Plan has formulated a 'four pillar' poverty reduction strategy for attacking poverty, namely, broad based economic growth, social sector development, targeted programs for the backward and vulnerable groups and safety nets, and good governance. All four pillars are essential for improving the lives of the poor, and for mainstreaming the very poor deprived groups, and thus for promoting an inclusive development. In implementing the four-pillar strategy, the Plan has also stressed strategic cross-cutting approaches with regard to: (a) redefining the role of the State, and limiting public interventions; (b) enlisting the private sector to play a leading role in employment and income generation and together with NGOs, INGOs and CBOs, in complementing government efforts in service delivery functions in key areas, as well as in implementing key activities; (c) promoting community participation in and

management of activities at the local levels; and (d) accelerating the decentralization process, which is a key element of good governance (NPC 2003).

**(b) Agriculture Perspective Plan :**

The APP document has clearly stated "The effect of the APP on Rural Poverty will be dramatic. At the end of the APP, there will be 60 percent fewer people in poverty than at the beginning (1995) , and the rural population falling under the poverty line will decline by 70 percent, from 49 percent to 14 percent" (APPROSC/JMA 1995).

To achieve the twin objectives of ensuring food security and reducing poverty in Nepal, the Agriculture Perspective Plan (APP) has clearly stated that it would take necessary measures and carry out the essential activities accordingly on a number of fronts as n noted below:

- (a) increasing income of poor and small farmers through employment creation from agricultural growth and intensification of small farms with high-value crops,
- (b) removing greatest barriers to the poor's participation in the growth process – geographical exclusion that arises from poor physical infrastructure,
- (c) including women in the growth process,
- (d) empowering the poor and needy people by helping them organize themselves into groups that can press for action, and
- (e) implementing supplementary activities for food security – like short-term food aid, distribution of food aid through NGOs, and maintaining food stocks.

**Policy for poverty alleviation focusing on woman in agriculture in western hilly region:** As stated earlier, government has no specific policy for poverty alleviation focusing on women in western hilly region. The same tenth plan/PRSP and APP provide general policy framework applicable for the whole country. The purpose of including targeted programs for the backward and vulnerable groups and safety nets is to empower the women by helping them to organize themselves into groups that can press for action and include women in the growth processes.

The NAP aims to raise women's involvement and participation to 50 percent in the implementation of all agricultural programmes where it is possible. With respect to women's training, it suggested, as far as possible, to conduct mobile training programmes to take training programmes closer to villages and households. Likewise, the policy intended to ensure the timely flow of information and data relating to the involvement of women in the programmes

**National Agriculture Policy 2004 (NAP):** The overall objective of NAP is to contribute to food security and poverty alleviation by achieving high and sustainable economic growth through commercial and competitive agricultural system. Specific objectives of this policy are to:

- (a) increase agricultural production and productivity
- (b) make competitive with the regional and international markets by developing bases of the commercial and competitive agricultural systems
- (c) conserve, promote and utilize natural resources, the environment and bio-diversities properly.

**Measures to increase self-sufficiency of rice, maize, and wheat in Terai region (with Rice-wheat farming system):**

For increasing self sufficiency of rice, maize, and whet in Terai region, the government has undertaken the following measures:

- (a) Promotion and expansion of shallow tube well irrigation systems. With Asian Development Bank loan assistance the government implemented Community Ground Water Irrigation Systems Irrigation Project in selected Terai districts of Nepal.

- (b) Promotion of the conjunctive use of groundwater and surface water irrigation systems along with the initiation of new and non-conventional irrigation systems such as rain water harvesting, pond, sprinkler, drip, paddle pump and other irrigation systems.
- (c) Discouraging to use fertile agricultural land for non-agricultural purposes
- (d) Development and expansion of irrigation facilities, agricultural roads, rural electrification and appropriate agricultural technologies. Implementation of the pocket package strategy in the agricultural service delivery.
- (e) Deregulation of the fertilizer trade to allow the participation of the private sector in the import and distribution of fertilizer on equal footing and termination of subsidies on the fertilizer in order that the availability of fertilizer could be improved with no subsidy constraints and to enable market forces to play the key role in availing the supplies at reasonable prices.

**Policy for poverty alleviation and food security in Mountain and hill region (with Sparse Mountain farming system):**

- (a) Special priority given to the development of pockets of high-value agricultural products in feasible areas adjoining the north-south highways and feeder roads. Specifically, production of low weight and high value commodities are given priority in remote areas.
- (b) Increased investments and support to the rehabilitation, operation and maintenance of the farmers' managed small irrigation systems in the hills and mountains;
- (c) Creation of employment in the hills and mountains through the implementation of projects like Karnali Special Development Project, Rural Access Programme,
- (d) Improvement of road access and transport facilities in the hills and mountains

**Issues and measures in government policy related to poverty alleviation and food security**

***Issues in government policy related to poverty alleviation and food security:***

- (a) Identification of special target groups (poorest of the poor, disadvantaged and deprived groups) who need special support and focused interventions
- (b) Nature, type and quantity of support/subsidies/grant to be provided to the poor, deprived and disadvantaged groups who have been largely excluded from the mainstream of development processes and interventions due to (a) traditional exclusion and (b) flaws in service delivery mechanisms and processes;
- (c) Planning and implementing demand driven programme to improve access to income generation and community infrastructure for the groups that have been excluded by reasons of gender, ethnicity and caste as well as for the poorest groups in rural communities through their own organizations
- (d) Making domestic agricultural products competitive and quality when the neighbouring countries, particularly India has not only scale advantage but also subsidizing farmers substantially through various measures such as subsidies in fertilizers, export, irrigation (shallow tube wells)
- (e) Enhancing employment opportunities within the country in order that the poor youths would not necessarily be pressed to seek poorly paid labour works in neighboring districts of India;
- (f) Searching appropriate methods and intervention to facilitate the transition of subsistence agriculture to semi-commercial agriculture, and semi-commercial to commercial agriculture.
- (g) Ensuring Credibility of the government policies, plans and programmes among different stakeholders
- (h) Enhancing transparency, accountability and predictability in the service delivery system.
- (i) Developing partnership modality between local government bodies (DDC), government line agencies, NGOs and other civil organizations.



***Policy measures against poverty alleviation and food security:***

The government has undertaken the following policy measures against poverty alleviation and food security:

- (a) Efforts towards the creation of an enabling environment for increased private sector involvement in the country's economy which included reforms in industrial policy & relevant legislation, adoption of transparent procedures for granting permission to set up industrial units, adoption of liberal sectoral policies in consonance with overall economic policy and establishment of institutions supportive to the private initiatives. Easier entry policy for private sector in banking & other financial sector not only increased the number of these institutions & the financing base in the country, but also contributed to easy access to finance, innovating new instruments, and improving quality services through increased competition & professionalism. Enhancing private sector's role as the main actor in the process of liberalization to inject more capital, acquire new and modern technology, and generate additional resources for development and alleviate poverty
- (b) Promotion of dialogues between government and the private sector while formulating the macroeconomic and sectoral policies.
- (c) Strengthening decentralized service delivery and devolution of agricultural extension services to the locally elected bodies, that is District Development Committees.
- (d) Redefining government's role and subsequently reviewing policies.
- (e) Emphasis on environment conservation and development
- (f) Formulation of several sub-sectoral policies and strategies which, among other, include Nepal Agricultural Extension Strategy 2006, Agriculture Business Promotion Policy 2006, Irrigation Policy 2003,
- (g) Promote national and foreign private investment in the irrigation development guided by Public Infrastructure Build, Operation and Transfer Policy, (BOT) 2057 (2000 A.D.) and other prevailing law of Government of Nepal (the then His Majesty's Government).
- (h) Promote the civil society organizations and NGOs sector in the delivery of the services, particularly rural and agricultural service delivery to the poor and deprived people and in remote areas;
- (i) Commitment to wards the achievement of the Millennium Development Goals and several activities initiated to make stakeholders and target groups aware about the MDG goals. The goal number 1 under the MDG is about poverty reduction and food security.
- (j) Implement special programme like Poverty Alleviation Fund (PAF).. The purpose of which is to implement targeted demand-driven community based programmes, directly supporting the third pillar of the Tenth Plan/PRSP of the Government of Nepal (GON) , i.e. targeted programme.

## References

### Officials interviewed:

- Mr Asheshwar Jha, Joint Secretary, Ministry of Agriculture and Cooperatives
- Mr. Bhairav Raj Kaini, Joint Secretary, Monitoring and Evaluation Division, Ministry of Agriculture and Cooperatives
- Mr Shrawan K. Adhikary, Agricultural Economist, Ministry of Agriculture and Cooperatives

### Key Literature Reviewed:

- 10<sup>th</sup> Plan/PRSP (2002-07), National Planning Commission
- Agriculture Perspective Plan (1995-2015)
- Nepal Resilience Amidst Conflict: An Assessment of Poverty in Nepal, 1995-96 and 2003-04, World Bank. DFID, ADB
- National Agricultural Policy 2004, Ministry of Agriculture and Cooperatives
- Nepal Agricultural Extension Strategy, 2006
- Irrigation Policy 2003
- APP Implementation Action Plan 2006 (Draft).
- Private Sector Development Policy, Government of Nepal 2002
- Enhancing decentralized governance and poverty alleviation initiatives
- Policy paper on decentralization
- Agriculture Sector Performance Review Report, 2002
- Small Area Estimation of Poverty, Calorie Intake and Malnutrition in Nepal

# Chapter 2: Project Survey

Project sheet Continued

**Objective:**

To collect information on institutional system and issues of ongoing projects conducted by international, bilateral donor agency, and NGO with the objective to accomplish self sufficiency of underprivileged farmers, concerning poverty alleviation and food security, implemented in regions including the target region identified in following Survey 3

**Method:**

Conduct an interview with the stakeholders of the project implemented, including complementally literature survey, for three projects. An interview with the beneficiaries of a target community or villages is preferred. However, concerning time constraints, it is possible to conduct an interview only with the ministry personnel related to the project implemented.

## 1. Name of the project: Community Livestock Development Project (CLDP)

### Basic information

**Objective of the project:** The overall objective of the project is to reduce the incidence of poverty in rural communities in the project areas. Specific objectives are to :

1. To improve the levels of food security, nutrition, incomes and employment for 164,000 families through increased productivity of the livestock subsector in an environmentally sustainable and socially equitable manner.
2. To enhance the capacity of the people to manage an ongoing process of development themselves

**Donor institution:** Asian development Bank (ADB)

**Implementing body:** (a) Department of Livestock Services (DLS) for non-credit livestock development activities and (b) Rural Microfinance Development Center (RMDC) which is in-charge of the microfinance.

**Estimated total budget::** 33 Million US\$ (Government budget: \_\_5.0 Million US\$), of which US\$ 20 million will be financed by the ADB as soft loan.

### Summary of project site/region

**Name of the site/region:** Implemented in 48 districts as follows:

**(a) Intensive livestock production support** in 22 Districts (Lamjung, Tanahu, Nawalparasi, Palpa, Banke, Bardia, Surkhet, Pyuthan, Rolpa, Salyan, Rukum, Dailekh, Jajarkot Kailali, Kanchanpur, Dandeldhura, Doti, Baitadi, Achham);

**(b) Processing, marketing and commercialization support** in another 21 districts (Jhapa, Morang, Sunsari, Saptari, Siraha, Dhanusha, Mahottari, Sarlahi, Rautahat, Bara, Makwanpur, Parsa, Chitwan, Kathmandu, Lalitpur, Nuwakot, Kavre, Kaski, Rupandehi, Kapilvastu and Dang),

**(c) Livelihoods pilot programme** in 5 districts (Darchula, Jumla, Mugu, Humla and Bajhang

**Target population:** \_\_Production pocket areas- 69,000 households Project marketing and processing interventions: 95,000 households

**Administrative division:** Project implemented in all 5 development region, but 48 out of 75 districts

**Poverty and food security situation of the target site/region:** Poverty in majority of the project districts is higher than the national average of 31% and is significantly higher among disadvantaged ethnic groups comprising Magar, Limbu, Tamang,, and Dalits comprising Damai and Kami, and Tharu. The incidence of poverty is associated with low per capita income and lack of services to increase economic productivity and social services such as education and health. . The project estimated that about 49% (0.6 million) households in the project area live below the poverty line.

Table below shows the poverty situation of the target districts and compares with the national average. Poverty level in the CLDP district ranges from 36.8% in Baitadi to the highest 51.6 % in Achham and Dailekh districts

**Table : Incidence of poverty Level in 22 Intensive livestock production support districts**

National Poverty Incidence Average: 30.8 percent  
 National Caloric Intake Prevalence: 39.8 percent

SN	Name of District	In percent	
		Poverty Incidence	Caloric Intake Prevalence
1	Tanahun	34.6	36.2
2	Lamjung	31.5	39.4
3	Baglung	40.2	35.6
4	Gulmi	42.5	31.1
5	Argakhanchi	44.1	35.7
6	Palpa	42.9	38.3
7	Nawalparasi	36.3	38.7
8	Banke	41.2	46.1
9	Bardia	44.9	42.4
10	Surkhet	47	43.1
11	Pyuthan	51.5	36.7
12	Salyan	45.5	43.7
13	Dailekh	51.6	48.9
14	Rolpa	58.7	49.5
15	Rukum	49.1	50.2
16	Jajarkot	44.1	46.6
17	Kailali	50.4	42.3
18	Kanchanpur	42.4	45.3
19	Dadeldhura	40.3	44.4
20	Doti	46.4	44.9
21	Baitadi	36.8	47.3
22	Accham	51.6	42.3

(Note: Shaded figures means that the district average is higher incidence than the national average.)

**Donor body: Specialists** ( Number of specialist: 117 person month international consultants and 812 person months domestic consultants- Total number 17 (International-3, Domestic 14 ) Technical assistance is provided by a team of technical assistance (TA team) managed by the Food and Agriculture Organization of the United Nations but financed by the donor, the Asian Development Bank. The team comprises international expatriate and domestic consultants. The team is led by the international expatriate and assisted by the domestic deputy team leader.

Role: Technical assistance, supervision, monitoring and quality control, disbursement of fund)

**Central Counter Part agency** ( Name of the Ministry: **Ministry of Agriculture and Cooperatives**)

**Role:** Facilitation, support, chair project steering committee, donor coordination, supervision, monitoring and quality control

**Beneficial Counter Part agency** (Name of the Ministry: Ministry of Agriculture and Cooperatives/Department of Livestock Services)

**Number of personnel:** Not identified

**Role:** Establish project management unit, responsible for overall project management and implementation of all noncredit activities which include community development and

capacity building, livestock productivity improvement, livestock processing and marketing and implementing livelihoods pilot program for higher altitudes., and chair the implementation coordination committee (ICC) established at the Department level to guide the Project Management Unit on a more regular basis.

**Implementing body:** Project Management Unit

Specialists ( Headquarters: 4 persons (Project Manager, Deputy Project Manager, 2 Planning Officers) Field: Not applicable )

**Role:** Implement project on behalf of the executing agency, the Department of Livestock Services. Specifically, it will (a) prepare annual work plans and the relevant project reports in consultation with other service providers, (b) supervise all project activities and the performance of the implementing agencies and service providers; and (c) monitor and evaluate project activities)

**Target region (village):** District Livestock Service Offices, non-government organizations Organization related to the project: ( Project Steering committee chaired by the Secretary of the Ministry of Agriculture and Cooperatives, Programme Directorates of the Department of Livestock Services, Rural Microfinance Development Centre (RMDC), Livestock Action Team (LAT)).

### Implementation scheme

**Project selection method:** The project was selected to give continuity to the best practices of the predecessor project- the Third Livestock Development Project which was also financed by the ADB. Between 1980 and 2003 ADB supported three livestock development projects with loans totaling \$37 million. Despite these projects covered 24 of the 75 districts, many poor families were not captured by this development assistance. This led the ADB to support the present CLDP with new focus and concerns.. The lessons learned in the most recent, the Third Livestock Development Project (1997-2003) and earlier two projects provided a basis for the development and improvement in the livestock sector. The project was further selected with the joint realization of the government and ADB with greater emphasis on social mobilization and gender equality, and involvement of the private sector, CBOs, NGOs and entrepreneurs.

#### **Methods of project implementation:**

The District Livestock Offices and district based NGOs undertake district activities involving community awareness building, social mobilization, gender awareness, group formation, livestock productivity improvement, farmer training, community-based livestock development assistance, and monitoring and evaluation.

### Good practice and issues of project implementation

Good practice in project implementation:

- Forage based production in communal land and integration with dairy. This has resulted into decrease in cost of production of milk and utilization of communal/degraded land
- Partnership with NGO/CBOs for social mobilization, and technical support by the DLS
- Access to credit ensured through RMDC

#### **Issues in project implementation:**

Project is new. No major issues has emerged to date except it was delayed to become loan effectiveness by 18 months.

**Concrete measures to improve project implementation:**

Government should own the project, appoint the project officials timely and strengthen the monitoring and evaluation systems and processes.

**Others (Others to be specifically mentioned or requires attention)**

Government, particularly the executing agency should be very much particular while accepting the loan covenants. The loan covenants were so difficult that it could not become effective 18 months. All activities were delayed. TA consultants could not be hired.

## Project number 2: CROP DIVERSIFICATION PROJECT (CDP)

### Basic information

**Objective of the project:** The overall objective of the project is to reduce rural poverty through increased cash income of farm households, by cultivating secondary crops (maize, pulses, oilseeds, fruits, vegetables, etc). **Specific objectives are to:**

- Increase farmer's income through the promotion of production and marketing of agricultural crops with a particular focus on secondary crops in potential pocket areas on a farmer group approach in agricultural extension.
- Enhance the active participation of the private sector as well as of the active involvement of women farmers

**Donor institution:** Asian development Bank (ADB)

**Implementing body:** Department of Agriculture (DOA)

**Estimated total budget:** 14.04 Million US\$

### Summary of project site/region

12 Districts (Dang, Banke, Bardiya, Surkhet, Dailekh, Achham, Doti, Kailali, Kanchanpur, Dadeldhura, Baitadi, Darchula)

**Target population:** Production pocket areas- 45,300 farm households, or 12 percent population in 12 districts

**Administrative division:** Project implemented in 12 districts of mid and far western all 5 development regions.

**Poverty and food security situation of the target site/region:** Poverty in majority of the project districts is higher than the national average of 31%. The hilly districts in the mid-western and far-western regions are dominated by the Chettri, Brahmin and Thakuri castes and to a lesser extent by the Gurung, Magar, Sherpa and Newar ethnic groups. However, the incidence of poverty is highest among the occupational caste groups- Kami, Damai, and Sarki who are found in both hilly and lowland regions. Nearly 60 percent of these caste groups are very poor. Furthermore, farmers with small and marginal landholdings constitute the majority of farmers in the project area. Landholdings are highly fragmented and about 40 percent of agricultural households have landholdings of less than 0.5 ha. Majority of the poor households supplement their income through local seasonal labour or temporary migration to India for unskilled labour works.

Table below shows the poverty situation of the target districts and compares with the national average. Poverty level in the CDP district ranges from 36.8% in Baitadi to the highest 51.6 % in Achham and Dailekh districts

**Table: Incidence of poverty Level in the CDP Districts**

National Poverty Incidence Average: 30.8 percent

National Caloric Intake Prevalence: 39.8 percent

SN	Name of District	Poverty Incidence (In percent)	Caloric Intake Prevalence (In percent)
1	Dang	42.9	36.1
2	Banke	41.2	46.1
3	Bardiya	44.9	42.4



SN	Name of District	Poverty Incidence (In percent)	Caloric Intake Prevalence (In percent)
4	Surkhet	47.0	43.1
5	Dailekh	51.6	48.9
6	Achham	51.6	42.3
7	Doti	46.4	44.9
8	Kailali	50.4	42.3
9	Kanchanpur	42.4	45.3
10	Dedeldhura	40.3	44.4
11	Baitadi	36.8	47.3
12	Darchula	37.7	49

(Note: Shaded figures means that the district average is higher incidence than the national average.

### Institutional organization

**Donor body: Specialists** ( Number of specialist: Present 3 (Agricultural Marketing, Social Mobilisation and Monitoring Specialist. In the beginning, technical assistance was provided by a team of technical assistance (TA team) comprising of international and domestic team (100.72 Person months, 3 international experts and 5 domestic consultants). . However, since the last two years, a domestic team comprising of Monitoring and Evaluation Specialist and Marketing Specialist is providing technical support.

**Role:** Technical assistance, supervision, monitoring and quality control, disbursement of fund, send review missions periodically, avail associated technical and financial grant assistance through Japanese Fund for Poverty Reduction for implementing project entitled "Supporting Poor and Disadvantaged Farmers through Civil Society Organizations in conjunction with CDP in five project districts namely Dang, Banke, Bardiya, Kailali and Kanchanpur.

**Central Counter Part agency** ( Name of the Ministry: **Ministry of Agriculture and Cooperatives**)

**Role:** Facilitation, support, chair project steering committee, donor coordination, supervision, monitoring and quality control

**Beneficial Counter Part agency** (Name of the Ministry: Ministry of Agriculture and Cooperatives/Department of Agriculture)

**Number of personnel:** Not identified

**Role:** Establish project coordination unit, responsible for overall project management and implementation which include community development and capacity building and supervise the project on a regular basis,

**Implementing body:** Project Coordination Unit

Specialists ( Headquarters: 5 (Project Coordinator, Account Officer, Agri engineer, Budget and Planning Officer, and Monitoring and Evaluation Officer Field: 6 (3 Officers in each of the two field offices

**Role :** Implement project on behalf of the executing agency, the Department of Agriculture. Specifically, it will (a) prepare annual work plans and the relevant project reports in consultation with other service providers (b) supervise all project activities and the performance of the implementing agencies and service providers; and (c)

monitor and evaluate project activities)

**Target region (village):** District Agriculture Development Offices (DADOs),

**Organization related to the project:** ( Project Steering committee chaired by the Secretary of the Ministry of Agriculture and Cooperatives, Programme Directorates of the Department of Agriculture, District Agriculture Development Committee

### **Implementation scheme**

**Project selection method:** The project was selected to give continuity to the best practices of the predecessor project- the Secondary Agriculture Development Project which was also implemented with the technical and financial support of the Asian Development Bank.

**Methods of project implementation:** The District Agriculture Development Offices and NGOs undertake district activities involving community awareness building, social mobilization, gender awareness, group formation, farmer training, and monitoring and evaluation.

### **Good practice and issues of project implementation**

#### **Good practice in project implementation:**

- (a) Action research to assess the effectiveness of the service delivery modalities (a implementation only by DADO, partnership with the NGOs for social mobilization and total contract out to the private agency/NGO including social mobilization concept)
- (b) Incorporation of strong social mobilization component
- (c) Use of local team comprising one man and one woman, for social mobilization in the VDCs
- (d) Pocket area development based on comparative advantage, local people's needs and demands and linkage with the markets

#### **Issues in project implementation:**

- (a) Provision of undertaking research through the National Agriculture Research and Development Fund (NARDF). Despite the project spent more than NRs 30 million (Approx. US\$ 4,25,000, the project could not benefit from the findings of researches financed by it because of a long procedure used by NARDF to select the research projects.
- (b) Excessively high operation fund available to the district during the project period. It will be extremely difficult for the districts now to work with the government budget after the termination of the project, that is from this year.
- (c) The relationship between the implementing agency (DOA) and parties undertaking the contract (Private Sector) for service delivery under outsourcing model of service delivery
- (d) Technical knowledge and maturity (age) of the social mobilisers

#### **Concrete measures to improve project implementation**

- (a) Maintain a balance between the operation fund and the programme budget. Operation fund should be provided to the districts in such a way that they would not experience a great set back after the termination of the project support;
- (b) Strengthen monitoring and evaluation activities from the beginning and it should be highly professional and participatory.
- (c) Social mobilization should receive a high priority and combined with technical support. However, right persons should be selected as the social mobiliser and that their maturity and that they should have at least some technical knowledge. Social

mobilisers should not only be skilled in social mobilization skills but also they should have some technical knowledge should that they could respond to some very basic technical problems of the farmers. .

**Others**

Others to be specifically mentioned or requires attention:

- (a) NARDF should simplify the research proposal approval procedures in order that the project could use the findings of the researches carried out.

## Project number 3: Agriculture Perspective Plan Support Project (APPSP)

### Basic information

**Objective of the project:** The super goal of the programme is *improved livelihoods for rural poor*. The goal is *agricultural growth that benefits poor producers and consumers*. The purpose is to *deliver appropriate agricultural support services to the rural poor through improved policy and institutional arrangements*. Specifically the programme envisaged to assist the MOAC in implementation of its commitments to:

- Include those excluded to date – the poorer, smaller farmers with rain-fed agriculture and in remote areas, women and low caste/ethnic groups
- Formulate medium term implementation plans
- Contract out extension services
- Shift the government role from implementation to enabling and facilitation
- Integrate a stronger poverty focus into the implementation of the APP
- Develop stronger output-orientated M&E systems.

**Donor institution:** UK Department for International Development (DFID)

**Implementing body:** Ministry of Agriculture and Cooperatives (MOAC)

**Estimated total budget::** 9.87 Million UK Sterling Pound

### Summary of project site/region

**Target population:** \_\_ Okhaldhunga, Udaypur, Siraha, Sindhuli, Ramechhap, Rautahat, Arghakhanchi, Kapilavastu, Humla, Mugu, Pyuthan, Rolpa, Rukum, Salyan, Jajarkot, Bajura, Bajhang, Achham, Doti and Baitadi.

**Administrative division:** Programme implemented in selected districts of all five development regions of the country.

#### **Poverty and food security situation of the target site/region:**

Poverty is rampant in project districts. Table below shows the poverty situation of the target districts and compares with the national average. Poverty level in the APPSP district ranges from 29% in Siraha (just near to the national average) to the highest 58.7% in Rolpa district.

**Table : Poverty Situation in the APPSP districts**

National Poverty Incidence (Average): 30.8%

National Caloric Intake Prevalence 39.8 percent

SN	Name of District	Poverty Incidence (In percent)	Caloric Intake Prevalence (In percent)
1	Okhaldhunga	42.7	34.6
2	Udaypur	50.8	46.4
3	Siraha	29	30
4	Sindhuli	60.3	54.6
5	Ramachhap	48	41
6	Rautahat	30.2	37
7	Arghakhanchi	44.1	35.7
8	Kapilvastu	40.1	42.8
9	Humla	41.5	59.3
10	Mugu	51	64.8

SN	Name of District	Poverty Incidence (In percent)	Caloric Intake Prevalence (In percent)
11	Pyuthan	51.5	36.7
12	Rolpa	58.7	49.5
13	Rukum	49.1	50.2
14	Salayan	45.5	43.7
15	Jajarkot	44.1	46.6
16	Bajura	48.2	49.6
17	Bajhang	47.3	48.6
18	Achham	51.6	42.3
19	Doti	46.4	44.9
20	Baitadi	36.8	47.3

(Note: Shaded figures means that the district average is higher incidence than the national average.

### Institutional organization

**Donor body: Specialists** ( Number of specialists: 5 (1- Expatriate Expert-Programme Advisor and 4 National Consultants)

**Role:** The Programme Adviser, on behalf of DFID, provide strategic advice to APP partners, with particular emphasis on the institutional and policy changes to strengthen and sustain pro-poor rural services. S/he supports the Programme Manager and the team in the overall management and implementation of the programme. Programme Advisor and Programme Manager who s appointed by the MOAC (the government staff) are expected to work as a team and take joint decisions and actions on all key aspects of the Programme within the framework of Government of Nepal rules and regulations and the donor, the DFID.

**Central Counter Part agency** ( Name of the Ministry: **Ministry of Agriculture and Cooperatives**).

The primary management responsibility is placed with the GON appointed Programme Manager (PM) who is supported by a full time internationally recruited Programme Adviser, appointed by DFID. Together they form the management team for the programme. On behalf of the Secretary MOAC, the PM is responsible for the progress and achievements of the programme as part of the Ministries responsibilities in the sphere of the Immediate Action Plan (IAP) monitored by the National Planning Committee (NPC).

**Implementing body:** Central Support Unit Specialists ( Headquarters: GON:3, Donor: 5 persons Field: persons )

**Role:** The roles and responsibilities of the CSU are to:

- Facilitate and support MOAC to review and reform agricultural policies to benefit the poor, excluded groups, women, Dalit and ethnic minorities,
- Facilitate the strengthening of coordination among APP partners to enhance the quality of implementation of APP activities.
- Provide technical support to MOAC in reviewing and rearranging the service delivery institutions through coordination and communication to deliver agricultural extension services efficiently and effectively.
- Facilitate to establish participatory performance and impact monitoring system both at central and district level,
- Assist MOAC to design and establish innovative service delivery systems.

**Target region (village):** District Agriculture Development Offices (DADOs) and

District Livestock Service Offices

**Organization related to the project:** Project Steering committee chaired by the Secretary of the Ministry of Agriculture and Cooperatives, Ministry of Local Development, District Development Committees, District based Non-government Organizations, District Support Units.)

### Implementation scheme

**Project selection method:** 20 districts selected based on remoteness and degree of conflict impact, Degree of deprivation: Resources (rich-poor districts), Human development indices (including women's empowerment), MLD district classification and Women's empowerment)-

#### **Methods of project implementation:**

**District:** The programme in the districts are carried out by the service providers, including Govt and Non-Govt, within the framework of the local government structures (DDC, VDC, CBOs) and in various forms of collaboration and in partnerships with the district level Line Agencies. To facilitate the implementation of APPSP related programmes and activities, a District Support Unit is established, consisting of a government officer, employee of DADO or DLDO, to work in the capacity of the District Programme Coordinator (DPC), an APPSP/DFID appointed District Programme Adviser (DPA) and a Programme Assistant.

For strengthening district-level capacity to deliver agricultural services to maximise potential for equitable agriculture-based livelihood opportunities, the programme has established and operated the District Agricultural Development Fund (DADF) in 20 districts supported by the programme. . The purpose of the fund is to provide the necessary financial support for the objective of improving the agricultural service delivery situation and to create an environment in which the risk aspect of experimenting with alternative systems and alternative providers will be reduced.

The DADF consist of two sub-funds, namely the District Extension Fund (DEF), meant to finance service providers, and the Local Initiative Fund (LIF), meant to support certain initiatives taken by farmer's groups.

**Regional:** The Regional Liaison and Support Officers are appointed to conduct participatory joint monitoring of the programmes implemented in the districts and to provide feedback to CSU. They provide technical backstopping to District Programme Coordinators (DPC), District Programme Advisers (DPA), DDC and District Agriculture Development Committee to enhance the implementation of the APPSP activities and programme in district. The RLSOs monitor the process of bringing changes in the existing centrally guided service delivery mechanisms, introducing need-based participatory monitoring and enhancing the possibilities of the poor, marginalized, women, low caste and ethnic group farmers to access extension services provided by GON and others.

**Central:** The Ministry of Agriculture and Cooperatives (MOAC) is the lead agency, responsible for the implementation of the programme. Other Ministries involved in the implementation, are Ministry of Forest and Soil Conservation, Ministry of Local Development and Ministry of Water Resources. Being a support programme for coordination and implementation of APP, the APPSP is vested in the Monitoring and Evaluation (M&E) Division of MOAC and works closely with its APP Monitoring and Analytical Unit (APP-MAU). In line with the multi-sectoral nature of APP, APPSP is governed by the collective implementers of APP through the Central Agricultural

Development Implementation Committee (CADIC), which is chaired by the Secretary, MOAC, and includes members from the other key APP implementing institutions.

### **Good practice and issues of project implementation**

#### **Good practice in project implementation:**

- (a) Making the district development committee responsible for the implementation of the programme activities at the district level along with the provision of the beneficiary monitoring committee at the field level to ensure the participation of the beneficiaries from the project conception, design to implementation, monitoring and evaluation
- (b) Incorporation of the concept of the public audit in the project implementation
- (c) Instead of forming new committees for the coordination and steering of the project activities, responsibilities for such activities vested to the already functioning committees at the central and district level
- (d) Focus on the monitoring and evaluation
- (e) Availability of funds (local initiative fund) to support the initiatives of the local farmers and groups on competitive basis
- (f) Focus on the poor, disadvantaged people living in the remote part of the district
- (g) Periodic undertaking of the **social and geographic audit (SAGA)** to assess the coverage and support of the project for poor and disadvantaged people and areas.

#### **Issues in project implementation:**

- (a) Beneficiary committees formed at the VDC levels prior to the project approval but the committees not made aware about their roles and responsibilities, and no tools made available to the BMC for monitoring and evaluation of the activities implemented at the VDC levels.
- (b) Despite of provision of the policy support fund for reforming on-going policies and implementation issues, the studies supported under this fund have been of little useful due to several flaws in the commissioning of the studies, selection of the appropriate studies, delays in completing the studies and later on reviewing the conclusions and recommendations of the studies

#### **Concrete measures to improve project implementation:**

- (a) Enhance the capacity of the beneficiary monitoring committees and provide them tools and methodologies for monitoring of the projects implemented through the District Extension Fund (DEF) and the Local Initiative Fund (LIF) of the District Agriculture Development Fund;
- (b) Make the results of SAGA known to the district authorities, implementing bodies and the policy makers carefully and improve the quality of SAGA. The present SAGA reports have contributed little to the achievement of the project goal and objectives.
- (c) Review the current system and processes of commissioning the policy related studies, make it very quick and create the systems whereby the findings could be used or incorporated in reforming the policies or programme implementation.

#### **Others**

Others to be specifically mentioned or requires attention

- In view of the diluting attention on the Agriculture Perspective Plan and the National Planning Commission's (NPC) present engagement to formulate an interim three year development plan (2008-2010), it would have been a good idea if this project could be a part of the NPC team.

# **Chapter 3: Fertilizer Distribution System**



### **3.1 Introduction**

A study on fertilizer distribution system was undertaken in two districts, Sindhupalchok and Chitwan districts of Nepal. Sindhupalchok district was selected to represent the situation of the mid-hills and mountain districts and Chitwan district to represent the situation of Terai district.

Prior to discussing the fertilizer distribution system in these two districts, the following section briefly highlights the fertilizer deregulation policy adopted by the government of Nepal since November 1997.

Prior to fertiliser trade deregulation in November 1997, the Agriculture Inputs Corporation (AIC) had monopoly control over fertiliser supplies. The import and distribution of fertiliser was controlled by this organization and distributed fertilisers directly through its branch and sub-branch offices, cooperatives and private dealers. With the removal of subsidies and the deregulation, the fertilisers has now become a free market commodity and all interested parties can import and distribute fertilisers through their own channels but subject to the compliance of the provisions made in the Fertiliser Control Order 1999 and the National Fertiliser Policy 2002.

The AIC has now been divided into two public sector companies namely the Agriculture Inputs Company Ltd (AICL) and the National Seeds Company Ltd. The former procures and sales fertilisers but it has no monopoly control on import and distribution of fertiliser. AICL is required to compete with the private sector on equal footing.

### **3.2 Fertiliser Distribution in Sindhupalchok, a case of hill/mountain districts.**

There is no branch/sub T branch office of AICL in Sindhupalchok district. Prior to the deregulation, AICL used to distribute the fertiliser in this district either from its Dhulekhel Office (Kavre Palanchok district) or from its Sub-branch office established in Barabish market of Sindhupalchok district.

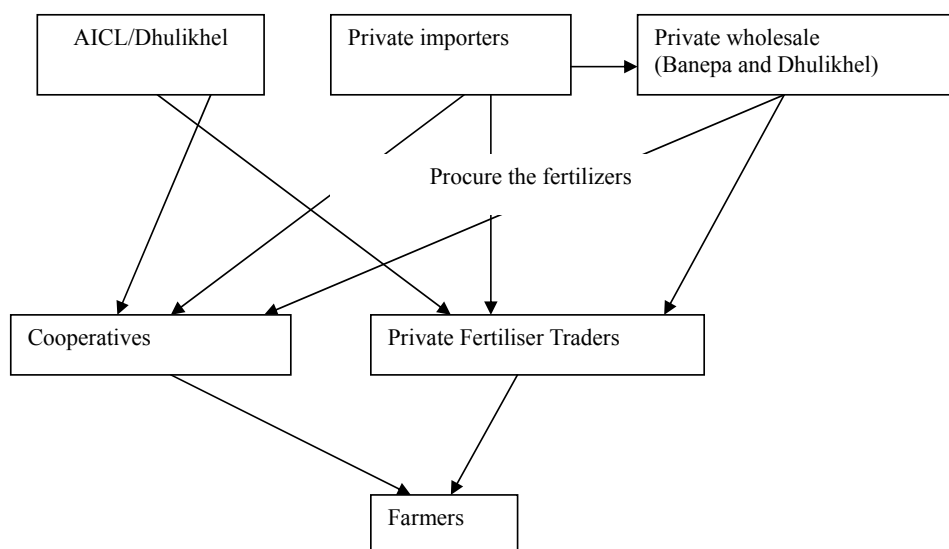
With the deregulation, the AIC closed its Barabise sub-branch office. AICL has no presence in Sindhupalchok. Private traders control the fertiliser market in this district. The private fertiliser dealers bring fertiliser in the district from the following sources:

- (a) Agricultural Inputs Company Limited, Dhulikhel Branch (Kavre Palanchok district)
- (b) Private whole sale fertiliser traders situated in Banepa Market, Kavre Palanchok district.
- (c) Private importers

As per the Fertiliser Control Order 1999 (FCO), the District Agriculture Development Office (DADO) has registered fertiliser dealers (wholesale and retail) in the district who are authorised for marketing fertiliser in the district. Fertilizer dealers (FDs), both wholesale and retail, play a pivotal role in the distribution of fertilizers throughout the district. According to District Agriculture Development Office, prior to the promulgation of the FCO, the district office has no record of traders selling fertilisers in the district. After the promulgation of the fertiliser trade, in 1999/00, 61 business holders registered with DADO to sell fertilisers in the district. In some markets such as Melamchi, 17 traders got received certificates from the DADO to distribute the fertilisers. However, many fertiliser traders have not renewed their registration with DADO because no actions are taken against those who distribute/sell fertilisers without being registered at the DADO. According to the recent office record, there are now 12 dealers registered in the district. This includes cooperatives also.

Many dealers who were selling fertilisers in the district during the study period said that in crop season (June-July for Rice, April/May for Maize and October-November for Wheat), many business holders bring fertilisers and sell in the district. Therefore, it will be very difficult for the DADO to accurately count the number of fertiliser dealers/traders in the district. However, almost all people interviewed during the field visit said that they have not experienced any shortage of fertilisers in the district after fertiliser trade deregulation.

In short, the following flow diagram shows the fertiliser distribution system in Sindhupalchok district.



Above figure shows that fertiliser traders have many options to procure and sell fertilisers in the district. The fertiliser imported in the district under 2KR Japanese Government assistance hardly arrives to this district partly because most of the dealers generally procure fertilisers from Banepa (private traders). The District Agriculture Development Office has no record of 2KR fertiliser sale in the district.

The following Table shows the distribution of fertiliser in Sindhupalchok district over the last 5 years.

Year	Urea	DAP	MOP	Total
2001/02	1613	656	127	2396
2002/03	1213	656	127	1996
2003/04	1051	467	46	1564
2004/05	1019	546	69	1634
2005/06	1475	890	-	2365

MOP- Muriate of Potash  
 Source: District Agriculture Development Office, Sindhupalchok (Annual report)

Above table shows high fluctuation of the fertiliser distribution system in the district. However, the situation might be quite different because the DADO has no record of those amount of fertilisers which are purchased by the farmers at their door steps. Many farmers and fertiliser dealers said that these days fertiliser dealers directly take fertilisers to farmers’ doorsteps

and sell in credit. The access of farmers' to fertilisers has significantly increased. However, the recent problem of the farmers with regard to the fertilisers is the imbalance use of the plant nutrients, non-availability of the Potassium fertiliser and different prices for the same brand of fertilisers. Our assessment of fertiliser distribution in the district revealed that the record available from the District Agriculture Development Office is only partial and the office has established no reliable mechanisms and systems to record the amount of fertiliser sold by business holders during main crop seasons and also those amount of fertilisers which farmers directly purchase from the retailers at their doorsteps. This suggests the need for conducting periodic fertiliser use survey by the DADO.

Finally, the following table shows the retail price of fertilisers in Chautara Bazar, headquarters of Sindhupalchok district (29 January 2007)

Name of fertiliser	Characteristics	Import type	Price, Rs./Kg	Rs per MT
Urea	Small particles, 46% N	Indian (Illicit import)	Rs. 23.00	Rs 23,000.00
Urea	Granular/Large size, 46%N	Private/Legal	Rs. 29.00	Rs. 29,000.00
DAP	-	Private/Legal	Rs. 33.00	Rs. 33,000.00
Ammonium Phosphate Sulphate	N: P, 20: 20	Private/Legal	Rs. 25.00	Rs. 25,000.00
MOP	K-60%	Indian (Illicit import)	Rs 25.00	Rs. 25,000.00
Ammonium Sulphate	N-20%	Private/Legal	Rs 20.00	Rs 20,000.00

### 3.3 Fertiliser Distribution in Chitwan, a case of Terai district.

Unlike Sindhupalchok district, there is a AICL branch office in Chitwan district. Prior to the deregulation, AICL (formerly AIC) was the sole fertiliser distributor of fertiliser in this district.

With the deregulation, both AICL and private traders have been selling the fertilisers in the district. AICL Branch Office brings the fertiliser from AICL Birgunj Warehouse. As the fertiliser is not produced in Nepal, AICL either imports the fertilisers from India or third countries.

A part of 2KR fertilisers are stored in AICL Birgunj Warehouse. Private fertiliser dealers bring fertiliser in Chitwan district from either of the following sources:

- (a) Private whole sale fertiliser traders situated in Birgunj market of Parsa district.
- (b) Private importers

Like in Sindhupalchok, in Chitwan too, the District Agriculture Development Office (DADO) has registered fertiliser who could sale fertiliser in the districts. Fertilizer dealers (FDs), both wholesale and retail, play a pivotal role in the distribution of fertilizers throughout the district and that they control the fertiliser market in the district. According to District Agriculture Development Office Chitwan, prior to the promulgation of the FCO, the district office has no record of traders selling fertilisers. FCO has authorised the DADO Chitwan to register the fertiliser traders in Chitwan. In 2002/03, 56 business holders registered at DADO to sell fertilisers in the district. The number of registered fertiliser dealers in the district has substantially increased in 2005/06, and now it has reached to 105. Table below shows the distribution of fertiliser traders in the district by VDCs. This include cooperatives also. However, discussions with the DADO and some fertiliser dealers revealed that in Chitwan

district there are five major fertiliser dealers who, in practice, have been controlling the fertiliser market:

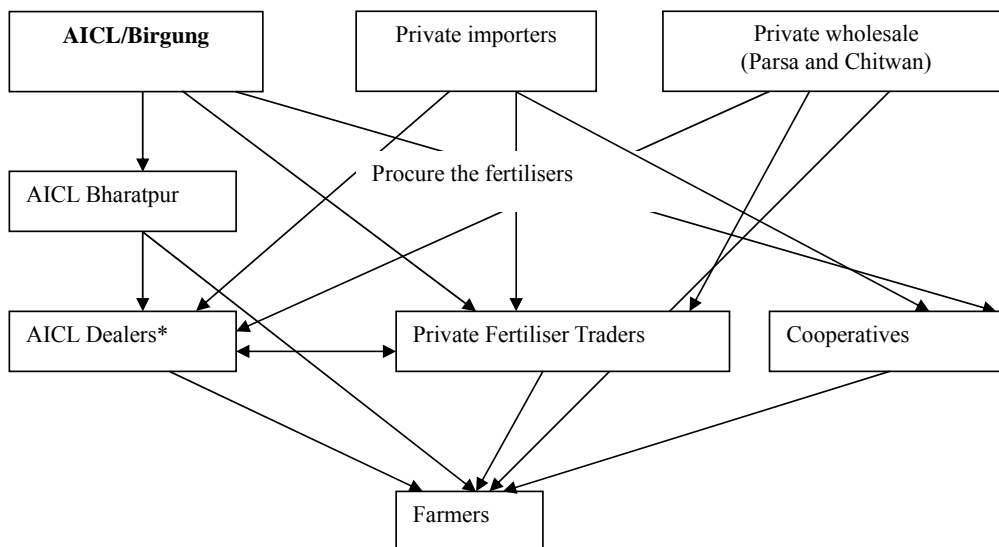
- (a) Mr Rishi Neupane
- (b) Ms. Bina Shreshtha
- (c) Mr Bharat Pathak
- (d) Mr Gopal jee Gupta and
- (e) Mr Raja Ram Regmi

During the discussions, fertiliser dealers said that now they are in the process to register Association of Agro-vet and Fertiliser Dealers. They have already drafted the constitution and an adhoc committee has been formed to register the association. This suggests the increasing use of chemical fertiliser in the district and an awareness on the importance of unity among themselves for solving common issues and problems. This association could be an important platform for the DADO to promote the balanced use of plant nutrients and make farmers aware on the integrated use of plant nutrients.

Year	Number of traders	Spread of the fertilizer traders
2005/26	105	Khairani(18),Kumroj(3), Meghauri(3), Chainpur(4), Shiv-Nagar(1), Bachhauri(2), Darchok(4), Jugedi(1), Mangalpur(5), Gitanagar(4), Kathar(2), Pithuwa(5), Gunjanagar(7), Jagatpur(1), Piple(2), Shaktikhor(2), Shardanagar(3), Baghauda(2), Jutpani(6), Shukranagar(2), Dibya-Nagar(1), Parbatipur(1), Padampur(1), Birendra-Nagar(1), Ayodhyapuri(1), Bharatpur Munciparty(12), Ratna-Nagar Munciparty (11)

Note: Figures in parenthesis show the number of traders  
 Source: District Agriculture Development Office, Chitwan

In short, the following flow diagram shows the fertiliser distribution system in Chitwan district.



\*- 30 traders have received AICL's dealership. However, it is necessary to mention that AICL dealers sell fertiliser imported/distributed by the private importers too.

Above figure shows that farmers have now many options to procure fertilisers in the district.. In principal, the fertiliser imported in the district under 2KR Japanese Government assistance should not be sold in the district because the district would not experience any shortage of fertiliser but, in practice, it was reported that the 2KR fertilisers (Urea and DAP) are also sold in this district. During the survey, a trader reported that he recently sold the 2KR DAP distributed from Manoj International. This suggests the need to review the 2KR fertiliser distribution system and policy to ensure that this fertiliser is distribute in remote areas and among the poor and disadvantaged people to contribute to the poverty reduction. However, the District Agriculture Development Office has no record of 2KR fertiliser sale in the district.

The following Table 1 shows the distribution of fertiliser in Chitwan district over the last 5 years.

Year	Urea	DAP	MOP	Total
2001/02	4450	1593	100	6143
2002/03	4455	1785	101	6341
2003/04	4460	1790	118	6368
2004/05	4680	1820	168	6668
2005/06	4760	2490	424	7674

MOP- Muriate of Potash

Source: District Agriculture Development Office, Chitwan (Annual report)

Above table shows consistency of the fertiliser distribution system in the district. However, the situation might be quite different because the DADO has no record of those amount of fertilisers which are purchased by the farmers at their door steps. Many farmers and fertiliser dealers said that these days fertiliser dealers directly take fertilisers to farmers' doorsteps and distribute fertilisers on credit. Farmers' access to fertilisers has substantially increased but their worries have increased with regard to the quality of the fertiliser. Our assessment of fertiliser distribution in the district revealed that the record available from the District Agriculture Development Office with regard to the distribution of fertiliser is only partial and the office has not established any mechanisms, processes and tools to record the amount of fertiliser sold in the district. Many private traders provide home delivery services to farmers during the main crop seasons and distribute fertilisers even in credit. The fertiliser related data provided by the DADO is simply estimation from supply side. This is partial. This suggests the need for the DADO to commission fertiliser use survey periodically.

Finally, the following table shows the retail price of fertilisers in Bharatpur Bazar, headquarters of Chitwan district (11 February 2007).

Name of fertiliser	Characteristics	Import type	Price, Rs./Kg	Rs per MT
Urea	Small particles, 46% N	Indian (Illicit import)	Rs. 14.50	Rs 14, 500.00
Urea	Small particles, 46% N	Indian (AICL Import)	Rs. 16.00	Rs. 16,000.00
Urea	Granular/Large size, 46%N	Private/Legal	Rs. 26.00	Rs. 26,000.00
DAP	18 N, 46 P	Private/Legal	Rs. 28.50	Rs. 28,500.00
DAP	18 N, 46 P	Private/Legal (Imported from Philippines)	Rs. 29.00	Rs. 29,000.00

Name of fertiliser	Characteristics	Import type	Price, Rs./Kg	Rs per MT
DAP	18 N, 46 P	Private/Legal (Imported from China)	Rs. 29.50	Rs. 29,000.00
DAP	18 N, 46 P	2 KR Buffer Stock, Manoj Int	Rs. 30.50	Rs. 30,500.00
Sagarmatha	20:20:0	Mixed and granulated in Nepal	Rs 20.00	Rs 20,000.00
MOP	K-60%	Indian (Illicit import)	Rs 14.50	Rs 14, 500.00

Despite an AICL office is operating in Chitwan district, its sale has decreased tremendously after the deregulation in 1999. Prior to the deregulation it used to sale annually 3,500 to 4,000 Mt of fertilisers. However, in 2005/06, it distributed just 248 Mt of DAP. This reveals the extent to which the fertiliser market has been controlled by the private sector.

# Chapter 4:

## Survey of underprivileged farmer's Village

### Objectives:

- To collect village or communal level information on current situation, issues, and measures of underprivileged farmers concerning poverty alleviation and food security within 2 villages with differing environment and farming system.

### Methods:

- Conduct two village survey with the help of checklist (in a selected village or community in a target region)
- A group interview with the major stakeholders of the village or community, an

Name of district	Name of the Village surveyed	Village ID Code
Sindhupalchok	Dumphaker	Hill Village 1
Sindhupalchok	Mankha	Hill Village 2
Chitwan	Patihani	Terai Village 1
Chitwan	Meghuli	Terai Village 2

### Issues of agricultural village concerning assistance for underprivileged farmers in Nepal are;

- Poverty alleviation and food security measures in the hill region, with crop-livestock mixed farming system, the Highland Mixed farming system (women in agriculture should be taken into consideration due to high prevalence of emigration works).
- Self-sufficiency of crops, such as rice, wheat, and maize have for the most part being established. However, sustainability of self-sufficiency and assistance for the poor farmers are still needed in Tarai region with Rice-wheat farming system (characterized by a summer paddy crop and irrigated winter wheat crop cultivation), where expansion of cultivation area is difficult. Therefore, the issue lies in improving self-sufficiency of the agriculture in the Tarai region with the Rice-wheat farming system.

Thus, the target area of the survey will be

- Village within poor area of the hill region (with the Highland Mixed system)
- Village in Tarai region (with the Rice-wheat system)

# Data Sheet

Refer the excel file: **Final Village Survey information.xls** for village survey data



**Attachment 1:**  
**Questionnaire for Village survey in the hill region (with the Highland Mixed farming system)**  
**(Translated from the survey questionnaire provided by JICA)**

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<b>l;= g</b>	<b>cfDbfgLsf] k d'v &gt;f]tx?</b>	<b>k ltzt</b>
1.	kz'kfng	
2.	s[lif	
3.	j}b]lzs cfDbfgL -sfdsf] nflu a;fO {;/fO {	
4.	Jg	
5.	gf]s/L	
6.	Hofnf dhb'/L	
7.	Jofkf/	
8.	cGo v'nfpq]	

**• nufOPsf aflnx? M**

- gfd M=====, gfd  
M=====
- gfd M=====, gfd  
M=====
- gfd M=====, gfd  
M=====
- gfd M=====, gfd

M=====

• **ufpF÷;d'xdf ePsf] j:t'efp ;+Vof**

<b>j:t'efp</b>	<b>;+Vof</b>	<b>j:t'efp</b>	<b>;+Vof</b>	<b>j:t'efp</b>	<b>;+Vof</b>
ufO{		uf]?		;'u'/	
e}+;L		afv f		e]8f	
3f]8f		uwf÷vRr8		cGo	

• **s[lif pTkfbg tyf s[lif pTkfbg ;fdflu|sf] 9'jfgL dfWod M**

j:t'efp - \_ uwf÷vRr8 - \_ dflg;af6 - \_ cGo - \_

• **k|zf]lwt ;fdflux?| M**

<b>k zf]lwt j:t'</b>	<b>k zf]lwt j:t'sf] sRrf kbfy{</b>

**%\_ vfB ;'/Iff**

*vfBfGgsfnflu k|of]u ul/g] j:t'x?÷jfnLx?, h:t}*

- |    |    |
|----|----|
| 1. | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. | 8. |

*cGo k|d'v vfBfGg -t/sf/L tyf u]8fu'8L \_ h:t}*

- |    |    |
|----|----|
| 1. | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. | 8. |

*cfkm'nfO{ k'Ug] j:t'÷jfnLsf] k|sf/*

- |    |    |
|----|----|
| 1. | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. | 8. |

*vfBfGg cefj k|fKtLsf tl/sfx? -pbfx/0f M ahf/df lk7f] lsGg' \_*

<b>l;= g</b>	<b>cefj ePsf] vfBfGg</b>	<b>k fIKt ljlw</b>
1		
2		
3		
4		
5		

6		
---	--	--

**^ \_ j:t'efp ;DalGw lj:t[t hfgsf/L**

kz'kfng ljlw tyf ljls| of]Uo a:t'sf] k|sf/

j:t'efpsf] k sf/	kz'kfng ljlw Ü	lals  j:t'	sDkf]i6sf nflu ufO { a:t'sf] uf]j/sf] k of]u
ufO {÷uf]?	lb3 {sflng r/Of - _ b}lgs r/Of - _ uf]7df /fVg] - _ ldl>t - _	b"w - _ df;' - _ b'w hGo kbfy { - _	l7s - _ a]l7s - _
e};L	lb3 {sflng r/Of - _ b}lgs r/Of - _ uf]7df /fVg] - _ ldl>t - _	b"w - _ df;' - _ b'w hGo kbfy { - _	l7s - _ a]l7s - _
e]8f÷afv]f	lb3 {sflng r/Of - _ b}lgs r/Of - _ uf]7df /fVg] - _ ldl>t - _	b"w - _ df;' - _ b'w hGo kbfy { - _	l7s - _ a]l7s - _
;'+u/	lb3 {sflng r/Of - _ b}lgs r/Of - _ uf]7df /fVg] - _ ldl>t - _	b"w - _ df;' - _	l7s - _ a]l7s - _
Ufwf÷vRr8	lb3 {sflng r/Of - _ b}lgs r/Of - _ uf]7df /fVg] - _ ldl>t - _	b"w - _ df;' - _	l7s - _ a]l7s - _
3f]8f	lb3 {sflng r/Of - _ b}lgs r/Of - _ ta]nf /fVg] - _ ldl>t - _	b"w - _ df;' - _	l7s - _ a]l7s - _

**&\_ k|d'v jfnLx?sf] ljj/Of**

s] sd hgzlStsf] sf/Of vfBfGgafnL v]tL ug { ;lsPsf] 5}g<  
5 - \_ 5}g - \_

5}g eg] jflnsf] gfd M =====

v/fj df}ifdsf sf/Ofn] ubf{ v]ltkftLdf kg { uPsf] c;/ sd ug { s] s:tf ljlwx? ckgfOPsf 5g\ M  
!=

@=

#=

\$=

*afnLsf] gfdM-*

**d'Vo pTkfbs M**

k'if - \_ dlxf - \_ k'if=dlxf - \_

**vfB pkof]u M**

cfkm}n] k]of]u - \_ l]qmLsf] nfuL - \_ cfkm}n] k]of]u=l]qmLsf] nfuL - \_

**ljpsf] k]fKt M**

cfkm}n] pTkfbg u/]sf] - \_ ufp“;“usf] ;“nUgtfdf - \_ aflx/L>f]t - \_

**dn÷sDkf]i6 dnsf] k]of]u .**

k]of]u gul/Psf] - \_ sDkf]i6 dn - \_ /f;folgs dn - \_ sDkf]i6 ÷/f;folgs dn - \_

sDkf]i6 dn k]fKtL tl/sf ÷]lw

=====  
/f;folgs dn k]fKtL tl/sf÷]lw  
=====

**/]u tyf ls/f km6]of]u] lgoGq0f ]lw**

k]s]of	k]fKtL tl/sf ÷]lw

**kfgL kof]Kttf M**

k'Ug] - \_ k]f0M h;f] gk'Ug] - \_ gk'Ug] - \_

**v]ltdf a:t'efpsf] k]of]u M**

ug]{} - \_ gug]{} - \_

**k]of]u ul/Psf] j:t'sf] k]sf/**

!= /fuff - \_ @= 3f]8f÷vRr8 - \_ #= uf]? - \_ \$= cGo - \_

**s[lif pks/0fsf] k]of]u M olb k]of]u ePsf] eP,**

<b>pks/0fsf] gfd</b>	
	cf^g} - _ ef8fsf] - _
	cf^g} - _ ef8fsf] - _
	cf^g} - _ ef8fsf] - _
	cf^g} - _ ef8fsf] - _
	cf^g} - _ ef8fsf] - _

**j:t'sf] ahf/ ;+oq M**

glhs}sf] ahf/ - \_ dWo:tstf{} - \_ s[lif ;d'x - \_ cGo - \_

d'No pknAwtfnfO{ dWogu/ub{} pTkfbsTj j[l4sf nflu ckgfpg ;lsg] ;DefJo ljlwx?

pGgt ljp - \_ k|fËfl/s dn - \_ /f;folgs dn - \_ ljiffbL - \_

cGo =====

*afnLsf] gfdM-*

**d'Vo pTkfbs M**

k'if - \_ dlxf - \_ k'if÷dlxf - \_

**vfB pkof]uM**

cfkm}n] k[of]u - \_ l]qmLsf] nfuL - \_ cfkm}n] k[of]u÷l]qmLsf] nfuL - \_

**ljpsf] k|fKt .**

cfkm}n] pTkfbg u/]sf] - \_ ufp“;“usf] ;“nUgtfdf - \_ aflx/L>f]t - \_

**dn÷sDkf]i6 dnsf] k[of]u .**

k[of]u gul/Psf] - \_sDkf]i6 dn - \_ /f;folgs dn - \_sDkf]i6 ÷f;folgs dn - \_

sDkf]i6 dn tof/L sf] tl/sf÷l]w

/f;folgs dn k|fKtL tl/sf÷l]w

**/f]u tyf ls/f km6\of"u]f lgoGq0f l]w**

k s[of	k fKtL l]w

**kfgL kof{Kttf M**

k'Ug] - \_ k|foM h;f] gk'Ug] - \_ gk'Ug] - \_

**v]ltdf a:t'efpsf] k[of]u M**

ug]{ - \_ gug]{ - \_

**k[of]u ul/Psf] j:t'sf] k|sf/**

!= /fufF - \_ @= 3f]8f÷vRr8 - \_ #= uf]? - \_ \$= cGo - \_

**s[lif pks/0fsf] k[of]u M olb k[of]u ePsf] eP,**

pks/0fsf] gfd	
	cf^g} - _ ef8fsf] - _
	cf^g} - _ ef8fsf] - _
	cf^g} - _ ef8fsf] - _
	cf^g} - _ ef8fsf] - _
	cf^g} - _ ef8fsf] - _

**j:t'sf] ahf/ ;+oq M**

glhs}sf] ahf/ - \_, dWo:tstf{ - \_, s[lif ;d'x - \_, cGo - \_



d'No pknAwtfnfO{ dWogu/ub{} pTkfbsTj j[l4sf nflu ckgfpg ;lsg] ;DefJo ljlwx?

pGgt ljp - \_ k|fËfl/s dn - \_ /f;folgs dn - \_ ljiffbL - \_

cGo =====

\* \_ ;fdflhs k'FhL -uf=lj=;= :t/\_

ufFp ;+:yf / ls;fg ;d"x - ljz]if ul/ cfk;L ;xof]usf] nfuL :yfkf ePsf] ;d"x \_

;“:yfsf] gfd	7]ufgf	;b:o			;+:yfsf] pb]Zo tyf sfo{x?
		k'?if	dlxn f	hDd f	

( \_ cfly{s k''hL

jrt tyf C0f ;+:yf÷;xsf/Lx?sf] pkl:ylt M 5 - \_ 5}g- \_

5 eg] v'nfp'xf];

;“:yfsf] gfd	7]ufgf	hDdf C0f - cf];t C0f ? df x	;b:o ;“ Vof	pb]Zo÷e''ldsfM

!)\_ ufpdf kg]{ u/]sf k|d'v ;d:ofx? / To;sf ;dfwfg -k|fyldstfsf]  
cfwf/df\_

;d:ofx?	;d:of ;dfwfg	
	s;/L	sf] af6÷s:sf] kxndf

!!\_ ufp“leqsf] ul/ljsf] jlu{s/0f -JofVof\_

ul/]sf] jlu {s/0f

=====

=====

=====

=====

=====

=====

- dWod ju{sf] jlu{s/0f

M=====

- wgLsf] jlu {s/0f

=====

=====

=====

*;xof]usf] nflu wGojfb .*

**Attachment 2: Questionnaire for Village survey in the Tarai region (with the Rice-wheat farming system)**

**(Translated from the survey questionnaire provided by JICA)**

*(This requires priti nepali font, please install font provided with this CD)*

**g]kfn M t/fO{ If]qdf ufpFsf] ;j]{If0f**

**;fd'lxS cGtjf{tf**

**t/fO{ If]qdf ufpFp ;j]{If0f -wfg, ux' s[lif k|0ffnL\_**

**;d'x**

**cGt/jftf{ ===== -**

**cfjZostfdf lk=cf/=P \_**

**;j]{If0fjfnfM**

**;xefuLx?sf] gfd M**

**ldtL**

**!\_ ufpFsf] ljj/Of**

ufpFsf] gfd M===== lhNnfsf] gfd M  
=====

hg;+Vof M ===== dlxnf k'?if cg'kft - k'?ifM  
=====∞ dlxnf M===== ∞\_

3/w'/L ;+Vof===== dlxnf 3/d'nL ePsf  
3/w'/L ;+Vof M =====

hghflt tyf wd{sf] ?k/]vf

;d'x	M=====	ufpFdf	k ltztM
=====∞	wd{ M =====	=====∞	
;d'x	M=====	ufpFdf	k ltztM
=====∞	wd{ M =====	=====∞	
;d'x	M=====	ufpFdf	k ltztM
=====∞	wd{ M =====	=====∞	
;d'x	M=====	ufpFdf	k ltztM
=====∞	wd{ M =====	=====∞	

afli{f{s aiff{ M ===== ld=ld=

**@\_ lzlff / :jf:Yosf] cj:yf -dfgj k'FhL\_**

- k|fylds ljBfno egf{ b/ -ufpFdf\_M k'?if=====∞,  
dlxnf=====∞
- k|fylds ljBfnosf] k9fO{ k'/f ug] { b/ -ufpFdf\_M k'?if=====∞,  
dlxnf=====∞
- /f]usf] sf/Ofn] ut aif{sf] d[To' b/ -ufpFdf\_

<b>l;= g</b>	<b>/f]usf] gfd</b>	<b>/f]unflu d/]sf dflg;sf] ;+VofM</b>
1		
2		
3		

**#\_ ;fj{hlgs ;'ljwf -ef}lts k'hL\_ -gS;fdf jOf{g ug{ ;lsg}\_**

ljBfno tx	;+Vof
k'j { k fylds	
K ffyls	
lg=df=lj=	
Dff=lj=	
pRr df=lj=	

• ufpFdf :jR5 vfg]kfgL ePsf Ogf/sf] ;+VofM  
===== Ogf/x?

• ufpFdf :jR5 vfg]kfgL ePsf 3f/fsf] ;+VofM  
=====

• uf=lj=;=df ;fd'bflos sfo {s|d  
ug { ;lsg] :yfgsf] ;+Vof=====

7fpFx?  
=====

• uf=lj=;=df ahf/sf] ;+Vof M  
=====

===== ahf/x?  
7fpFx?  
=====

• uf=lj=;=df wfld{s ;'ljwf ;+Vof M  
=====

===== ;'ljwfx?  
:yfg =====

• uf=lj=;=df ;fwf/0f tyf /fO; ldnsf] ;+Vof M  
===== dl;gx?

• uf=lj=;=df cGo ;fj {hlgs ;'ljwf M  
;'ljwfsf] k|sf/ M  
=====

=====:yfg

;'ljwfsf] k|sf/ M  
=====

=====:yfg

\$\_ lhljsf]kfh{g

hUuf÷hldg x'g] kl/af/sf] k|ltzt=====Ü

ufpF / ;d'bfosf] cfDbfgLsf] k|d'v >f]tx? / To;sf] cg'kft

l;= g	cfDbfgLsf] k d'v >f]tx?	k ltzt
9.	kz'kfng	
10	s lif	
11	j}b]lzs cfDbfgL -sfdsf] nflu a;fO{/;fO{	
12	jg	
13	gf s/L	
14	Hofnf dhb'/L	
15	Jofkf/	
16	cGo v'nfpf]	

• nufOPsf aflnx? M

gfd M=====, gfd  
M=====

gfd M=====, gfd  
M=====

gfd M=====, gfd  
M=====

gfd M=====, gfd  
M=====

• ufpF÷;d'xdf ePsf] j:t'efp ;+Vof

j:t'efp	;+Vof	j:t'efp	;+Vof	j:t'efp	;+Vof
ufO{		uf]?		;'u/	
e};+L		afv f		e]8f	
3f]8f		uwf÷vRr8		cGo	

• s[lif pTkfbg tyf s[lif pTkfbg ;fdflu|sf] 9'jfgL dfWod M

j:t'efp - \_ uwf÷vRr8 - \_ dflg;af6 - \_ cGo - \_

• k|zf]lwt ;fdflux?| M

k zf]lwt j:t'	k zf]lwt j:t'sf] sRrf kbfy{


**%\_ vfB ;'/Iff**

vfBfGgsf nflu k/of]u ul/g] j:t'x? ÷jfnLx?, h:t}

- |    |    |
|----|----|
| 1. | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. | 8. |

cGo k/d'v vfBfGg -t/sf/L tyf u]8fu'8L \_ h:t}

- |    |    |
|----|----|
| 1. | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. | 8. |

cfkm'nfO{ k'Ug] j:t' ÷jfnLsf] k/sf/ **(Self Sufficient Crops)**

- |    |    |
|----|----|
| 1. | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. | 8. |

vfBfGg cefj ePsf afnLx?sf] k|fKtLsf tl/sfx? -pbfx/0f M ahf/df lk7f] lsGg' \_

<b>l;=</b>	<b>cefj ePsf] vfBfGg afnLx?</b>	<b>k f Kt ljlw</b>
1		
2		
3		
4		
5		
6		

**^ \_ j:t'efp ;DalGw lj:t[t hfgsf/L**

kz'kfng ljlw tyf ljl] of]Uo a:t'sf] k|sf/

j:t'efpsf] k sf/	kz'kfng ljlw Ü	lals j:t'	sDkf]i6sf nflu ufO{ a:t'sf] uf]j/sf] k of]u
ufO{÷uf]?	lb3{sflng r/0f - _ b}lgs r/0f - _ uf]7df /fVg] - _ ldl>t -	b"w - _ df;' - _ b'w hGo kbfy{ - _	l7s - _ a]l7s - _
e};L	lb3{sflng r/0f - _ b}lgs r/0f - _ uf]7df /fVg] - _ ldl>t -	b"w - _ df;' - _ b'w hGo kbfy{ - _	l7s - _ a]l7s - _
e]8f÷afv f	lb3{sflng r/0f - _ b}lgs r/0f - _	b"w - _ df;' - _	l7s - _ a]l7s - _

	uf]7df /fVg] - _ ldl>t - _	b"w hGo kbfy{ - _	
;'+u/'	lb3 {sflng r/0f - _ b}lgs r/0f - _ uf]7df /fVg] - _ ldl>t - _	b"w - _ df;' - _	l7s - _ a]l7s - _
Ufwf÷vRr8	lb3 {sflng r/0f - _ b}lgs r/0f - _ uf]7df /fVg] - _ ldl>t - _	b"w - _ df;' - _	l7s - _ a]l7s - _

**&\_ k|d'v jfnLx?sf] ljj/0f**

s] sd hgzlStsf] sf/0f vfBfGgafnL v]tL ug{ ;lsPsf] 5}g<  
5 - \_ 5}g - \_

5}g eg] jflnsf] gfd M =====

v/fj df} ifdsf sf/0fn] ubf{ v]ltkftLdf kg{ uPsf] c;/ sd ug{ s] s:tf ljlwx? ckfOPsf 5g\ M  
!=

@=

#=




*afnLsf] gfdM-*

**d'Vo pTkfbs M**

k'if - \_ dlxf - \_ k'if=dlxf - \_

**vfB pkofjuM**

 cfkm}n] k|of]u - \_ ljqmLsf] nfuL - \_ cfkm}n] k|of]u÷ljqmLsf] nfuL - \_

**ljpsf] k|fKt .**

cfkm}n] pTkfbg u/]sf] - \_ ufp“;“usf] ;“nUgtfdf - \_ aflx/L>f]t - \_

**dn÷sDkf]i6 dnsf] k|of]u .**

k|of]u gul/Psf] - \_sDkf]i6 dn - \_ /f;folgs dn - \_sDkf]i6 ÷/f;folgs dn - \_

sDkf]i6                      dn                      tof/L                      sf]                      tl/sf÷lj]w

/f;folgs                      dn                      k|fKtL                      tl/sf÷lj]w

**/f]u tyf ls/f km6of'u]f lgoGq0f ljlw**

k ls of	k fKtL ljlw

**kfgL kof{Kttf M**

k'Ug] - \_ k|foM h;f] gk'Ug] - \_ gk'Ug] - \_

**l;+rfO{sf] k|of]u M**

k|of]u x'b}g - \_ slxn]sfxL - \_ ;Dk'0f{ v]tL of]Uo hldgdf x'g] - \_

**l;+rfO{sf] k|sf/ M**

l;d;f/ If]q - \_ ;fgf] gbLsf] pkof]u - \_ dfgj lgld{t Onfsf l;+rfO{ k|0ffnL - \_

**l;+rfO{ pkef]Qmf ;d'xsf] :yfkf ePsf] M**

5 - \_ 5}g - \_

**v]ltdf a:t'efpsf] k|of]u M**

ug]{ - \_ gug]{ - \_

**k|of]u ul/Psf] j;t'sf] k|sf/**

!= /fuff - \_ @= 3f]8f÷vRr8 - \_ #= uf]? - \_ \$= cGo - \_

**s[lif pks/0fsf] k|of]u M olb k|of]u ePsf] eP,**

pks/0fsf] gfd	
	cf`g} - _ ef8fsf] - _
	cf`g} - _ ef8fsf] - _
	cf`g} - _ ef8fsf] - _
	cf`g} - _ ef8fsf] - _

**j:t'sf] ahf/ ;+oq M**

glhs;sf] ahf/ - \_ , dWo:tstf{ - \_ , s[lif;d'x - \_ , cGo - \_

**d'No pknAwtfnfO{ dWogu/ ub{ } pTkfbsTj j[l4sf nflu ckgfpg ;lsg] ;DefJo ljlwx?**

pGgt ljp - \_ , k|fËfl/s dn - \_ , /f;folgs dn - \_ , ljiffbL - \_

cGo =====

*afnLsf] gfdM-*

**d'Vo pTkfbs M**

k'if - \_ dlxf - \_ k'if÷dlxf - \_

**vfb pkof]uM**

cfkm}n] k|of]u - \_ ljqmLsf] nfuL - \_ cfkm}n] k|of]u÷ljqmLsf] nfuL - \_

**ljpsf] k|fKt .**

cfkm}n] pTkfbg u/]sf] - \_ ufp“;“usf] ;“nUgtfdf - \_ aflx/L>f]t - \_

**dn÷sDkf]i6 dnsf] k|of]u .**

k|of]u gul/Psf] - \_ sDkf]i6 dn - \_ /f;folgs dn - \_ sDkf]i6 ÷/f;folgs dn - \_

sDkf]i6	dn	tof/L	sf]	tl/sf÷lj]w
/f;folgs	dn	k fKtL		tl/sf÷lj]w

**/f]u tyf ls/f km6of"u]f lgoGq0f lj]w**

k s of	k fKtL lj]w

**kfgL kof{Kttf M**

k'Ug] - \_ k|foM h;f] gk'Ug] - \_ gk'Ug] - \_

**l;+rfO{sf] k|of]u M**

k|of]u x'b}g - \_ slxn]sfxL - \_ ;Dk'0f{ v]tL of]Uo hldgdf x'g] - \_

**l;+rfO{sf] k|sf/ M**

l;d;/ If]q - \_ ;fgf] gbLsf] pkof]u - \_ dfgj lgld{t Onsf] l;+rfO{ k|0ffnL - \_

**l;+rfO{ pkef]Qmf ;d'xsf] :yfkf ePsf] M**

5 - \_ 5}g - \_

**v]ltdf a:t'efpsf] k|of]u M**

ug]{ - \_ gug]{ - \_

**k|of]u ul/Psf] j:t'sf] k|sf/**

!= /fufF - \_ @= 3f]8f÷vRr8 - \_ #= uf]? - \_ \$= cGo - \_

**s[lif pks/0fsf] k|of]u M olb k|of]u ePsf] eP,**

pks/0fsf] gfd	
cf^g} -	ef8fsf] -
cf^g} -	ef8fsf] -
cf^g} -	ef8fsf] -
cf^g} -	ef8fsf] -

**j:t'sf] ahf/ ;+oq M**

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	s;/L	sf] af6÷s:sf] kxndf

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## Chapter 5: Household Survey

- A household survey for 15 households in total, 5 poor class household, 5 middle class household, and 5 rich class household from each study village.

Name of district	Name of the Village surveyed	Village ID Code	No of Household (HH) surveyed
Sindhupalchok	Mankha	HV1	15 (5 each from rich, medium and poor category)
Sindhupalchok	Mankha	HV2	15 (5 each from rich, medium and poor category)
Chitwan	Patihani	HV3	15 (5 each from rich, medium and poor category)
Chitwan	Meghuli	HV4	15 (5 each from rich, medium and poor category)

Refer the excel file: **JICA HH Survey final data.xls** for household survey data

## Part 1: Data Sheet

Refer the excel file: **JICA HH Survey final data.xls** for  
household survey dat



# Code sheet

Name of district	Name of the Village surveyed	Village ID Code	Remark
Sindhupalchok	Mankha	HV1	Hill Village 1
Sindhupalchok	Mankha	HV2	Hill Village 2
Chitwan	Patihani	HV3	Terai Village 1
Chitwan	Meghuli	HV4	Terai Village 2

Name of Spread sheet	Variable name	Variable code	Remark
HH information		No code used	
Population	Name	Actual	
	Gender	Male.....1	
		Female.....2	
	Age	Absolute value (Number)	
	Relation	Actual	
	Occupation	Livestock farming.....1	
		Agriculture.....2	
		Housekeeping.....3	
Work abroad.....4			
Trade.....5			
Job/Service.....6			
Daily wage.....7			
Living	Traditional Occupation.....8		
	Students.....9		
	Dependent.....10		
Livestock rearing	Type of livestock animal	Actual	
	Number	Absolute value (Number)	
	Livestock farming methods	Long-term pasture.....1	
		Daily pasture.....2	
		Use barn.....3	
		Mixed (Daily pasture and Barn) .....4	
	Traded products	NA ..... (HH does not rear livestock)	
		Yes.....1	
	Milk	No.....2	
		Yes.....1	
No.....2			
Meat	Blank .....(Not applicable)		
	Yes.....1		
	No.....2		
Milk products	Blank .....(Not applicable)		
	Yes.....1		
	No.....2		
Use of excrement as fertilizer	Blank .....(Not applicable)		
	Yes.....1		
	No.....2		

Name of Spread sheet	Variable name	Variable code	Remark	
<b>Agricultural Status</b>	No of agricultural work force	Absolute value (Number)		
	Owned land area	Absolute value (hectare)		
	Rented in area (ha)	Absolute value (hectare)		
	Total operated land	Absolute value (hectare)		
	Measures taken to reduce risk arising from bad weather in crops cultivation (Measure 1 and 2)	Less weeding during dry season or draught.....1 Construction of irrigation facilities, boring, well etc .....2 Cover by plastic sheet.....3 Mulching to protect from heat .....4 None .....5		
<b>Crop cultivation Information</b>	Type of crop	Name of the crop		
	Cultivated area	Absolute value (hectare)		
	Production	Absolute value (kg)		
	Means of crop harvested	Daily consumption.....1		
		Marketing purpose.....2		
		Both.....3		
	Marketing channel	Nearby market.....1		
		Broker.....2		
		Agriculture association.....3		
		Others		
	<b>Production input - home made</b>			
	Seed	Yes.....1		
		No.....2		
	Compost	Yes.....1		
		No.....2		
	Disease and pest control	Yes.....1		
		No.....2		
	<b>Production input – acquired externally</b>			
	Seed-purchase	Yes.....1		
		No.....2		
	Fertilizer	Yes.....1		
		No.....2		
	Agriculture Chemical	Yes.....1		
No.....2				
<b>Use of livestock power in cultivation</b>	Use.....1			
	Not in use.....2			
<b>Type of livestock use</b>				
Cattle	Yes.....1			
	No.....2			
	Blank .....(Not applicable/No)			
Horse	Yes.....1			
	No.....2			
	Blank .....(Not applicable/No)			
<b>Use and acquisition method of agriculture machinery (machine 1)</b>				
Type of machine	Name of machine			
Use	Own.....1			
	Rent.....2			
Purchasing channel	Nearby market.....1			
	Broker.....2			
	Agriculture association.....3			
Problem	Difficult to obtain good quality seed.....1			
	Lack of land fertility.....2			
	Lack of arable land.....3			
	Lack of fertilizer.....4			
	Lack of man power .....5			
	Lack of livestock power.....6			
	Lack of agricultural machinery .....7			
Others				

Name of Spread sheet	Variable name	Variable code	Remark
	Method possible to employ in increasing productivity, considering cost availability (MP)	Improve seeds.....1 Compost fertilizer.....2 Chemical fertilizer.....3 Pesticide.....4	
<b>Social Capital</b>		Not code used	
<b>Mutual Aids Association</b>	Shortage of staple food	True.....1 False.....2	
	If shortage, measures (staple food)	Assistance from relative.....1 Loan from relative.....2 Loan from association.....3 Loan from friends.....4 Loan from influential person .....5 Purchase by debt.....6 Others income source.....7 Assets sales/ mortgage.....8 Livestock sales.....9 Non-agricultural activities.....10 Wage earning.....11 Income from remittances.....12 Other (specify).....13	
	Shortage of living expense	True.....1 False.....2	
	If shortage, measures (living expense)	Assistance from relative.....1 Loan from relative.....2 Loan from association.....3 Loan from friends.....4 Loan from influential person .....5 Purchase by debt.....6 Others income source.....7 Assets sales/ mortgage.....8 Livestock sales.....9 Non-agricultural activities.....10 Wage earning.....11 Income from remittances.....12 Other (specify).....13	
	Shortage of agricultural manpower	True.....1 False.....2	
	If shortage, measures (agricultural manpower)	Assistance from relative.....1 Mutual aid with relative.....2 Mutual aid with friend .....3	
<b>Consult during daily difficulties</b>		No code used	
<b>Problems</b>		No code used	

**Attachment 1: Questionnaire for household survey in the hill region (with the Highland Mixed farming system)**

**(Translated from the survey questionnaire provided by JICA)**

*(If text appears stupid, it requires priti nepali font, please install font provided with this CD)*

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-kxf18 If]q\_

qm =;+ =	k Zg	pQ/
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\$	ufFpsf] gfd	
%	;DkGtfsf] :t/	;dkGg =====! dWod===== =====@ lakGg =====#
^	cGt/jftf{ lbg]sf] gfd / y/	
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s=3/3'/Lsf] ljj/0f



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				lals]	kz'hGo pTkfbg		
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	cfkm\g}== =====! Eff8fdf =====@	glhs}sf] ahf/===== ==! Aofkf/L ===== =====@ ;+:yf÷;xsf/L===== =====# cGo	pGgt / u'0f:tl/o lapsf] cefj=====! hldgsf] pTkfbstjdf sdL=====@ v]tL of]Uo hldgsf] cefj=====# /f;folgs dnsf] cefj===== \$ sf d ug]{ dflg;sf] cefj===== % a:t' efpsf] cefj=====^	pGgt lap===== =====! sDkf]i6 dn =====@ /;folgs dn ===== ==# ljiffw===== ===== \$ cGo v[nfpfg]
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# afnLsf] gfd M

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			b}lgs k of]u===== ! lals  ===== @ b'a}===== ===== #	glhs}sf] ahf/=====! Aofkf/L ===== @ ;+:yf÷;xsf/L =====# cGo	lap===== =====! sDkf]i6 =====@ /f]u tyf ls/f lgoGq0f =====# <u>lalw</u> <u>v'nfpq]</u>	lap===== =====! dn ===== @ ljiff]w= =====#	ug]{== ===== ==! gug]{ = =====@	uf]?÷/fFuf= =====! Wf]f8f ===== @ cGo
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pks/0fs f] gfd		lslgPsf] :yfg		
	cfkm\g}== =====! Eff8fdf =====@	glhs}sf] ahf/===== ==! Aofkf/L ===== @ ;+:yf÷;xsf/L===== =====# cGo	pGgt / u'0f:tl/o lapsf] cefj=====! hldgsf] pTkfbsTjdf sdL=====@ v]tL of]Uo hldgsf] cefj=====# /f;folgs dnsf] cefj===== \$ sf d ug]{ dflg;sf] cefj===== % a:t' efpf] cefj===== =====^	pGgt lap===== =====! sDkf]i6 dn ===== @ /;folgs dn ===== # ljiff]w===== ===== \$ cGo v[nfpq]
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**Attachment 2: Questionnaire for household survey in the Tarai region (with the Rice-wheat farming system)**

**(Translated from the survey questionnaire provided by JICA)**

*(If text appear stupid, it requires priti nepali font, please download and install it)*

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#	j8f gDa/	
\$	ufFpsf] gfd	
%	;DkGtfsf] :t/	;dkGg =====! dWod===== =@ lakGg =====#
^	cGt/jftf{ lbg]sf] gfd / y/	
&	3/d"nL ;+usf] gftf	cfkm} ===== ! Gfft]bf/===== =@
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sfo{=====  
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a}b]lzs  
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!= kz'kfng

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			lals	kz'hGo pTkfbg		
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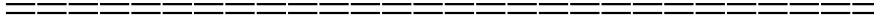
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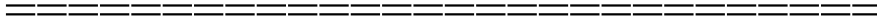
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# Part 2:

## Output table of Household Survey

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# 1 Respondent Characteristics

Table 1: Definition of poverty within the study village

SN	Particular	Poor class definition	Middle class definition	Rich class definition
1	Sindhupalchowk district - Hill Village 1	Land less or land holding size than 3 ropani (or 0.15 ha): Food self sufficiency for less than 3 months from own farm production, wage earning and Dalit	Land holding between 3-20 ropani ( 0.1 - 1 ha): Food self sufficiency for 3-9 months from own farm production, livelihoods more dependent on agriculture	Land holding size more than 20 ropani (or 1 ha): Food self sufficiency for more than 9 months; atleast one family members have service or business
2	Sindhupalchowk district - Hill Village 2	Land less or land holding size than 4 ropani (or 0.2 ha): Food self sufficiency for less than 3 months from own farm production, wage earning and Dalit	Land holding between 3-20 ropani ( 0.1 -1 ha): Food self sufficiency for 3-6 months from own farm production, Household head educated, family members in service or permanent employment	Land holding size more than 20 ropani (or 1 ha): Food self sufficiency for more than 9 months; , literate; family members have service, involved in service, business activities or working aboard,
3	Chitwan district - Terai Village 1	Land less or land holding size than 15 kattha (or 0.5 ha): Food self sufficiency for less than 6 months from own farm production, wage earning and Dalit	Land holding between 15-30 kattha ( 0.5 -1 ha): Food self sufficiency for 6-11 months from own farm production, permanent income source	Land holding size more than 30 Kattha (or 1 ha): Food self sufficiency for more than 11 months; , family members involved in service, business activities or working aboard,
4	Chitwan district - Terai Village 2	Land less or land holding size than 15 kattha (or 0.5 ha): Food self sufficiency for less than 6 months from own farm production, wage earning and Dalit	Land holding between 15-30 kattha ( 0.5 -1 ha): Food self sufficiency for 6-11 months from own farm production, permanent income source	Land holding size more than 30 Kattha (or 1 ha): Food self sufficiency for more than 11 months; , family members involved in service, business activities or working aboard,

Table 2: Number of surveyed households by district, region and by economic category

District	Village	Category (Number)			
		Rich	Medium	Medium	Grand Total
Sindhupalchowk	Hill Village 1	5	5	5	15
	Hill Village 2	7	3	5	15
Chitwan	Terai Village 1	5	5	5	15
	Terai Village 2	5	5	5	15

Table 3: Percent of surveyed households by caste group

District	Village	Economic	caste group (percent)				Grand Total
			Higher caste	Ethnic caste - Hill	Dalit	Ethnic Caste-Terai	
Sindhupalchowk	Hill Village 1	Rich (n=5)	100.0	-	-	-	100.0
		Medium (n=5)	100.0	-	-	-	100.0
		Poor (n=5)	-	100.0	-	-	100.0
		<b>Overall (n=15)</b>	<b>66.7</b>	<b>33.3</b>	-	-	<b>100.0</b>
	Hill Village 2	Rich (n=5)	100.0	-	-	-	100.0
		Medium (n=5)	60.0	40.0	-	-	100.0
		Poor (n=5)	-	-	100.0	-	100.0
		<b>Overall (n=15)</b>	<b>53.3</b>	<b>13.3</b>	<b>33.3</b>	<b>0.0</b>	<b>100.0</b>
Chitwan	Terai Village 1	Rich (n=5)	80.0	-	-	20.0	100.0
		Medium (n=5)	80.0	-	-	20.0	100.0
		Poor (n=5)	100.0	-	-	0.0	100.0
		<b>Overall (n=15)</b>	<b>86.7</b>	<b>0.0</b>	<b>0.0</b>	<b>13.3</b>	<b>100.0</b>
	Terai Village 2	Rich (n=5)	40.0	-	-	60.0	100.0
		Medium (n=5)	20.0	-	-	80.0	100.0
		Poor (n=5)	20.0	-	20.0	60.0	100.0
		<b>Overall (n=15)</b>	<b>26.7</b>	<b>0.0</b>	<b>6.7</b>	<b>66.7</b>	<b>100.0</b>

Table 4: Percent of surveyed households by religion

District	Village	Economic	Religion (percent)			
			Hindu	Buddhist	Both (Hindu/Buddhist)	Total
Sindhupalchowk	Hill Village 1	Rich (n=5)	40.0	-	60.0	100.0
		Medium (n=5)	40.0	20.0	40.0	100.0
		Poor (n=5)	80.0	0.0	20.0	100.0
		<b>Overall (n=15)</b>	<b>53.3</b>	<b>6.7</b>	<b>40.0</b>	<b>100.0</b>
	Hill Village 2	Rich (n=5)	100.0	-	0.0	100.0
		Medium (n=5)	100.0	-	0.0	100.0
		Poor (n=5)	100.0	-	0.0	100.0
		<b>Overall (n=15)</b>	<b>100.0</b>	<b>0.0</b>	<b>0.0</b>	<b>100.0</b>
Chitwan	Terai Village 1	Rich (n=5)	100.0	-	0.0	100.0
		Medium (n=5)	100.0	-	0.0	100.0
		Poor (n=5)	100.0	0.0	0.0	100.0
		<b>Overall (n=15)</b>	<b>100.0</b>	<b>0.0</b>	<b>0.0</b>	<b>100.0</b>
	Terai Village 2	Rich (n=5)	100.0	0.0	0.0	100.0
		Medium (n=5)	100.0	0.0	0.0	100.0
		Poor (n=5)	100.0	0.0	0.0	100.0
		<b>Overall (n=15)</b>	<b>100.0</b>	<b>0.0</b>	<b>0.0</b>	<b>100.0</b>

## 2 Demographic information

Table 5: Number of family members

District	Village	Number of family members			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	28	25	22	75
	Hill Village 2	34	46	26	106
Chitwan	Terai Village 1	37	37	28	102
	Terai Village 2	46	32	22	100

Table 6: Average HH Size

District	Village	Category (Number)			
		Rich	Medium	Medium	Grand Total
Sindhupalchowk	Hill Village 1	5.6	5.0	4.4	5.0
	Hill Village 2	6.8	9.2	5.2	7.1
Chitwan	Terai Village 1	7.4	7.4	5.6	6.8
	Terai Village 2	9.2	6.4	4.4	6.7

Table 7: HH Head by gender

District	Village	Economic	Gender (Percent)		
			Male	Female	Total
Sindhupalchowk	Hill Village 1	Rich (n=5)	80.0	20.0	100.0
		Medium (n=5)	100.0	0.0	100.0
		Poor (n=5)	100.0	0.0	100.0
		<b>Overall (n=15)</b>	<b>93.3</b>	<b>6.7</b>	<b>100.0</b>
	Hill Village 2	Rich (n=5)	100.0	0.0	100.0
		Medium (n=5)	100.0	0.0	100.0
		Poor (n=5)	100.0	0.0	100.0
		<b>Overall (n=15)</b>	<b>100.0</b>	<b>0.0</b>	<b>100.0</b>
Chitwan	Terai Village 1	Rich (n=5)	100.0	0.0	100.0
		Medium (n=5)	100.0	0.0	100.0
		Poor (n=5)	100.0	0.0	100.0
		<b>Overall (n=15)</b>	<b>100.0</b>	<b>0.0</b>	<b>100.0</b>
	Terai Village 2	Rich (n=5)	100.0	0.0	100.0
		Medium (n=5)	80.0	20.0	100.0
		Poor (n=5)	80.0	20.0	100.0
		<b>Overall (n=15)</b>	<b>86.7</b>	<b>13.3</b>	<b>100.0</b>

Table 8: Occupation of HH head

District	Village Code	Occupation	Rich	Medium	Poor	Overall I
Sindhupalchowk	Hill Village 1	Agriculture	80.0	80.0	0.0	53.3
		Service	20.0	20.0	0.0	13.3
		Wage earning	0.0	0.0	100.0	33.3
		<b>Overall</b>	<b>n = 5</b>	<b>n = 5</b>	<b>n = 5</b>	<b>n = 15</b>
	Hill Village 2	Agriculture	100.0	80.0	0.0	60.0
		Service	0.0	20.0	0.0	6.7
		Wage earning	0.0	0.0	80.0	26.7
		Occupational work	0.0	0.0	20.0	6.7
	<b>Overall</b>	<b>n = 5</b>	<b>n = 5</b>	<b>n = 5</b>	<b>n = 15</b>	
	Chitwan	Terai Village 1	Livestock rearing	40.0	0.0	0.0
Agriculture			60.0	100.0	40.0	66.7
Working aboard			0.0	0.0	40.0	13.3
Wage earning			0.0	0.0	20.0	6.7
<b>Overall</b>			<b>n = 5</b>	<b>n = 5</b>	<b>n = 5</b>	<b>n = 15</b>
Terai Village 2		Agriculture	80.0	80.0	40.0	66.7
		Service	20.0	20.0	20.0	20.0
		Wage earning	0.0	0.0	40.0	13.3
		<b>Overall</b>	<b>n = 5</b>	<b>n = 5</b>	<b>n = 5</b>	<b>n = 15</b>

Table 9: Sex ratio of the surveyed HHs

District	Village	Economic	Sex ratio			
			Male	Female	Total	
Sindhupalchowk	Hill Village 1	Rich (n=28)	0.36	0.64	1.00	
		Medium (n=25)	0.46	0.54	1.00	
		Medium(n=22)	0.36	0.64	1.00	
		<b>Overall (n=75)</b>	<b>0.40</b>	<b>0.60</b>	<b>1.00</b>	
	Hill Village 2	Rich (n=34)	0.59	0.41	1.00	
		Medium (n=46)	0.56	0.44	1.00	
		Medium(n=26)	0.58	0.42	1.00	
		<b>Overall (n=106)</b>	<b>0.58</b>	<b>0.42</b>	<b>1.00</b>	
	Chitwan	Terai Village 1	Rich (n=37)	0.51	0.49	1.00
			Medium (n=37)	0.35	0.65	1.00
Medium(n=28)			0.64	0.36	1.00	
<b>Overall (n=102)</b>			<b>0.49</b>	<b>0.51</b>	<b>1.00</b>	
Terai Village 2		Rich (n=46)	0.31	0.69	1.00	
		Medium (n=32)	0.41	0.59	1.00	
		Medium(n=22)	0.50	0.50	1.00	
		<b>Overall (n=100)</b>	<b>0.40</b>	<b>0.60</b>	<b>1.00</b>	



Table 10: Status of family member by place of resident

District	Village	Economic	Family member living (Percent)		
			Apart	Together	Total
Sindhupalchowk	Hill Village 1	Rich (n=28)	8.0	92.0	100.0
		Medium (n=25)	3.6	96.4	100.0
		Medium(n=22)	4.5	95.5	100.0
		<b>Overall (n=75)</b>	<b>5.3</b>	<b>94.7</b>	<b>100.0</b>
	Hill Village 2	Rich (n=34)	8.7	91.3	100.0
		Medium (n=46)	14.7	85.3	100.0
		Medium(n=26)	11.5	88.5	100.0
		<b>Overall (n=106)</b>	<b>11.3</b>	<b>88.7</b>	<b>100.0</b>
Chitwan	Terai Village 1	Rich (n=37)	24.3	75.7	100.0
		Medium (n=37)	8.1	91.9	100.0
		Medium(n=28)	25.0	75.0	100.0
		<b>Overall (n=102)</b>	<b>18.6</b>	<b>81.4</b>	<b>100.0</b>
	Terai Village 2	Rich (n=46)	6.3	93.8	100.0
		Medium (n=32)	13.0	87.0	100.0
		Medium(n=22)	9.1	90.9	100.0
		<b>Overall (n=100)</b>	<b>10.0</b>	<b>90.0</b>	<b>100.0</b>

Table 10: Occupation of family member

District	Village	Occupation	Ethnic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Livestock rearing	8.0	3.6	4.5	5.3
		Agriculture	32.0	42.9	27.3	34.7
		Housekeeping	12.0	3.6	0.0	5.3
		Service	4.0	3.6	0.0	2.7
		Wage earning	0.0	0.0	27.3	8.0
		Student	32.0	35.7	22.7	30.7
		Dependent	12.0	10.7	18.2	13.3
			<b>(n=28)</b>	<b>(n=25)</b>	<b>(n=22)</b>	<b>(n=75)</b>
	Hill Village 2	Livestock rearing	0.0	8.8	3.8	3.8
		Agriculture	43.5	20.6	11.5	28.3
		Housekeeping	4.3	5.9	3.8	4.7
		Business	6.5	0.0	0.0	2.8
		Service	8.7	11.8	0.0	7.5
		Wage earning	0.0	2.9	26.9	7.5
		Occupational work	0.0	0.0	7.7	1.9
		Student	26.1	41.2	30.8	32.1
		Dependent	10.9	8.8	15.4	11.3
			<b>(n=34)</b>	<b>(n=46)</b>	<b>(n=26)</b>	<b>(n=106)</b>
Chitwan	Terai Village 1	Livestock rearing	5.4	0.0	0.0	2.0
		Agriculture	37.8	51.4	25.0	39.2
		Housekeeping	2.7	2.7	7.1	3.9
		Work aboard	10.8	0.0	10.7	6.9
		Business	2.7	0.0	0.0	1.0
		Service	10.8	2.7	7.1	6.9
		Wage earning	0.0	0.0	7.1	2.0
		Student	24.3	37.8	39.3	33.3
		Dependent	5.4	5.4	3.6	4.9
	<b>(n=37)</b>	<b>(n=37)</b>	<b>(n=28)</b>	<b>(n=102)</b>		

District	Village	Occupation	Ethnic group (percent)			
			Rich	Medium	Poor	Overall
	Terai Village 2	Agriculture	53.1	43.5	31.8	44.0
		Housekeeping	0.0	2.2	0.0	1.0
		Work aboard	3.1	4.3	0.0	3.0
		Service	3.1	6.5	4.5	5.0
		Wage earning	0.0	0.0	9.1	2.0
		Student	37.5	34.8	45.5	38.0
		Dependent	3.1	8.7	9.1	7.0
				(n=46)	(n=32)	n=22)

### 3 Livelihoods

#### 3.1 Livestock animal

Table 12: HH rearing any type of livestock

District	Village	Economic	Livestock rearing		
			Yes	No	Total
Sindhupalchowk	Hill Village 1	Rich (n=5)	100.0	-	100.0
		Medium (n=5)	100.0	-	100.0
		Medium(n=5)	100.0	-	100.0
		<b>Overall (n=15)</b>	<b>100.0</b>	<b>-</b>	<b>100.0</b>
	Hill Village 2	Rich (n=5)	100.0	-	100.0
		Medium (n=5)	100.0	-	100.0
		Medium(n=5)	100.0	-	100.0
		<b>Overall (n=15)</b>	<b>100.0</b>	<b>-</b>	<b>100.0</b>
Chitwan	Terai Village 1	Rich (n=5)	100.0	-	100.0
		Medium (n=5)	100.0	-	100.0
		Medium(n=5)	100.0	-	100.0
		<b>Overall (n=15)</b>	<b>100.0</b>	<b>-</b>	<b>100.0</b>
	Terai Village 2	Rich (n=5)	80.0	20.0	100.0
		Medium (n=5)	100.0	-	100.0
		Medium(n=5)	80.0	20.0	100.0
		<b>Overall (n=15)</b>	<b>86.7</b>	<b>13.3</b>	<b>100.0</b>

#### 3.1.1 Buffalo

Table 13: HH rearing Buffalo

District	Village	HH rearing Buffalo (percent)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	80	100	100	93.3
	Hill Village 2	100	100	80	93.3
Chitwan	Terai Village 1	100	80	80	86.7
	Terai Village 2	80	100	60	80.0

**Table 14: Total number of Buffalo reared by surveyed HHs**

District	Village	Number of Buffalo reared			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	6	9	7	22
	Hill Village 2	8	7	7	22
Chitwan	Terai Village 1	8	7	6	21
	Terai Village 2	6	8	4	18

**Table 15: Average number of Buffalo reared by surveyed HHs (of those HH rearing buffalo)**

District	Village	Average number of Buffalo reared			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	1.5	1.8	1.4	1.6
	Hill Village 2	1.6	1.4	1.8	1.6
Chitwan	Terai Village 1	1.6	1.8	1.5	1.6
	Terai Village 2	1.5	1.6	1.3	1.5

**Table 16: Buffalo rearing techniques**

District	Village	Rearing practice	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Use barn	100.0	100.0	20.0	71.4
		Grazing/Use barn	0.0	0.0	80.0	28.6
			(n=4)	(n=5)	(n=5)	n=14
	Hill Village 2	Use barn	100.0	100.0	100.0	100.0
			(n=5)	(n=5)	(n=4)	n=14
Chitwan	Terai Village 1	Use barn	100.0	100.0	100.0	100.0
				(n=5)	(n=4)	(n=4)
	Terai Village 2	Use barn	100.0	100.0%	66.7%	91.7%
		Grazing/Use barn	0.0%	0.0%	33.3%	8.3%
			(n=4)	(n=5)	(n=3)	(n=12)

**Table 17: Sale of the buffalo product**

District	Village	Sale of product	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Yes	50.0%	60.0%	0.0%	35.7%
		No	50.0%	40.0%	100.0%	64.3%
		<b>Total</b>	<b>(n=4)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>n=14</b>
	Hill Village 2	Yes	20.0%	20.0%	25.0%	21.4%
		No	80.0%	80.0%	75.0%	78.6%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>n=14</b>
Chitwan	Terai Village 1	Yes	80.0%	75.0%	75.0%	76.9%
		No	20.0%	25.0%	25.0%	23.1%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=4)</b>	<b>n=13</b>
	Terai Village 2	Yes	50.0%	100.0%	66.7%	75.0%
		No	50.0%	0.0%	33.3%	25.0%
		<b>Total</b>	<b>(n=4)</b>	<b>(n=5)</b>	<b>(n=3)</b>	<b>(n=12)</b>

Table 18: Type of the product sold

District	Village	Products	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Milk	100	100	-	100
		Meat	-	33.3	-	20
		Dairy products	-	33.3	-	20
		<b>Total</b>	<b>(n=2)</b>	<b>(n=3)</b>	<b>(n=0)</b>	<b>(n=5)</b>
	Hill Village 2	Milk	100.0	-	100.0	66.7
		Meat	-	100.0	-	33.3
		Dairy products	100.0	100.0	-	66.7
		<b>Total</b>	<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=3)</b>
Chitwan	Terai Village 1	Milk	100.0	100.0	100.0	100.0
		Meat	25.0	33.3	33.3	30.0
		<b>Total</b>	<b>(n=4)</b>	<b>(n=3)</b>	<b>(n=3)</b>	<b>(n=10)</b>
	Terai Village 2	Milk	100.0	100.0	100.0	100.0
		Meat	50.0	-	50.0	22.2
		<b>Total</b>	<b>(n=2)</b>	<b>(n=5)</b>	<b>(n=2)</b>	<b>(n=9)</b>

Table 19: Use of buffalo excrement as fertilizer

District	Village	Use of excrement as fertilizer	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Yes	100.0	100.0	100.0	100.0
		No	-	-	-	-
		<b>Total</b>	<b>(n=4)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>n=14)</b>
	Hill Village 2	Yes	100.0	100.0	100.0	100.0
		No	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>n=14)</b>
Chitwan	Terai Village 1	Yes	100.0	100.0	100.0	100.0
		No	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=4)</b>	<b>n=13)</b>
	Terai Village 2	Yes	100.0	100.0	100.0	100.0
		No	-	-	-	-
		<b>Total</b>	<b>(n=4)</b>	<b>(n=5)</b>	<b>(n=3)</b>	<b>(n=12)</b>

Table 20: Problems of buffalo rearing

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Disease	-	40.0	20.0	21.4
		Grasses and forage availability	-	40.0	-	14.3
		Grazing area availability	25	20.0	60.0	35.7
		Concrete feed availability	-	-	20.0	7.1
		Medicines availability	-	20.0	-	7.1
		<b>Total</b>	<b>(n=4)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=14)</b>
	Hill Village 2	Concrete Feed availability	60	-	50.0	38.5
		Grasses and forage availability	0	50.0	50.0	30.8
		Grazing area availability	80	50.0	-	46.2
		Manpower for livestock rearing	20	-	25.0	15.4
		Medicine availability	20	-	-	7.7
		Water availability	0	25.0	-	7.7
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>n=14)</b>
	Chitwan	Terai Village 1	Concrete Feed availability	20	-	-
Feed-straw availability			20	25.0	-	15.4
Grasses and forage availability			20	75.0	50.0	46.2
<b>Total</b>			<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=4)</b>	<b>n=13)</b>
Terai Village 2		Concrete Feed availability	25	-	33.3	16.7
		Feed-straw availability	25	20.0	-	16.7
		<b>Total</b>	<b>(n=4)</b>	<b>(n=5)</b>	<b>(n=3)</b>	<b>(n=12)</b>

### 3.1.2 Cow

Table 21: Percent of HH rearing cow

District	Village	HH rearing cow (percent)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	40.0	20.0	-	20.0
	Hill Village 2	20.0	20.0	-	13.3
Chitwan	Terai Village 1	-	-	80.0	26.7
	Terai Village 2	20.0	-	-	6.7

Table 22: Total number of cow reared by surveyed HHs

District	Village	Number of cow reared			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	2	2		4
	Hill Village 2	2	2		4
Chitwan	Terai Village 1			4	4
	Terai Village 2	1			1

Table 23: Average number of cow reared by surveyed HHs (of those HH rearing cow)

District	Village	Average number of cow reared			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	1.0	2.0		1.3
	Hill Village 2	2.0	2.0		2.0
Chitwan	Terai Village 1			1.0	1.0
	Terai Village 2	1.0			1.0

Table 24: Cow rearing techniques

District	Village	Rearing practice	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Use barn	100.0%	100.0%		100.0%
		<b>Total</b>	<b>(n=2)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>n=3</b>
	Hill Village 2	Use barn	100.0%	100.0%		100.0%
		<b>Total</b>	<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=2)</b>
Chitwan	Terai Village 1	Use barn			100.0%	100.0%
		<b>Total</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=4)</b>	<b>n=4</b>
	Terai Village 2	Use barn	100.0%			100.0%
		<b>Total</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=1)</b>

Table 25: Sale of the cow product

District	Village	Traded product	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Yes	100.0%	100.0%		100.0%
		No				
		<b>Total</b>	<b>(n=2)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>n=3)</b>
	Hill Village 2	Yes	100.0%	100.0%		100.0%
		No				
		<b>Total</b>	<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=2)</b>
Chitwan	Terai Village 1	Yes			25.0%	25.0%
		No			75.0%	75.0%
		<b>Total</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=4)</b>	<b>n=4)</b>
	Terai Village 2	Yes	100.0%			100.0%
		No	100.0%			100.0%
		<b>Total</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=1)</b>

Table 26: Type of the product traded

District	Village	Traded products	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Milk	100.0%	100.0%		100.0%
		Meat				
		<b>Total</b>	<b>(n=2)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>n=3)</b>
	Hill Village 2	Milk	100.0%	100.0%		100.0%
		Meat				
		<b>Total</b>	<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=2)</b>
Chitwan	Terai Village 1	Milk			100.0	100.0
		Meat				
		<b>Total</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=4)</b>	<b>n=4)</b>
	Terai Village 2	Milk			100.0%	100.0%
		Meat				
		<b>Total</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=1)</b>

Table 27: Use of cow excrement as fertilizer

District	Village	Use of excrement	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Yes	100.0%	100.0%		100.0%
		No				
		<b>Total</b>	<b>(n=2)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>n=3)</b>
	Hill Village 2	Yes	0.0%	100.0%		50.0
		No	100.0%	0.0%		50.0
		<b>Total</b>	<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=2)</b>
Chitwan	Terai Village 1	Yes			100.0%	100.0%
		No				
		<b>Total</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=4)</b>	<b>n=4)</b>
	Terai Village 2	Yes	100.0%			100.0%
		No				
		<b>Total</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=1)</b>

**Table 28: Problems of cow rearing**

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Disease problem	0	100.0		33.3
		Grass problem	50	-		33.3
		(n=2)	(n=1)	(n=0)	(n=3)	
	Hill Village 2	Grazing area	100.0	100.0		100.0
		(n=1)	(n=1)	(n=0)	(n=2)	
Chitwan	Terai Village 1	Feed –straw			25.0	25.0
		Grazing area			25.0	25.0
		(n=0)	(n=0)	(n=4)	(n=4)	
	Terai Village 2	Grass problem	100.0			100.0
			(n=1)	(n=0)	(n=0)	(n=1)

### 3.1.3 Goat

**Table 29: Percent of HH rearing goat**

District	Village	HH rearing goat (percent)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	80.0	60.0	100.0	80.0
	Hill Village 2	100.0	100.0	100.0	100.0
Chitwan	Terai Village 1	80.0	80.0	40.0	66.7
	Terai Village 2	60.0	80.0	60.0	66.7

**Table 30: Total number of goat reared by surveyed HHs**

District	Village	Number of goat reared			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	21	15	14	50
	Hill Village 2	23	26	16	65
Chitwan	Terai Village 1	13	8	3	24
	Terai Village 2	13	25	7	45

**Table 31: Average number of goat reared by surveyed HHs (of those HH rearing cow)**

District	Village	Average number of goat reared			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	5.3	5.0	2.8	4.2
	Hill Village 2	4.6	5.2	3.2	4.3
Chitwan	Terai Village 1	3.3	2.0	1.5	2.4
	Terai Village 2	4.3	6.3	2.3	4.5



**Table 32: Goat rearing techniques**

District	Village	Rearing technique	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Use Barn	100.0%	100.0%	20.0%	66.7%
		Grazing/Use barn	0.0%	0.0%	80.0%	33.3%
		<b>(n=4)</b>	<b>(n=3)</b>	<b>n=5)</b>	<b>(n=12)</b>	
	Hill Village 2	Use Barn	100.0%	100.0%	100.0%	100.0%
		<b>(n=5)</b>	<b>(n=5)</b>	<b>n=5)</b>	<b>(n=15)</b>	
Chitwan	Terai Village 1	Use Barn	100.0%	100.0%	100.0%	100.0%
			<b>(n=4)</b>	<b>(n=4)</b>	<b>n=2)</b>	<b>(n=10)</b>
	Terai Village 2	Use Barn	100.0%	100.0%	66.7%	90.0%
		Grazing/Use barn	0.0%	0.0%	33.3%	10.0%
		<b>(n=3)</b>	<b>(n=4)</b>	<b>n=3)</b>	<b>(n=10)</b>	

**Table 33: Sale of the goat product**

District	Village	Traded product	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Yes	100.0%	100.0%	40.0%	75.0%
		No	0.0%	0.0%	60.0%	25.0%
		Total	<b>(n=4)</b>	<b>(n=3)</b>	<b>(n=5)</b>	<b>(n=12)</b>
	Hill Village 2	Yes	100.0%	80.0%	80.0%	86.7%
		No	0.0%	20.0%	20.0%	13.3%
		Total	<b>(n=5)</b>	<b>(n=5)</b>	<b>n=5)</b>	<b>(n=15)</b>
Chitwan	Terai Village 1	Yes	100.0%	75.0%	100.0%	90.0%
		No	0.0%	25.0%	0.0%	10.0%
		Total	<b>(n=4)</b>	<b>(n=4)</b>	<b>n=2)</b>	<b>(n=10)</b>
	Terai Village 2	Yes	100.0%	100.0%	66.7%	90.0%
		No	0.0%	0.0%	33.3%	10.0%
		Total	<b>(n=3)</b>	<b>(n=4)</b>	<b>n=3)</b>	<b>(n=10)</b>

**Table 34: Type of the product traded**

District	Village	Traded products	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Milk				
		Meat*	100.0%	100.0%	100.0%	100.0%
		Total	<b>(n=4)</b>	<b>(n=3)</b>	<b>n=2)</b>	<b>(n=9)</b>
	Hill Village 2	Milk				
		Meat	100.0%	100.0%	100.0%	100.0%
		Milk products				
		<b>(n=5)</b>	<b>(n=4)</b>	<b>n=4)</b>	<b>(n=13)</b>	
Chitwan	Terai Village 1	Milk				
		Meat	100.0%	100.0%	100.0%	100.0%
		Total	<b>(n=4)</b>	<b>(n=3)</b>	<b>n=2)</b>	<b>(n=9)</b>
	Terai Village 2	Milk				
		Meat	100.0%	100.0%	100.0%	100.0%
		Total	<b>(n=3)</b>	<b>(n=4)</b>	<b>n=2)</b>	<b>(n=9)</b>

\* Live animals

Table 35: Use of goat excrement as fertilizer

District	Village	Use of excrement	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Yes	75.0%	66.7%	80.0%	75.0%
		No	25.0%	33.3%	20.0%	25.0%
		<b>Total</b>	<b>(n=4)</b>	<b>(n=3)</b>	<b>n=5)</b>	<b>(n=12)</b>
	Hill Village 2	Yes	100.0%	80.0%	80.0%	86.7%
		No	0.0%	20.0%	20.0%	13.3%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>n=5)</b>	<b>(n=15)</b>
Chitwan	Terai Village 1	Yes	100.0%	75.0%	100.0%	90.0%
		No	0.0%	25.0%	0.0%	10.0%
		<b>Total</b>	<b>(n=4)</b>	<b>(n=4)</b>	<b>n=2)</b>	<b>(n=10)</b>
	Terai Village 2	Yes	66.7%	75.0%	100.0%	80.0%
		No	33.3%	25.0%	0.0%	20.0%
		<b>Total</b>	<b>(n=3)</b>	<b>(n=4)</b>	<b>n=3)</b>	<b>(n=10)</b>

Table 36: Problems of goat rearing

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Concrete Feed	0	33.3	20.0	16.7
		Feed-straw	25	33.3	20.0	25.0
		Grasses	25	33.3	40.0	33.3
		<b>Total</b>	<b>(n=4)</b>	<b>(n=3)</b>	<b>n=5)</b>	<b>(n=12)</b>
	Hill Village 2	Concrete Feed	20.0	20.0	100.0	46.7
		Feed-straw	80.0	60.0	-	46.7
		Cattleshed	20.0	-	-	6.7
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>n=5)</b>	<b>(n=15)</b>
Chitwan	Terai Village 1	Grasses	25	50.0	-	30.0
		<b>Total</b>	<b>(n=4)</b>	<b>(n=4)</b>	<b>(n=2)</b>	<b>(n=10)</b>
	Terai Village 2	Grasses	-	-	33.3	10.0
		<b>Total</b>	<b>(n=3)</b>	<b>(n=4)</b>	<b>n=3)</b>	<b>(n=10)</b>

### 3.1.4 Ox

Table 37: Percent of HH rearing ox

District	Village	HH rearing ox			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	20.0	-	-	6.7
	Hill Village 2	40.0	60.0	-	33.3
Chitwan	Terai Village 1	20.0	20.0	-	13.3
	Terai Village 2	40.0	40.0	-	26.7

**Table 38: Total number of ox reared by surveyed HHS**

District	Village	Number of ox reared			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	2			2
	Hill Village 2	4	4		8
Chitwan	Terai Village 1	1	1		2
	Terai Village 2	3	3		6

**Table 39: Average number of ox reared by surveyed HHs (of those HH rearing cow)**

District	Village	Average number of ox reared			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	2.0			2.0
	Hill Village 2	2.0	1.3		1.6
Chitwan	Terai Village 1	1.0	1.0		1.0
	Terai Village 2	1.5	1.5		1.5

**Table 40: Ox rearing techniques**

District	Village	Rearing technique	Economic group (percent)			Overall
			Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1					
			(n=1)	(n=0)	(n=0)	(n=1)
	Hill Village 2					
			(n=2)	(n=3)	(n=0)	(n=5)
Chitwan	Terai Village 1					
			(n=1)	(n=1)	(n=0)	(n=2)
	Terai Village 2					
			(n=2)	(n=2)	(n=0)	(n=4)

**Table 41: Sale of the ox product**

District	Village	Traded product	Economic group (percent)			Overall
			Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	Yes				
		No	100.0			100.0
		Total	(n=1)	(n=0)	(n=0)	(n=1)
	Hill Village 2	Yes				
		No	100.0	100.0		100.0
		Total	(n=2)	(n=3)	(n=0)	(n=5)
Chitwan	Terai Village 1	Yes				
		No	100.0	100.0		100.0
		Total	(n=1)	(n=1)	(n=0)	(n=2)
	Terai Village 2	Yes				
		No	100.0	100.0		100.0
		Total	(n=2)	(n=2)	(n=0)	(n=4)

Type of the product traded: None

**Table 42: Use of ox excrement as fertilizer**

District	Village	Use of excrement	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Yes	100.0%	-	-	100.0%
		No	-	-	-	-
		<b>Total</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=1)</b>
	Hill Village 2	Yes	100.0%	100.0%	-	100.0%
		No	-	-	-	-
		<b>Total</b>	<b>(n=2)</b>	<b>(n=3)</b>	<b>(n=0)</b>	<b>(n=5)</b>
Chitwan	Terai Village 1	Yes	100.0%	100.0%	-	100.0%
		No	-	-	-	-
		<b>Total</b>	<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=2)</b>
	Terai Village 2	Yes	100.0%	100.0%	-	100.0%
		No	-	-	-	-
		<b>Total</b>	<b>(n=2)</b>	<b>(n=2)</b>	<b>(n=0)</b>	<b>(n=4)</b>

**Table 43: Problems of ox rearing**

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Grazing area	100.0%	-	-	100.0%
			<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=1)</b>
	Hill Village 2	Grasses	-	33.3	-	20.0
		Feed-straw	100.0	66.7	-	80.0
		Cattleshed	0	33.3	-	20.0
	<b>(n=2)</b>	<b>(n=3)</b>	<b>(n=0)</b>	<b>(n=5)</b>		
Chitwan	Terai Village 1	Feed-straw	100.0	100.0	-	100.0
			<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=2)</b>
	Terai Village 2	Grasses	50.0	50.0	-	50.0
			<b>(n=2)</b>	<b>(n=2)</b>	<b>(n=0)</b>	<b>(n=4)</b>

## 3.2 Agriculture

### 3.2.1 Agriculture work force

**Table 44: Number of agriculture work force person**

District	Village	Number of person			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	12	6	10	28
	Hill Village 2	28	7	9	44
Chitwan	Terai Village 1	14	17	8	39
	Terai Village 2	13	17	9	39

**Table 45: Ratio of agriculture work force population to the total population**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	42.9	24.0	45.5	37.3
	Hill Village 2	82.4	15.2	34.6	41.5
Chitwan	Terai Village 1	37.8	45.9	28.6	38.2
	Terai Village 2	28.3	53.1	40.9	39.0

### 3.2.2 Land

**Table 46: Percent of HHs with land**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	100.0	100.0	100.0	100.0
	Hill Village 2	100.0	100.0	100.0	100.0
Chitwan	Terai Village 1	100.0	100.0	100.0	100.0
	Terai Village 2	100.0	100.0	100.0	100.0

**Table 47: Total operated area (owned + rented in)**

District	Village	Land area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	2.53	2.02	0.61	5.15
	Hill Village 2	4.95	1.11	0.81	6.87
Chitwan	Terai Village 1	7.01	2.91	2.00	11.92
	Terai Village 2	1.83	2.74	0.88	5.45

#### Owned land

**Table 48: Percent of HHs with own land**

District	Village	Own land (percent)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	100.0	100.0	100.0	100.0
	Hill Village 2	100.0	100.0	100.0	100.0
Chitwan	Terai Village 1	100.0	100.0	100.0	100.0
	Terai Village 2	100.0	80.0	80.0	86.7

**Table 49: Total land area owned by surveyed HHs**

District	Village	Land area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	2.53	1.62	0.61	4.75
	Hill Village 2	4.95	1.11	0.81	6.87
Chitwan	Terai Village 1	6.67	1.39	0.81	8.87
	Terai Village 2	1.83	1.39	0.27	3.49

**Table 50: Percent distribution of owned land by surveyed HHs**

District	Village	percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	53.2%	34.0%	12.8%	100.0%
	Hill Village 2	72.1%	16.2%	11.8%	100.0%
Chitwan	Terai Village 1	75.2%	15.6%	9.2%	100.0%
	Terai Village 2	52.4%	39.8%	7.8%	100.0%

**Table 51: Average land area owned by surveyed HHs**

District	Village	Land area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	0.63	0.32	0.12	0.34
	Hill Village 2	0.62	0.37	0.16	0.43
Chitwan	Terai Village 1	1.33	0.28	0.16	0.59
	Terai Village 2	0.37	0.28	0.05	0.23

**Rented in land**

**Table 52: Percent of HHs with rented in land**

District	Village	Own land (percent)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	-	40.0	-	13.3
	Hill Village 2	-	-	-	-
Chitwan	Terai Village 1	20.0	60.0	60.0	46.7
	Terai Village 2	-	60.0	60.0	40.0

**Table 53: Total land area rented by surveyed HHs**

District	Village	Total Land area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	-	0.40	-	0.40
	Hill Village 2	-	-	-	-
Chitwan	Terai Village 1	0.34	1.52	1.19	3.05
	Terai Village 2	-	1.35	0.61	1.96

**Table 54: Percent distribution of rented in land by surveyed HHs**

District	Village	percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	0.0%	100.0%	0.0%	100.0%
	Hill Village 2	-	-	-	-
Chitwan	Terai Village 1	11.1%	50.0%	38.9%	100.0%
	Terai Village 2	0.0%	69.0%	31.0%	100.0%

**Table 55: Average land area rented in by surveyed HHs**

District	Village	Land area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	-	0.08	-	0.03
	Hill Village 2	-	-	-	-
Chitwan	Terai Village 1	0.07	0.30	0.24	0.20
	Terai Village 2	-	0.27	0.12	0.13

### 3.2.3 Measures taken to reduce risk arising from bad weather

Table 56: Measures taken to reduce risk arising from bad weather

District	Village	Measures	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Cover by plastic sheet	40.0	-	20.0	20.0
		Construction of irrigation facilities, boring, well etc	20.0			
		Mulching to protect from heal	20.0	20.0	20.0	20.0
		None	40.0	80.0	60.0	60.0
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Hill Village 2	Less weeding during dry season or draught	40.0	-	20.0	20.0
		Construction of irrigation facilities, boring, well etc	-	-	20.0	6.7
		Cover by plastic sheet	20.0	-	20.0	13.3
		Mulching to protect from heal	-	20.0	-	6.7
		None	80.0	40.0	40.0	53.3
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
Chitwan	Terai Village 1	Mulching to protect from heal	-	20.0	-	6.7
		Construction of irrigation facilities, boring, well etc	80.0	60.0	40.0	60.0
		None	20.0	20.0	60.0	33.3
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	Construction of irrigation facilities, boring, well etc	60.0	20.0	40.0	40.0
		Mulching to protect from heal	20.0	20.0	-	13.3
		None	20.0	60.0	60.0	46.7
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>

### 3.3 Agriculture crops

#### 3.3.1 Paddy

Table 57: Number of HH cultivating paddy

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	5	5	-	10
	Hill Village 2	5	5	-	10
Chitwan	Terai Village 1	5	5	5	10
	Terai Village 2	5	5	5	10

**Table 58: Percent of HH cultivating paddy**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	100.0	100.0	-	66.7
	Hill Village 2	100.0	100.0	-	66.7
Chitwan	Terai Village 1	100.0	100.0	100.0	100.0
	Terai Village 2	100.0	100.0	100.0	100.0

**Table 59: Total area cultivated under paddy**

District	Village	Area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	2.2	1.9	-	4.0
	Hill Village 2	2.3	1.0	-	3.3
Chitwan	Terai Village 1	6.2	5.4	2.5	14.1
	Terai Village 2	3.3	2.8	1.1	7.2

**Table 60: Ratio of paddy area to the total area**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	85.2	92.9	-	78.3
	Hill Village 2	46.5	87.4	-	47.6
Chitwan	Terai Village 1	88.9	185.0	123.6	118.2
	Terai Village 2	179.5	101.3	127.0	131.7

**Table 61: Average yield of paddy**

District	Village	Kg/ha			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	3,736	3,769		3,753
	Hill Village 2	3,236	3,489		3,362
Chitwan	Terai Village 1	3,965	4,005	3,483	3,818
	Terai Village 2	4,890	4,361	3,999	4,417

**Table 62: Means of crop harvested (paddy)**

District	Village	Means of crop harvested	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Daily consumption	100.0%	100.0%	-	100.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
	Hill Village 2	Daily consumption	80.0%	80.0%		80.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
Chitwan	Terai Village 1	Daily consumption	80.0%	100.0%	80.0%	86.7%
		Both	20.0%	0.0%	20.0%	13.3%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	Daily consumption	60.0%	60.0%	100.0%	73.3%
		Both	40.0%	40.0%	0.0%	26.7%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>



Table 63: Marketing channel (paddy)

District	Village	Marketing channel	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupal chowk	Hill Village 1	Nearby market	-	-	-	-
		Broker	-	-	-	-
		Association	-	-	-	-
		Other	-	-	-	-
	<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>	
	Hill Village 2	Nearby market	20.0	20.0	-	20.0
		Broker	-	-	-	-
		Association	-	-	-	-
Other		-	-	-	-	
<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>		
Chitwan	Terai Village 1	Nearby market	-	-	20.0	6.7
		Broker	-	-	-	-
		Association	-	-	-	-
		Other	-	-	-	-
	<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>	
	Terai Village 2	Nearby market	40.0	40.0	-	26.7
		Broker	-	-	-	-
		Association	-	-	-	-
Other		-	-	-	-	
<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>		

Table 64: Production input – home made (paddy)

District	Village	Production input	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupal chowk	Hill Village 1	Seed	80.0%	100.0%		90.0%
		Compost	100.0%	100.0%		100.0%
		Disease and pest control	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
	Hill Village 2	Seed	100.0%	100.0%		100.0%
		Compost	100.0%	100.0%		100.0%
		Disease and pest control	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
Chitwan	Terai Village 1	Seed	100.0%	80.0%	80.0%	86.7%
		Compost	100.0%	100.0%	100.0%	100.0%
		Disease and pest control				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	Seed	100.0%	100.0%	40.0%	80.0%
		Compost	100.0%	100.0%	100.0%	100.0%
		Disease and pest control				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>

Table 65: Production input – externally acquired (paddy)

District	Village	Production input	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Seed	-	-	-	-
		Fertilizer	80.0%	80.0%		80.0%
		Agriculture chemicals	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
	Hill Village 2	Seed	-	-	-	-
		Fertilizer	60.0%	60.0%		60.0%
		Agriculture chemicals	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
Chitwan	Terai Village 1	Seed	80.0%	60.0%	20.0%	53.3%
		Fertilizer	100.0%	100.0%	80.0%	93.3%
		Agriculture chemicals	40.0%	40.0%	20.0%	33.3%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	Seed	0.0%	20.0%	40.0%	20.0%
		Fertilizer	80.0%	80.0%	80.0%	80.0%
		Agriculture chemicals	20.0%	20.0%	40.0%	26.7%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>

Table 66: Use of livestock power in cultivation (paddy)

District	Village	Livestock power in cultivation	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	In use	100.0%	100.0%	-	100.0%
		Not in use	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
	Hill Village 2	In use	100.0%	100.0%	-	100.0%
		Not in use	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
Chitwan	Terai Village 1	In use	100.0%	80.0%	100.0%	93.3%
		Not in use	0.0%	20.0%	0.0%	6.7%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
	Terai Village 2	In use	100.0%	100.0%	80.0%	93.3%
		Not in use	0.0%	0.0%	20.0%	6.7%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>

Table 67: Type of livestock power in cultivation (paddy)

District	Village	Livestock power in cultivation	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Cattle	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
	Hill Village 2	Cattle	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=0)</b>	<b>(n=10)</b>
Chitwan	Terai Village 1	Cattle	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=5)</b>	<b>(n=14)</b>
	Terai Village 2	Cattle	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=15)</b>

Use and acquisition of agriculture machinery

Table 68: Tractor (paddy)

District	Village	Economic group	HH using		Percent	
			No	%	Own	Rent
Sindhupalchowk	Hill Village 1	Rich (n=5)	-	-	-	-
		Medium(n=5)	-	-	-	-
		Poor(n=0)	-	-	-	-
		<b>Total (n=10)</b>	-	-	-	-
Sindhupalchowk	Hill Village 2	Rich (n=5)	-	-	-	-
		Medium (n=5)	-	-	-	-
		Poor (n=0)	-	-	-	-
		<b>Total (n=10)</b>	-	-	-	-
Chitwan	Terai Village 1	Rich (n=5)	4.0	80.0	-	100.0
		Medium (n=5)	5.0	100.0	-	100.0
		Poor (n=5)	4.0	80.0	-	100.0
		<b>Total(n=15)</b>	13.0	86.7	-	100.0
	Terai Village 1	Rich (n=5)	5.0	100.0	20.0	80.0
		Medium (n=5)	5.0	100.0	20.0	80.0
		Poor(n=5)	2.0	40.0	-	100.0
		<b>Total(n=15)</b>	11.0	73.3	18.2	81.8

Table 69: Thresher (paddy)

District	Village	Economic group	HH using		Percent	
			No	%	Own	Rent
Sindhupalchowk	Hill Village 1	Rich (n=5)	-	-	-	-
		Medium(n=5)	-	-	-	-
		Poor(n=0)	-	-	-	-
		<b>Total (n=10)</b>	-	-	-	-
Sindhupalchowk	Hill Village 2	Rich (n=5)	-	-	-	-
		Medium (n=5)	-	-	-	-
		Poor (n=0)	-	-	-	-
		<b>Total (n=10)</b>	-	-	-	-
Chitwan	Terai Village 1	Rich (n=5)	1.0	20.0	-	100.0
		Medium (n=5)	-	-	-	-
		Poor (n=5)	-	-	-	-
		<b>Total(n=15)</b>	<b>1.0</b>	<b>6.7</b>	-	<b>100.0</b>
	Terai Village 2	Rich (n=5)	2.0	40.0	-	100.0
		Medium (n=5)	2.0	40.0	-	100.0
		Poor(n=5)	1.0	20.0	-	100.0
		<b>Total(n=15)</b>	<b>5.0</b>	<b>33.3</b>	-	<b>100.0</b>

**Table 70: Problems of paddy cultivation**

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupal chowk	Hill Village 1	Difficult to obtain quality seed	80.0	100.0	-	90.0
		Lack of land fertility	-	20.0	-	10.0
		Lack of arable land	20.0	-	-	10.0
		Lack of fertilizer	20.0	20.0	-	20.0
		Lack of manpower	20.0	60.0	-	40.0
		Lack of livestock power	20.0	-	-	10.0
		Lack of irrigation facility	-	-	-	-
	<b>Total</b>	<b>n=5</b>	<b>n=5</b>	<b>n=0</b>	<b>n=10</b>	
	Hill Village 2	Difficult to obtain quality seed	100.0	100.0	-	100.0
		Lack of land fertility	20.0	20.0	-	20.0
		Lack of arable land	40.0	40.0	-	40.0
		Lack of fertilizer	60.0	-	-	30.0
		Lack of manpower	40.0	40.0	-	40.0
		Lack of livestock power	20.0	-	-	10.0
Lack of irrigation facility		20.0	60.0	-	40.0	
<b>Total</b>	<b>n=5</b>	<b>n=5</b>	<b>n=0</b>	<b>n=10</b>		
Chitwan	Terai Village 1	Difficult to obtain quality seed	80.0	60.0	80.0	73.3
		Lack of land fertility	40.0	20.0	40.0	33.3
		Lack of arable land	-	20.0	40.0	20.0
		Lack of fertilizer	20.0	40.0	20.0	26.7
		Lack of manpower	20.0	-	40.0	20.0
		Lack of livestock power	20.0	-	-	6.7
		Lack of irrigation facility	20.0	60.0	-	26.7
	<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>	
	Terai Village 2	Difficult to obtain quality seed	80.0	80.0	60.0	73.3
		Lack of land fertility	40.0	60.0	80.0	60.0
		Lack of arable land	20.0	40.0	60.0	40.0
		Lack of fertilizer	80.0	60.0	80.0	73.3
		Lack of manpower	-	20.0	-	6.7
		Lack of irrigation facility	20.0	-	-	6.7
<b>Total</b>		<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>	

**Table 71: Possible methods to employ in increasing productivity, considering cost availability (paddy)**

District	Village	Methods possible	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Improved seed	60.0	80.0	-	70.0
		Organic manure	-	-	-	-
		Chemical fertilizer	20.0	40.0	-	30.0
		Pesticide chemical	20.0	-	-	-
			<b>n=5</b>	<b>n=5</b>	<b>n=0</b>	<b>n=10</b>
	Hill Village 2	Improved seed	100.0	80.0	-	90.0
		Organic manure	20.0	40.0	-	30.0
		Chemical fertilizer	40.0	-	-	20.0
		Pesticide chemical	20.0	20.0	-	20.0
			<b>n=5</b>	<b>n=5</b>	<b>n=0</b>	<b>n=10</b>

### 3.3.2 Wheat

**Table 72: Number of HH cultivating wheat**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1				0
	Hill Village 2	5	3		8
Chitwan	Terai Village 1	2	2		4
	Terai Village 2	1	3	2	6

**Table 73: Percent of HH cultivating wheat**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	-	-	-	-
	Hill Village 2	100.0	60.0	-	53.3
Chitwan	Terai Village 1	40.0	40.0	-	26.7
	Terai Village 2	20.0	60.0	40.0	40.0

**Table 74: Total area cultivated under wheat**

District	Village	Area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1				
	Hill Village 2	1.5	0.4		1.9
Chitwan	Terai Village 1	0.1	0.3		0.4
	Terai Village 2	1.0	0.7	0.2	1.9

**Table 75: Ratio of wheat area to the total area**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	-	-	-	-
	Hill Village 2	30.7	35.3	-	27.8
Chitwan	Terai Village 1	1.9	10.5	-	3.7
	Terai Village 2	55.5	24.7	26.9	35.4

**Table 76: Average yield of wheat**

District	Village	Kg/ha			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1				
	Hill Village 2	1,170	1,747		1,386
Chitwan	Terai Village 1	1,521	2,108		1,815
	Terai Village 2	2,608	1,798	1,872	1,958

**Table 77: Means of crop harvested (wheat)**

District	Village	Means of crop harvested	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Daily consumption				
		Market purpose				
		Both				
		<b>Total</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>
	Hill Village 2	Daily consumption	80.0%	66.7%		75.0%
		Market purpose				
		Both	20.0%	33.3%		25.0%
<b>Total</b>		<b>n = 5</b>	<b>n = 3</b>	<b>n = 0</b>	<b>n = 8</b>	
Chitwan	Terai Village 1	Daily consumption	100.0%	100.0%		100.0%
		Market purpose				
		Both				
		<b>Total</b>	<b>n = 2</b>	<b>n = 2</b>	<b>n = 0</b>	<b>n = 4</b>
	Terai Village 2	Daily consumption	100.0%	100.0%	100.0%	100.0%
		Market purpose				
		Both				
<b>Total</b>		<b>n = 1</b>	<b>n = 3</b>	<b>n = 2</b>	<b>n = 6</b>	

**Table 78: Marketing channel (wheat)**

District	Village	Marketing channel	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupal chowk	Hill Village 1	Nearby market	-	-	-	-
		Broker	-	-	-	-
		Other	-	-	-	-
		<b>Total</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>
	Hill Village 2	Nearby market	20.0	33.3	-	25.0
		Broker	-	-	-	-
		Other	-	-	-	-
		<b>Total</b>	<b>n = 5</b>	<b>n = 3</b>	<b>n = 0</b>	<b>n = 8</b>
Chitwan	Terai Village 1	Nearby market	-	-	-	-
		Broker	-	-	-	-
		Association	-	-	-	-
		Other	-	-	-	-
		<b>Total</b>	<b>n = 2</b>	<b>n = 2</b>	<b>n = 0</b>	<b>n = 4</b>
	Terai Village 2	Nearby market	-	-	-	-
		Broker	-	-	-	-
		Association	-	-	-	-
		Other	-	-	-	-
		<b>Total</b>	<b>n = 1</b>	<b>n = 3</b>	<b>n = 2</b>	<b>n = 6</b>

**Table 79: Production input – home made (wheat)**

District	Village	Production input	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupal chowk	Hill Village 1	Seed	-	-	-	-
		Compost	-	-	-	-
		Disease and pest control	-	-	-	-
		<b>Total</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>
	Hill Village 2	Seed	100.0%	100.0%		100.0%
		Compost	80.0%	100.0%		87.5%
		Disease and pest control				
		<b>Total</b>	<b>n = 5</b>	<b>n = 3</b>	<b>n = 0</b>	<b>n = 8</b>
Chitwan	Terai Village 1	Seed	50.0%	50.0%		50.0%
		Compost	100.0%	100.0%		100.0%
		Disease and pest control				
		<b>Total</b>	<b>n = 2</b>	<b>n = 2</b>	<b>n = 0</b>	<b>n = 4</b>
	Terai Village 2	Seed	100.0%	66.7%	50.0%	66.7%
		Compost	100.0%	100.0%	100.0%	100.0%
		Disease and pest control				
		<b>Total</b>	<b>n = 1</b>	<b>n = 3</b>	<b>n = 2</b>	<b>n = 6</b>

Table 80: Production input – externally acquired (wheat)

District	Village	Production input	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Seed	-	-	-	-
		Fertilizer	-	-	-	-
		Agriculture chemicals	-	-	-	-
		<b>Total</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>
	Hill Village 2	Seed	20.0%	0.0%	-	12.5%
		Fertilizer	80.0%	100.0%	-	87.5%
		Agriculture chemicals	-	-	-	-
<b>Total</b>		<b>n = 5</b>	<b>n = 3</b>	<b>n = 0</b>	<b>n = 8</b>	
Chitwan	Terai Village 1	Seed	100.0%	100.0%	-	100.0%
		Fertilizer	100.0%	100.0%	-	100.0%
		Agriculture chemicals	50.0%	50.0%	-	50.0%
		<b>Total</b>	<b>n = 2</b>	<b>n = 2</b>	<b>n = 0</b>	<b>n = 4</b>
	Terai Village 2	Seed	0.0%	33.3%	50.0%	33.3%
		Fertilizer	0.0%	66.7%	100.0%	66.7%
		Agriculture chemicals	0.0%	33.3%	50.0%	33.3%
<b>Total</b>		<b>n = 1</b>	<b>n = 3</b>	<b>n = 2</b>	<b>n = 6</b>	

Table 81: Use of livestock power in cultivation (wheat)

District	Village	Livestock power in cultivation	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	In use				
		Not in use				
		<b>Total</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>
	Hill Village 2	In use	100.0%	100.0%		100.0%
		Not in use				
		<b>Total</b>	<b>n = 5</b>	<b>n = 3</b>	<b>n = 0</b>	<b>n = 8</b>
Chitwan	Terai Village 1	In use	100.0%	100.0%		100.0%
		Not in use				
		<b>Total</b>	<b>n = 2</b>	<b>n = 2</b>	<b>n = 0</b>	<b>n = 4</b>
	Terai Village 2	In use	100.0%	100.0%	100.0%	100.0%
		Not in use				
		<b>Total</b>	<b>n = 1</b>	<b>n = 3</b>	<b>n = 2</b>	<b>n = 6</b>



**Table 82: Type of livestock power in cultivation (wheat)**

District	Village	Livestock power in cultivation	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Cattle				
		Total	n = 0	n = 0	n = 0	n = 0
	Hill Village 2	Cattle	100.0%	100.0%		100.0%
		Total	n = 5	n = 3	n = 0	n = 8
Chitwan	Terai Village 1	Cattle	100.0%	100.0%		100.0%
		Total	n = 2	n = 2	n = 0	n = 4
	Terai Village 2	Cattle	100.0%	100.0%	100.0%	100.0%
		Total	n = 1	n = 3	n = 2	n = 6

**Use and acquisition of agriculture machinery**

**Table 83: Tractor (wheat)**

District	Village	Economic group	HH using		Percent	
			No	%	Own	Rent
Sindhupalchowk	Hill Village 1	Rich (n=0)	-			
		Medium(n=0)	-			
		Poor(n=0)	-			
		Total (n=0)	-			
Sindhupalchowk	Hill Village 2	Rich (n=5)	-			
		Medium (n=3)	-			
		Poor (n=0)	-			
		Total (n=8)	-			
Chitwan	Terai Village 1	Rich (n=2)	-			
		Medium (n=2)	1.0	50.0	-	100.0
		Poor (n=0)	-			
		Total(n=4)	1.0	25.0	-	100.0
	Terai Village 1	Rich (n=1)	1.0	100.0	100.0	-
		Medium (n=3)	2.0	66.7	-	100.0
		Poor(n=2)	2.0	100.0	-	100.0
		Total(n=6)	5.0	83.3	-	100.0

**Table 84: Problems of wheat cultivation (wheat)**

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	NA				
		<b>Total</b>	n = 0	n = 0	n = 0	n = 0
	Hill Village 2	Difficult to obtain quality seed	100.0	100.0	-	100.0
		Lack of land fertility	20.0	-	-	12.5
		Lack of arable land	20.0	-	-	12.5
		Lack of fertilizer	40.0	-	-	25.0
		Lack of livestock power	40.0	33.3	-	37.5
		Lack of irrigation facility	40.0	60.0	-	-
		<b>Total</b>	n = 5	n = 3	n = 0	n = 8
		Lack of land fertility		50.0		25.0
	<b>Total</b>	n = 2	n = 2	n = 0	n = 4	

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
	Terai Village 2	Difficult to obtain quality seed	100.0	100.0	100.0	100.0
		Lack of land fertility	-	66.7	100.0	66.7
		Lack of arable land	-	33.3	100.0	50.0
		Lack of fertilizer	-	66.7	100.0	66.7
		Lack of manpower	-	33.3	-	16.7
		<b>Total</b>	<b>n = 1</b>	<b>n = 3</b>	<b>n = 2</b>	<b>n = 6</b>

**Table 85: Possible methods to employ in increasing productivity, considering cost availability (wheat)**

District	Village	Methods possible	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1					
			<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>	<b>n = 0</b>
	Hill Village 2	Improved seed	100.0	66.7	-	87.5
		Organic manure	20.0	33.3	-	25.0
		Chemical fertilizer	40.0	-	-	25.0
		Pesticide chemical	20.0	33.3	-	25.0
		<b>n = 5</b>	<b>n = 3</b>	<b>n = 0</b>	<b>n = 8</b>	

### 3.3.3 Maize

**Table 86: Number of HH cultivating maize**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	5	5	5	15
	Hill Village 2	5	5	4	14
Chitwan	Terai Village 1	5	5	5	15
	Terai Village 2	5	5	2	12

**Table 87: Percent of HH cultivating maize**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	100.0	100.0	100.0	100.0
	Hill Village 2	100.0	100.0	80.0	93.3
Chitwan	Terai Village 1	100.0	100.0	100.0	100.0
	Terai Village 2	100.0	100.0	40.0	80.0

**Table 88: Total area cultivated under maize**

District	Village	Area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	2.0	2.0	0.3	4.3
	Hill Village 2	1.9	1.5	0.5	3.9
Chitwan	Terai Village 1	5.9	3.0	1.7	10.7
	Terai Village 2	2.8	1.7	0.3	4.9

Table 89: Ratio of maize area to the total area

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	79.4	97.0	52.2	83.2
	Hill Village 2	38.6	132.4	66.5	57.0
Chitwan	Terai Village 1	84.1	104.7	86.4	89.5
	Terai Village 2	155.4	63.0	38.5	90.1

Table 90: Average yield of maize

District	Village	Kg/ha			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	2,384	2,297	2,042	2,241
	Hill Village 2	1,960	1,880	2,722	2,149
Chitwan	Terai Village 1	2,431	1,308	2,113	1,951
	Terai Village 2	2,001	1,550	1,166	1,674

Table 91: Means of crop harvested (maize)

District	Village	Means of crop harvested	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Daily consumption	100.0%	100.0%	100.0%	100.0%
		Market purpose				
		Both				
	<b>Total</b>		<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Hill Village 2	Daily consumption	60.0%	80.0%	75.0%	71.4%
		Market purpose				
Both		40.0%	20.0%	25.0%	28.6%	
<b>Total</b>		<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=14)</b>	
Chitwan	Terai Village 1	Daily consumption	60.0%	80.0%	80.0%	73.3%
		Market purpose				
		Both	40.0%	20.0%	20.0%	26.7%
	<b>Total</b>		<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	Daily consumption	60.0%	60.0%	100.0%	66.7%
		Market purpose				
Both		40.0%	40.0%	0.0%	33.3%	
<b>Total</b>		<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=2)</b>	<b>(n=12)</b>	

Table 92: Marketing channel (maize)

District	Village	Marketing channel	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Nearby market	-	-	-	-
		Other	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Hill Village 2	Nearby market	40.0	20.0	20.0	26.7
		Association	-	-	20.0	6.7
		Other	-	-	-	-
<b>Total</b>		<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=14)</b>	

District	Village	Marketing channel	Economic group (percent)			
			Rich	Medium	Poor	Overall
Chitwan	Terai Village 1	Nearby market	40.0	20.0	40.0	33.3
		Association	-	-	-	-
		Other	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>
	Terai Village 2	Nearby market	40.0	40.0	-	33.3
		Association	-	-	-	-
		Other	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=2)</b>	<b>(n=12)</b>

Table 93: Production input – home made (maize)

District	Village	Production input	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupal chowk	Hill Village 1	Seed	100.0%	100.0%	100.0%	100.0%
		Compost	100.0%	100.0%	100.0%	100.0%
		Disease and pest control				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Hill Village 2	Seed	60.0%	80.0%	50.0%	64.3%
		Compost	80.0%	100.0%	100.0%	92.9%
		Disease and pest control				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=14)</b>
Chitwan	Terai Village 1	Seed	80.0%	60.0%	20.0%	53.3%
		Compost	60.0%	80.0%	100.0%	80.0%
		Disease and pest control				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	Seed	40.0%	60.0%	50.0%	50.0%
		Compost	80.0%	80.0%	100.0%	83.3%
		Disease and pest control				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=2)</b>	<b>(n=12)</b>

Table 94: Production input – externally acquired (maize)

District	Village	Production input	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Seed	0.0%	0.0%	40.0%	13.3%
		Fertilizer	20.0%	40.0%	40.0%	33.3%
		Agriculture chemicals	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Hill Village 2	Seed	60.0%	40.0%	100.0%	64.3%
		Fertilizer	100.0%	100.0%	100.0%	100.0%
		Agriculture chemicals	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=14)</b>
Chitwan	Terai Village 1	Seed	100.0%	60.0%	100.0%	86.7%
		Fertilizer	40.0%	20.0%	20.0%	26.7%
		Agriculture chemicals	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>

District	Village	Production input	Economic group (percent)			
			Rich	Medium	Poor	Overall
	Terai Village 2	Seed	60.0%	40.0%	100.0%	58.3%
		Fertilizer	-	-	-	-
		Agriculture chemicals	-	-	-	-
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=2)</b>	<b>(n=12)</b>

Table 95: Use of livestock power in cultivation (maize)

District	Village	Livestock power in cultivation	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	In use	100.0%	100.0%	100.0%	100.0%
		Not in use				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Hill Village 2	In use	100.0%	100.0%	100.0%	100.0%
		Not in use				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=14)</b>
Chitwan	Terai Village 1	In use	100.0%	100.0%	100.0%	100.0%
		Not in use				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	In use	100.0%	100.0%	100.0%	100.0%
		Not in use				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=2)</b>	<b>(n=12)</b>

Table 96: Type of livestock power in cultivation (maize)

District	Village	Livestock power in cultivation	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Cattle	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Hill Village 2	Cattle	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=14)</b>
Chitwan	Terai Village 1	Cattle	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	Cattle	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=2)</b>	<b>(n=12)</b>

Table 97: Use and acquisition of agriculture machinery

Tractor (maize)

District	Village	Economic group	HH using		Percent	
			No	%	Own	Rent
Sindhupalchowk	Hill Village 1	Rich (n=5)	-	-	-	-
		Medium(n=5)	-	-	-	-
		Poor(n=5)	-	-	-	-
		<b>Total (n=15)</b>	-	-	-	-
Sindhupalchowk	Hill Village 2	Rich (n=5)	-	-	-	-
		Medium (n=5)	-	-	-	-
		Poor (n=4)	-	-	-	-
		<b>Total (n=14)</b>	-	-	-	-

District	Village	Economic group	HH using		Percent	
			No	%	Own	Rent
Chitwan	Terai Village 1	Rich (n=5)	-	-	-	-
		Medium (n=5)	-	-	-	-
		Poor (n=5)	-	-	-	-
		Total(n=15)	-	-	-	-
	Terai Village 1	Rich (n=5)	3.0	60.0	33.3	66.7
		Medium (n=5)	-	-	-	-
		Poor(n=2)	-	-	-	-
		Total(n=12)	3.0	25.0	33.3	66.7

Table 98: Problems of maize cultivation

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupal chowk	Hill Village 1	Difficult to obtain quality seed	80.0	100.0	20.0	66.7
		Lack of land fertility	-	-	40.0	13.3
		Lack of arable land	20.0	20.0	20.0	20.0
		Lack of fertilizer	40.0	20.0	-	20.0
		Lack of manpower	20.0	20.0	20.0	20.0
		Lack of livestock power	-	20.0	20.0	13.3
		Lack of irrigation facility	20.0	40.0	-	20.0
	<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>	
	Hill Village 2	Difficult to obtain quality seed	20.0	100.0	75.0	64.3
		Lack of land fertility	20.0	20.0	50.0	28.6
		Lack of arable land	-	-	50.0	14.3
		Lack of fertilizer	40.0	-	75.0	35.7
		Lack of manpower	100.0	-	25.0	42.9
		Lack of livestock power	-	-	-	-
Lack of irrigation facility		40.0	60.0	-	35.7	
<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=4)</b>	<b>(n=14)</b>		
Chitwan	Terai Village 1	Difficult to obtain quality seed	100.0	80.0	60.0	80.0
		Lack of land fertility	40.0	-	40.0	26.7
		Lack of arable land	20.0	20.0	40.0	26.7
		Lack of fertilizer	20.0	40.0	20.0	26.7
		Lack of manpower	-	20.0	20.0	13.3
		Crop raiding by wildlife	-	20.0	20.0	13.3
		Lack of irrigation facility	60.0	60.0	20.0	46.7
	<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>	
	Terai Village 2	Difficult to obtain quality seed	80.0	80.0	50.0	75.0
		Lack of land fertility	60.0	20.0	100.0	50.0
		Lack of arable land	-	40.0	50.0	25.0
		Lack of fertilizer	40.0	60.0	50.0	50.0
		Lack of manpower	60.0	40.0	50.0	50.0
		Crop raiding by wildlife	40.0	20.0	-	25.0
Lack of irrigation facility		60.0	80.0	50.0	66.7	
<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=2)</b>	<b>(n=12)</b>		

**Table 99: Possible methods to employ in increasing productivity, considering cost availability (maize)**

District	Village	Methods possible	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Improved seed	40.0	100.0	40.0	60.0
		Organic manure	-	-	40.0	13.3
		Chemical fertilizer	60.0	20.0	-	26.7
		Pesticide chemical	20.0	-	-	6.7
			(n=5)	(n=5)	(n=5)	(n=5)
	Hill Village 2	Improved seed	80.0	60.0	100.0	78.6
		Organic manure	20.0	-	50.0	21.4
		Chemical fertilizer	-	60.0	-	21.4
		Pesticide chemical	40.0	20.0	-	14.3
			(n=5)	(n=5)	(n=5)	(n=5)

### 3.3.4 Millet

**Table 100: Number of HH cultivating Millet**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	4	2	5	11
	Hill Village 2	5	5	5	15
Chitwan	Terai Village 1	-	-	-	-
	Terai Village 2	-	-	-	-

**Table 101: Percent of HH cultivating Millet**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	80.0	40.0	100.0	73.3
	Hill Village 2	100.0	100.0	100.0	100.0
Chitwan	Terai Village 1	-	-	-	-
	Terai Village 2	-	-	-	-

**Table 102: Total area cultivated under Millet**

District	Village	Area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	1.3	0.4	0.3	2.0
	Hill Village 2	1.6	1.3	0.9	3.7
Chitwan	Terai Village 1	-	-	-	-
	Terai Village 2	-	-	-	-

**Table 103: Ratio of Millet area to the total area**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	50.8	19.4	51.7	38.7
	Hill Village 2	31.7	116.9	108.3	54.5
Chitwan	Terai Village 1	-	-	-	-
	Terai Village 2	-	-	-	-

**Table 104: Average yield of Millet**

District	Village	Kg/ha			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	1,673	2,042	1,462	1,644
	Hill Village 2	1,797	1,836	1,672	1,768
Chitwan	Terai Village 1	-	-	-	-
	Terai Village 2	-	-	-	-

**Table 105: Means of crop harvested (Millet)**

District	Village	Means of crop harvested	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Daily consumption	100.0%	50.0%	100.0%	90.9%
		Market purpose				
		Both	0.0%	50.0%	0.0%	9.1%
		<b>Total</b>	<b>(n = 4)</b>	<b>(n = 2)</b>	<b>(n = 5)</b>	<b>(n = 11)</b>
	Hill Village 2	Daily consumption	60.0%	80.0%	80.0%	73.3%
		Market purpose	20.0%	20.0%	0.0%	13.3%
		Both	20.0%	0.0%	20.0%	13.3%
		<b>Total</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 15)</b>

(Note: None of the surveyed HHs cultivated millet in Chitwan)

**Table 106: Marketing channel (Millet)**

District	Village	Marketing channel	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Nearby market	50.0	-	20.0	18.2
		Broker	-	-	-	-
		Association	-	-	-	-
		Other	-	-	-	-
		<b>Total</b>	<b>(n = 4)</b>	<b>(n = 2)</b>	<b>(n = 5)</b>	<b>(n = 11)</b>
	Hill Village 2	Nearby market	40.0	20.0	20.0	26.7
		Broker	-	-	20.0	6.7
		Association	-	-	-	-
		Other	-	-	-	-
		<b>Total</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 15)</b>

(Note: None of the surveyed HHs cultivated millet in Chitwan)

**Table 107: Production input – home made (Millet)**

District	Village	Production input	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Seed	100.0%	100.0%	80.0%	90.9%
		Compost	100.0%	100.0%	80.0%	90.9%
		Disease and pest control	-	-	-	-
		<b>Total</b>	<b>(n = 4)</b>	<b>(n = 2)</b>	<b>(n = 5)</b>	<b>(n = 11)</b>
	Hill Village 2	Seed	100.0%	80.0%	100.0%	93.3%
		Compost	60.0%	60.0%	100.0%	73.3%
		Disease and pest control	-	-	-	-
		<b>Total</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 15)</b>

(Note: None of the surveyed HHs cultivated millet in Chitwan)



**Table 108: Production input – externally acquired (Millet)**

District	Village	Production input	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Seed	0.0%	0.0%	40.0%	18.2%
		Fertilizer	75.0%	100.0%	0.0%	45.5%
		Agriculture chemicals	-	-	-	-
		<b>Total</b>	<b>(n = 4)</b>	<b>(n = 2)</b>	<b>(n = 5)</b>	<b>(n = 11)</b>
	Hill Village 2	Seed	40.0%	0.0%	40.0%	26.7%
		Fertilizer	60.0%	80.0%	60.0%	66.7%
		Agriculture chemicals	-	-	-	-
		<b>Total</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 15)</b>

(Note: None of the surveyed HHs cultivated millet in Chitwan)

**Table 109: Use of livestock power in cultivation (Millet)**

District	Village	Livestock power in cultivation	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	In use	100.0%	100.0%	100.0%	100.0%
		Not in use				
		<b>Total</b>	<b>(n = 4)</b>	<b>(n = 2)</b>	<b>(n = 5)</b>	<b>(n = 11)</b>
	Hill Village 2	In use	80.0%	100.0%	100.0%	93.3%
		Not in use				
		<b>Total</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 15)</b>

(Note: None of the surveyed HHs cultivated millet in Chitwan)

**Table 110: Type of livestock power in cultivation (Millet)**

District	Village	Livestock power in cultivation	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Cattle	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n = 4)</b>	<b>(n = 2)</b>	<b>(n = 5)</b>	<b>(n = 11)</b>
	Hill Village 2	Cattle	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n = 4)</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 14)</b>

(Note: None of the surveyed HHs cultivated millet in Chitwan)

#### Use and acquisition of agriculture machinery

- None of the surveyed HHs used agriculture machinery

**Table 111: Problems of Millet cultivation**

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Difficult to obtain quality seed	25.0	-	20.0	18.2
		Lack of land fertility	-	-	60.0	27.3
		Lack of arable land	-	50.0	-	9.1
		Lack of fertilizer	25.0	100.0	-	27.3
		Lack of manpower	-	-	20.0	9.1
		<b>Total</b>	<b>(n = 4)</b>	<b>(n = 2)</b>	<b>(n = 5)</b>	<b>(n = 11)</b>

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
	Hill Village 2	Difficult to obtain quality seed	60.0	60.0	80.0	66.7
		Lack of land fertility	40.0	20.0	40.0	33.3
		Lack of arable land	20.0	-	80.0	33.3
		Lack of fertilizer	40.0	20.0	60.0	40.0
		Lack of manpower	40.0	40.0	20.0	33.3
		Lack of livestock power	-	40.0	20.0	20.0
		Others	-	-	20.0	6.7
		<b>Total</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 15)</b>

(Note: None of the surveyed HHs cultivated millet in Chitwan)

**Table 112: Possible methods to employ in increasing productivity, considering cost availability (Millet)**

District	Village	Methods possible	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Improved seed	40.0	100.0	40.0	60.0
		Organic manure	-	-	120.0	40.0
		Chemical fertilizer	40.0	40.0	-	26.7
		Pesticide chemical	60.0	20.0	-	26.7
			<b>(n = 4)</b>	<b>(n = 2)</b>	<b>(n = 5)</b>	<b>(n = 11)</b>
	Hill Village 2	Improved seed	60.0	20.0	100.0	57.1
		Organic manure	40.0	-	75.0	35.7
		Chemical fertilizer	20.0	40.0	75.0	42.9
		Pesticide chemical	40.0	20.0	25.0	28.6
			<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 5)</b>	<b>(n = 15)</b>

(Note: None of the surveyed HHs cultivated millet in Chitwan)

### 3.3.5 Vegetables

**Table 113: Number of HH cultivating vegetables**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	2	1		3
	Hill Village 2	1	1	3	5
Chitwan	Terai Village 1	1			1
	Terai Village 2	1	1	1	3

**Table 114: Percent of HH cultivating vegetables**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	40.0	20.0	-	20.0
	Hill Village 2	20.0	20.0	60.0	33.3
Chitwan	Terai Village 1	20.0	-	-	6.7
	Terai Village 2	20.0	20.0	20.0	20.0

**Table 115: Total area cultivated under vegetables**

District	Village	Area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	0.6	0.1		0.8
	Hill Village 2	0.0	0.0	0.0	0.1
Chitwan	Terai Village 1	0.1			0.1
	Terai Village 2	0.0	0.0	0.7	0.7

**Table 116: Ratio of vegetables area to the total area**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	25.2	7.3	-	15.2
	Hill Village 2	0.3	1.4	5.7	1.1
Chitwan	Terai Village 1	0.1			0.1
	Terai Village 2	0.0	0.0	0.7	0.7

**Table 117: Average yield of vegetables**

District	Village	Kg/ha			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	13,015	14,291		13,440
	Hill Village 2	13,066	13,066	13,719	13,458
Chitwan	Terai Village 1	10,336			10,336
	Terai Village 2	10,336	19,195	17,718	15,749

**Table 118: Means of crop harvested (Vegetables)**

District	Village	Means of crop harvested	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Daily consumption	-	-	-	-
		Market purpose	-	-	-	-
		Both	100.0%	100.0%	-	100.0%
		<b>Total</b>	<b>(n=2)</b>	<b>(n=1)</b>	<b>-</b>	<b>(n=3)</b>
	Hill Village 2	Daily consumption	100.0%	100.0%	66.7%	80.0%
		Market purpose	-	-	-	-
		Both	0.0%	0.0%	33.3%	20.0%
<b>Total</b>		<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=3)</b>	<b>(n=5)</b>	
Chitwan	Terai Village 1	Daily consumption	100.0%	-	-	100.0%
		Market purpose	-	-	-	-
		Both	-	-	-	-
		<b>Total</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=1)</b>
	Terai Village 2	Daily consumption	-	-	-	-
		Market purpose	-	-	-	-
		Both	100.0%	100.0%	100.0%	100.0%
		<b>Total</b>	<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=1)</b>	<b>(n=3)</b>

Note:

Variables		Remark
Marketing channel	See data sheet for details. Analysis has been left out as responses were very few	Data sheet
Production input – home made		Crop
Production input – externally acquired		
Use of livestock power in cultivation		
Type of livestock power in cultivation		
Use and acquisition of agriculture machinery		
Problems of Millet cultivation		
Possible methods to employ in increasing productivity, considering cost availability		

### 3.3.6 Potato

**Table 119: Number of HH cultivating potato**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	4	4		8
	Hill Village 2		1	3	4
Chitwan	Terai Village 1	2			2
	Terai Village 2	5	4	1	10

**Table 120: Percent of HH cultivating potato**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	80.0	80.0	-	53.3
	Hill Village 2	-	20.0	60.0	26.7
Chitwan	Terai Village 1	40.0	-	-	13.3
	Terai Village 2	100.0	80.0	20.0	66.7

**Table 121: Total area cultivated under potato**

District	Village	Area (ha)			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	0.22	0.20		0.42
	Hill Village 2		0.02	0.05	0.06
Chitwan	Terai Village 1	0.14			0.14
	Terai Village 2	0.61	0.37	0.03	1.02

**Table 122: Ratio of potato area to the total area**

District	Village	Percent			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	8.7	9.7	-	8.1
	Hill Village 2	-	1.4	5.7	0.9
Chitwan	Terai Village 1	0.1			0.1
	Terai Village 2	0.0	0.0	0.7	0.7

**Table 123: Average yield of potato**

District	Village	Kg/ha			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	11,024	11,432		11,228
	Hill Village 2		13,066	10,670	11,269
Chitwan	Terai Village 1	8,121			8,121
	Terai Village 2	10,513	13,842	13,289	12,122

**Table 124: Means of crop harvested (potato)**

District	Village	Means of crop harvested	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Daily consumption	100.0%	75.0%		87.5%
		Market purpose				
		Both	0.0%	25.0%		12.5%
		<b>Total</b>	<b>(n=4)</b>	<b>(n=4)</b>		<b>(n=8)</b>
	Hill Village 2	Daily consumption		100.0%	100.0%	100.0%
		Market purpose				
		<b>Total</b>	<b>(n=0)</b>	<b>(n=1)</b>		<b>(n=3)</b>
Chitwan	Terai Village 1	Daily consumption	50.0%			50.0%
		Market purpose				
		Both	50.0%			50.0%
		<b>Total</b>	<b>(n=2)</b>	<b>(n=0)</b>		<b>(n=2)</b>
	Terai Village 2	Daily consumption	60.0%	75.0%	100.0%	70.0%
		Market purpose	20.0%	0.0%	0.0%	10.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=4)</b>		<b>(n=1)</b>

Note:

Variables		Remark
Marketing channel	See data sheet for details. Analysis has been left out as responses were very few	Data sheet  Crop
Production input – home made		
Production input – externally acquired		
Use of livestock power in cultivation		
Type of livestock power in cultivation		
Use and acquisition of agriculture machinery		
Problems of Millet cultivation		
Possible methods to employ in increasing productivity, considering cost availability		

### 3.3.7 Oil Seeds

Table 125: Number of HH cultivating oil seeds

District	Village	Percent			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	4	3		7
	Hill Village 2	2	2	1	5
Chitwan	Terai Village 1	1			1
	Terai Village 2		1		1

Table 126: Percent of HH cultivating oil seeds

District	Village	Percent			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	80.0	60.0	-	46.7
	Hill Village 2	40.0	40.0	20.0	33.3
Chitwan	Terai Village 1	20.0	-	-	6.7
	Terai Village 2	-	20.0	-	6.7

Table 127: Total area cultivated under oil seed

District	Village	Area (ha)			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	0.7	1.3		2.0
	Hill Village 2	0.3	0.3	0.0	0.7
Chitwan	Terai Village 1	0.7			0.7
	Terai Village 2		0.2		0.2

Table 128: Ratio of oil seed area to the total area

District	Village	Percent			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	27.1	63.0	-	38.0
	Hill Village 2	6.9	26.5	6.0	10.0
Chitwan	Terai Village 1	9.7	-	-	5.7
	Terai Village 2	-	6.2	-	3.1

Table 129: Average yield of oil seed

District	Village	Kg/ha			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	778	726		756
	Hill Village 2	735	490	510	592
Chitwan	Terai Village 1	517			517
	Terai Village 2		343		343

Table 130: Means of crop harvested (oil seed)

District	Village	Means of crop harvested	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Daily consumption	100.0%	100.0%		100.0%
		Market purpose				
		Both				
		<b>Total</b>	<b>(n=4)</b>	<b>(n=3)</b>	<b>(n=0)</b>	<b>(n=7)</b>
	Hill Village 2	Daily consumption	100.0%	100.0%	100.0%	100.0%
		Market purpose				
		Both				
<b>Total</b>		<b>(n=2)</b>	<b>(n=2)</b>	<b>(n=1)</b>	<b>(n=5)</b>	
Chitwan	Terai Village 1	Daily consumption	100.0%			100.0%
		Market purpose				
		Both				
		<b>Total</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=0)</b>	<b>(n=1)</b>
	Terai Village 2	Daily consumption		100.0%		100.0%
		Market purpose				
		Both				
<b>Total</b>		<b>(n=0)</b>	<b>(n=1)</b>	<b>(n=0)</b>	<b>(n=1)</b>	

**Note:**

Variables		Remark
Marketing channel	See data sheet for details. Analysis has been left out as responses were very few	Data sheet
Production input – home made		Crop
Production input – externally acquired		
Use of livestock power in cultivation		
Type of livestock power in cultivation		
Use and acquisition of agriculture machinery		
Problems of Millet cultivation		
Possible methods to employ in increasing productivity, considering cost availability		

**3.3.8 Lentils**

Table 131: Number of HH cultivating lentils

District	Village	Percent			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1			2	2
	Hill Village 2				
Chitwan	Terai Village 1	1			1
	Terai Village 2	4	3	1	8

**Table 131: Percent of HH cultivating lentils**

District	Village	Percent			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	-	-	40.0	13.3
	Hill Village 2	-	-	-	-
Chitwan	Terai Village 1	20.0	-	-	6.7
	Terai Village 2	80.0	60.0	20.0	53.3

**Table 132: Total area cultivated under lentils**

District	Village	Area (ha)			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	0.69	1.27		1.96
	Hill Village 2	0.34	0.29	0.05	0.69
Chitwan	Terai Village 1	0.68			0.68
	Terai Village 2		0.17		0.17

**Table 133: Ratio of lentil area to the total area**

District	Village	Percent			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	27.1	63.0	-	38.0
	Hill Village 2	6.9	26.5	6.0	10.0
Chitwan	Terai Village 1	9.7	-	-	5.7
	Terai Village 2	-	6.2	-	3.1

**Table 134: Average yield of lentil**

District	Village	Kg/ha			Grand Total
		Rich	Medium	Poor	
Sindhupalchowk	Hill Village 1	778	726		756
	Hill Village 2	735	490	510	592
Chitwan	Terai Village 1	517			517
	Terai Village 2		343		343

**Table 135: Means of crop harvested (lentil)**

District	Village	Means of crop harvested	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Daily consumption			100.0%	100.0%
		Total	(n=0)	(n=0)	(n=2)	(n=2)
	Hill Village 2	Daily consumption				
		Total	(n=0)	(n=0)	(n=0)	(n=0)
Chitwan	Terai Village 1	Daily consumption	100.0%			100.0%
		Market purpose				
		Both				
		Total	(n=1)	(n=0)	(n=0)	(n=1)
	Terai Village 2	Daily consumption	100.0%	33.3%	100.0%	75.0%
		Market purpose				
		Both	0.0%	66.7%	0.0%	25.0%
Total	(n=4)	(n=3)	(n=1)	(n=8)		



**Note:**

Variables		Remark
Marketing channel	See data sheet for details. Analysis has been left out as responses were very few	Data sheet
Production input – home made		Crop
Production input – externally acquired		
Use of livestock power in cultivation		
Type of livestock power in cultivation		
Use and acquisition of agriculture machinery		
Problems of Millet cultivation		
Possible methods to employ in increasing productivity, considering cost availability		

**3.3.9 Other crops****Table 136: Detail information on other crops**

Crop	Number of response		Remark
	Sindhupalchock	Chitwan	
Beans	-	1	See data sheet for details. Analysis has been left out as responses were very few
Buckwheat		3	
<b>Fruit</b>	1		
Pulse	1		

## 4 Social capital

Table 137: HH having membership on group

	Hill village 1				Hill village 2				Terai village 1				Terai village 2			
	1	2	3	Total	1*	2	3	Total	1	2	3	Total	1	2	3	Total
Agriculture	40.0	-	-	<b>13.3</b>	20.0	20.0	80.0	<b>40.0</b>	-	20.0	-	<b>6.7</b>	-	-	-	-
Buffer Zone Group	-	-	-	-	-	-	-	-	60.0	80.0	60.0	<b>66.7</b>	40.0	120.0	40.0	<b>66.7</b>
Child development	-	-	-	-	-	-	60.0	<b>20.0</b>	-	-	-	-	-	-	-	-
Community forestry	40.0	20.0	-	<b>20.0</b>	-	-	20.0	<b>6.7</b>	120.0	40.0	20.0	<b>60.0</b>	80.0	-	20.0	<b>33.3</b>
cooperative	20.0	-	-	<b>6.7</b>	60.0	20.0	60.0	<b>46.7</b>	-	-	-	-	40.0	20.0	-	<b>20.0</b>
Drinking water	20.0	-	-	<b>6.7</b>	-	-	-	-	-	-	-	-	-	-	-	-
Legal awareness	-	-	-	-	-	-	-	-	-	-	-	-	20.0	-	-	<b>6.7</b>
livestock	-	-	100.0	<b>33.3</b>	-	-	-	-	-	-	-	-	-	-	-	-
NGO	-	-	-	-	-	-	-	-	20.0	-	20.0	<b>13.3</b>	60.0	60.0	40.0	<b>53.3</b>
Saving and credit*	40.0	80.0	-	<b>40.0</b>	120.0	80.0	200.0	<b>133.3</b>	60.0	20.0	40.0	<b>40.0</b>	80.0	20.0	60.0	<b>53.3</b>
Women group	20.0	-	100.0	<b>40.0</b>	100.0	60.0	-	<b>53.3</b>	-	20.0	40.0	<b>20.0</b>	60.0	80.0	40.0	<b>60.0</b>

Note: \* The percent of saving and credit group exceeds hundred as each household were involved in more than one saving and credit activities.

Table 138: Average number of family members on each development group

District	Village	Average number per HHs			
		Rich	Medium	Poor	Grand Total
Sindhupalchowk	Hill Village 1	2.0	1.0	2.0	1.7
	Hill Village 2	3.2	1.4	4.4	3.0
Chitwan	Terai Village 1	2.8	1.8	1.8	2.1
	Terai Village 2	3.8	3.0	2.0	2.9

## 5 Mutual Aid Association

### 5.1 Shortage of Staple Food

Table 139: Percent of HH reporting shortage of staple food

District	Village	Shortage of staple food	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Yes	20.0%	40.0%	100.0%	53.3%
		No	80.0%	60.0%	0.0%	46.7%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Hill Village 2	Yes	20.0%	60.0%	100.0%	60.0%
		No	80.0%	40.0%	0.0%	40.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
Chitwan	Terai Village 1	Yes	0.0%	60.0%	60.0%	40.0%
		No	100.0%	40.0%	40.0%	60.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	Yes	0.0%	80.0%	100.0%	60.0%
		No	100.0%	20.0%	0.0%	40.0%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>

Table 140: Measures to cope with shortage of staple food

District	Village	Measures	Economic group (percent)				
			Rich	Medium	Poor	Overall	
Sindhupalchowk	Hill Village 1	Assistance from relative	-	50.0	-	12.5	
		Loan from relative	-	-	20.0	12.5	
		Loan from group	-	-	100.0	62.5	
		Loan from friend	-	-	40.0	25.0	
		Purchase by debt	-	-	40.0	25.0	
		Supplement from other income source	-	50.0	-	12.5	
		Sale of livestock	-	-	40.0	25.0	
		Wage earning	100.0	50.0	100.0	87.5	
	<b>Hill Village 1</b>			<b>n=1</b>	<b>n=2</b>	<b>n=5</b>	<b>n=8</b>
	Hill Village 1	Assistance from relative	-	33.3	-	11.1	
		Loan from relative	100.0	66.7	20.0	44.4	
		Loan from group	100.0	100.0	100.0	100.0	
		Loan from friend	-	-	20.0	11.1	
		Purchase by debt	-	-	40.0	22.2	
		Sale of livestock	-	33.3	40.0	33.3	
		Non-agriculture activities	-	-	20.0	11.1	
	Wage earning	100.0	100.0	60.0	77.8		
<b>Hill Village 2</b>			<b>n=1</b>	<b>n=3</b>	<b>n=5</b>	<b>n=9</b>	
Chitwan	Terai Village 1	Assistance from relative	-	50.0	50.0	22.2	
		Loan from relative	-	50.0	-	11.1	
		Loan from group	-	50.0	100.0	33.3	
		Supplement from other income source	-	50.0	-	11.1	
		Wage earning	-	-	150.0	33.3	
		Others	-	50.0	-	11.1	
	<b>Terai Village 1</b>			<b>n=5</b>	<b>n=2</b>	<b>n=2</b>	<b>n=9</b>

District	Village	Measures	Economic group (percent)			
			Rich	Medium	Poor	Overall
	HV4	Assistance from relative		50.0	-	22.2
		Loan from relative		25.0	-	11.1
		Loan from association		25.0	20.0	22.2
		Loan from friend		50.0	20.0	33.3
		Purchase by debt		-	20.0	11.1
		Sale of livestock		25.0	-	11.1
		Non-agriculture activities		50.0	40.0	44.4
		Wage earning		75.0	100.0	88.9
		Income from remittances		25.0	-	11.1
		<b>Terai Village 2</b>			<b>n=4</b>	<b>n=5</b>

## 5.2 Shortage of living expense

Table 141: Percent of HH reporting shortage of living expense

District	Village	Shortage of living expense	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Yes	100.0%	100.0%	100.0%	100.0%
		No				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Hill Village 2	Yes	80.0%	80.0%	100.0%	86.7%
		No	20.0%	20.0%	0.0%	13.3%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
Chitwan	Terai Village 1	Yes	40.0%	80.0%	100.0%	73.3%
		No	60.0%	20.0%	0.0%	26.7%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	Yes	100.0%	100.0%	100.0%	100.0%
		No				
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>

Table 142: Measures to cope with shortage of living expense

			Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Assistance from relative	20.0	-	-	6.7
		Loan from relative	20.0	20.0	20.0	20.0
		Loan from association	40.0	20.0	100.0	53.3
		Loan from friend	-	40.0	20.0	20.0
		Loan from influential person	-	-	20.0	6.7
		Purchase by debt	-	80.0	40.0	40.0
		Sale of assets	20.0	-	-	6.7
		Sale of livestock	40.0	20.0	60.0	40.0
		Non-agriculture activities	20.0	20.0	-	13.3
		Wage earning	60.0	20.0	100.0	60.0
<b>Hill Village 1</b>			<b>n=5</b>	<b>n=5</b>	<b>n=5</b>	<b>n=15</b>

			Economic group (percent)			
			Rich	Medium	Poor	Overall
	<b>Hill Village 2</b>	Assistance from relative	25.0	25.0	-	15.4
		Loan from relative	25.0	50.0	20.0	30.8
		Loan from association	50.0	75.0	100.0	76.9
		Loan from friend	50.0	25.0	40.0	38.5
		Purchase by debt	-	-	40.0	15.4
		Sale of assets	25.0	-	-	7.7
		Sale of livestock	75.0	25.0	20.0	38.5
		Non-agriculture activities	-	-	20.0	7.7
		Wage earning	-	50.0	60.0	38.5
		Others	-	25.0	-	7.7
<b>Hill Village 2</b>			<b>n=4</b>	<b>n=4</b>	<b>n=5</b>	<b>13</b>
	<b>Terai Village 1</b>	Loan from relative	-	50.0	20.0	27.3
		Loan from association	100.0	25.0	60.0	54.5
		Loan from friend	-	-	40.0	18.2
		Loan from influential person	-	-	20.0	9.1
		Wage earning	-	50.0	60.0	45.5
		Income from remittances	50.0	-	20.0	18.2
		Others	50.0	-	-	9.1
		<b>Terai Village 1</b>			<b>n=2</b>	<b>n=4</b>
	<b>Terai Village 2</b>	Loan from relative	40.0	40.0	0.0	26.7
		Loan from association	40.0	20.0	20.0	26.7
		Loan from friend	40.0	60.0	20.0	40.0
		Loan from influential person	20.0	40.0	0.0	20.0
		Loan from relative	0.0	20.0	0.0	6.7
		Purchase by debt	20.0	0.0	20.0	13.3
		Sale of livestock	40.0	0.0	20.0	20.0
		Non-agriculture activities	20.0	20.0	20.0	20.0
		Wage earning	20.0	80.0	80.0	60.0
		Income from remittances	20.0	20.0	0.0	13.3
<b>Chitwan</b>	<b>Terai Village 2</b>		<b>n=5</b>	<b>n=5</b>	<b>n=5</b>	<b>15</b>

### 5.3 Shortage of agricultural manpower

Table 143: Percent of HH reporting shortage of agricultural manpower

District	Village	Shortage of staple food	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Yes	25.0%	100.0%	66.7%	57.9%
		No	75.0%	0.0%	33.3%	42.1%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Hill Village 2	Yes	100.0%	100.0%	66.7%	87.5%
		No	0.0%	0.0%	33.3%	12.5%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
Chitwan	Terai Village 1	Yes	11.1%	25.0%	66.7%	30.4%
		No	88.9%	75.0%	33.3%	69.6%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>
	Terai Village 2	Yes	100.0%	100.0%	25.0%	66.7%
		No	0.0%	0.0%	75.0%	33.3%
		<b>Total</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=5)</b>	<b>(n=15)</b>

Table 144: Measures to cope with shortage of agricultural manpower

	Village	Measures	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Mutual aid with relative	50.0	60.0	100.0	72.7
		Mutual aid with friend	100.0	100.0	75.0	90.9
		<b>Total</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>11</b>
	Hill Village 2	Support from relative	20.0	-	-	7.1
		Mutual aid with relative	100.0	40.0	75.0	78.6
		Mutual aid with friend	80.0	80.0	100.0	128.6
<b>Total</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>14</b>		
Chitwan	Terai Village 1	Mutual aid with friend	100.0	100.0	100.0	100.0
		<b>Total</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>7</b>
	Terai Village 2	Mutual aid with relative	60.0	20.0	50.0	41.7
		Mutual aid with friend	100.0	100.0	100.0	141.7
	<b>Total</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>12</b>	

## 5.4 Consultation during the daily difficulties

Table 145: List of person/institution consulted during daily difficulties

District	Village	Measures	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindhupalchowk	Hill Village 1	Agriculture service center	60.0	-	40.0	33.3
		Bank	20.0	40.0	-	20.0
		friends	-	-	20.0	6.7
		Health post	20.0	20.0	-	13.3
		Livestock Service Center	20.0	20.0	20.0	20.0
		Money lender	-	-	20.0	6.7
		Neighbours	20.0	-	40.0	20.0
		Own S/C group	-	20.0	40.0	20.0
		Relatives	40.0	20.0	20.0	26.7
		Tuki sang (Local NGO)	60.0	60.0	-	40.0
		<b>n=5</b>	<b>n=5</b>	<b>n=5</b>	<b>n=15</b>	
	Hill Village 2	Bank	20.0	-	-	6.7
		Cooperative	20.0	20.0	20.0	20.0
		friends	-	20.0	-	6.7
		Health post	40.0	40.0	40.0	40.0
		Money lender	20.0	-	-	6.7
		Neighbors	60.0	40.0	60.0	53.3
		Own S/C group	80.0	80.0	100.0	86.7
		Relatives	40.0	60.0	-	33.3
		<b>n=5</b>	<b>n=5</b>	<b>n=5</b>	<b>n=15</b>	
Chitwan	Terai Village 1	Bank	40.0	20.0	-	20.0
		Forest Official	20.0	-	-	6.7
		Health post	-	40.0	20.0	20.0
		Money lender	-	-	20.0	6.7
		Neighbours	20.0	20.0	-	13.3
		Own S/C group	100.0	40.0	40.0	60.0
		Relatives	20.0	60.0	60.0	46.7
		Sana Kishan	-	40.0	-	13.3
		<b>n=5</b>	<b>n=5</b>	<b>n=5</b>	<b>n=15</b>	
	Terai Village 2	Cooperative	20.0	20.0	20.0	20.0
		Forest Official	-	20.0	-	6.7
		friends	20.0	40.0	-	20.0
		Health post	-	20.0	-	6.7
		Livestock Service Center	-	-	20.0	6.7
		Neighbours	40.0	20.0	20.0	26.7
Own S/C group		80.0	80.0	40.0	66.7	
Relatives	80.0	80.0	20.0	60.0		
	<b>n=5</b>	<b>n=5</b>	<b>n=5</b>	<b>n=15</b>		

## 5.5 Problems and its prospects/measures

Table 146: Problems reported by different HHs

District	Village	Problems	Economic group (percent)			
			Rich	Medium	Poor	Overall
Sindupalchowk district	Hill village 1	Child education	-	-	20.0	6.7
		Drinking water	20.0	20.0	-	13.3
		Financial	80.0	60.0	60.0	66.7
		food insufficiency	-	60.0	-	20.0
		irrigation	20.0	-	-	6.7
		Livestock purchase	-	20.0	-	6.7
		sanitation	-	20.0	-	6.7
		Technical skill for farming	20.0	-	40.0	20.0
	<b>Total</b>	<b>n=5</b>	<b>n=5</b>	<b>n=5</b>	<b>n=15</b>	
	Hill village 2	Child education	20.0	40.0	40.0	33.3
		Drinking Water	20.0	-	-	6.7
		Financial	40.0	40.0	80.0	53.3
		health	-	-	20.0	6.7
		irrigation	-	40.0	-	13.3
		Loan repayment	-	20.0	-	6.7
		Meeting household expenses	20.0	40.0	40.0	33.3
		Unemployment	-	20.0	-	6.7
<b>Total</b>	<b>n=5</b>	<b>n=5</b>	<b>n=5</b>	<b>n=15</b>		
Chitwan district	Terai village 1	Child education	-	40.0	20.0	20.0
		Drinking Water	-	20.0	-	6.7
		Financial	20.0	40.0	40.0	33.3
		irrigation	40.0	-	40.0	26.7
		Medical expense	-	20.0	-	6.7
		Natural hazards	-	20.0	-	6.7
		Technical skill for farming	20.0	-	20.0	13.3
		Unemployment	20.0	40.0	-	20.0
		Wild animals	40.0	40.0	20.0	33.3
	<b>Total</b>	<b>n=5</b>	<b>n=5</b>	<b>n=5</b>	<b>n=15</b>	
	Terai village 2	Agri labor	-	-	20.0	6.7
		Child education	20.0	-	20.0	13.3
		Drinking Water	-	20.0	20.0	13.3
		Financial	60.0	40.0	20.0	40.0
		health	-	-	20.0	6.7
		Irrigation	40.0	-	60.0	33.3
		Meeting household expenses	20.0	-	20.0	13.3
		Toilet	20.0	20.0	-	13.3
		Unemployment	-	-	20.0	6.7
		unemployment	-	-	20.0	6.7
Wild animals		20.0	-	-	6.7	
<b>Total</b>	<b>n=5</b>	<b>n=5</b>	<b>n=5</b>	<b>n=15</b>		





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## 調査報告書

## 貧困農民支援の制度設計に かかる基礎研究現地調査抜 粋和訳



2007年2月

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# 貧困農民支援の制度設計にかかる基礎研究 現地調査（ネパール）抜粋和訳

2007年2月



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# 貧困農民支援の実施・設計・構造に関する基礎調査

## 序

JICA ネパールは NARMA Consultancy Pvt Ltd に、KR II (食糧増産援助) 計画の食糧生産および最終的には貧困削減への貢献を評価する観点から「貧困農民支援の実施・設計・構造に関する基礎調査」の実施を委託した。調査の具体的な目的は以下のとおりである。

- ネパールにおける食糧安全に関する基礎情報を収集する。
- 異なる地域において食糧安全保障に関連して開発パートナーによる支援を受けている現行の事業の制度と課題に関する情報を収集する。
- 2つの地区(丘陵地方とテライ地方からそれぞれ1つ)における貧困削減と食糧安全保障に関する村レベルおよび・または地域共同体レベルの情報を収集する。
- ネパールの遠隔地における肥料配給の状況进行评估する。

調査は質的方法と量的方法の両方を組み合わせたデータ収集で行われた。情報とデータの収集には JICA ネパールによるアンケートが用いられた。調査には一次のおよび二次的情報源を最大限に活用し、中央、地区、および現場の関係者と利害関係者に助言を求めた。

ネパールの丘陵地方(シンドパルチヨーク)とテライ地区(チトワン)を代表する2つの地区が調査された。各地区から2つの村が選ばれ、貧困削減と食糧安全保障に関する村レベルおよび・または地域共同体レベルの情報が収集された。JICA が提供したアンケートを使って各村から15世帯(上層、中間層、下層、各5世帯ずつ)を調査した。

地区名	調査された村	特徴
シンドパルチヨーク	<ul style="list-style-type: none"><li>• Dumphaker</li><li>• Mankha</li></ul>	丘陵地方の貧困地域
チトワン	<ul style="list-style-type: none"><li>• Patihani</li><li>• Meghuli</li></ul>	テライ地区の村(米・麦耕作地帯)

この導入部では、調査報告が以下の5つの章に整理される。

- **1章-基礎調査:** 貧困削減と食糧安全保障に関する情報を紹介する。
- **2章-事業調査:** 異なる地域において食糧安全保障に関連して開発パートナーによる支援を受けている現行の事業の制度と課題に関する情報を紹介する。
- **3章-肥料配給制度:** 調査された地区における肥料配給の状況进行评估する。
- **4章-村落調査:** 環境と農業制度の異なる2つの村における貧困削減と食糧安全保障に関する貧困農家の現状、課題、および措置について村レベルあるいは地域共同体レベルの情報を紹介する。
- **5章-世帯調査:** 異なる経済集団(上層、中間層、下層)における貧困削減と食糧安全保障に関する貧困農家の現状、課題、および措置について村レベルあるいは地域共同体レベルの情報を紹介する。

# 1 章: 基礎調査

**目的:**

貧困削減と食糧安全保障に関する基本的な情報を収集する。

**方法:**

貧困削減と食糧安全保障に関して政府の利害関係者(食糧農業省など)との面接を行う。補足的な文献調査を含む。

## 貧困の定義

**国家貧困の定義：** 貧困には数多くの定義があるが、一般にベーシック・ニーズ費用法(CBN)の手法と直接カロリー摂取法が使われる。2つの方法のうちより一般的に使われるのはCBN法で、この方法では基本的ニーズを満たすために必要な1人あたりの支出を表す貧困線が設定される。ネパールの場合、貧困ラインは1人1年あたり7,696ルピーである(平均2003ネパール・ルピー)。直接カロリー摂取法は代替的な貧困測定法で、消費が必要最低限のカロリー概算値を下回る人々の数に基づいている。ネパールでの条件は1人1日2144キロカロリーである(CBS, 2005年)。

政府の最新の概算によると(2003年4月ネパール生活水準調査)、人口の31%、約800万人が国家貧困ラインを下回る生活をしている。

## 地域貧困削減政策

**西部丘陵地域に貧困が広まっている理由：** 西部丘陵地域に貧困が広まっている理由は以下のとおりである。

- (a) 降水量の少なさ、土壌の質の悪さなどから、一般に農業生産性が低い。
- (b) 西部では東部に比べて1日あたりの農業賃金が低い。
- (c) 大多数の若い男性は低賃金労働のために季節的あるいは一時的にインドに移住する(農業外所得を目的とした国内の別の場所やインドへの移住は非常に一般的に行われている)。
- (d) 西部丘陵地域では、小規模あるいは最低限の土地しか持たない農民が過半数を占める。
- (e) 西部地域では他の地域に比べて地すべりと洪水が頻繁に起こる。

### 西部丘陵地域における貧困削減と食糧安全保障のための政策：

特に西部丘陵地域に配慮して策定された貧困削減と食糧安全保障のための具体的な政策がネパールには存在しない。しかしながら、貧困削減と食糧安全保障のための全体的な政策が、2つの主な計画書類によって定められている。(a) 第10次計画(2002~07年)は貧困削減戦略文書(PRSP)としても広く知られている。もうひとつは農業長期計画(1995~2015年)である。これら2つの政策に加えて、政府は2004年国家農業政策を公布している。これら3つの政策を以下に簡単に説明する。

#### **(a) 第10次計画/PRSP (2002~07年)。以下の4つを柱とした戦略文書(PRSP/第10次計画)：**

第10次計画では、貧困と闘うための貧困削減戦略の「4本柱」を策定している。すなわち、広範囲にわたる経済成長、社会開発、開発から取り残された集団と脆弱な集団を対象とした事業とセーフティー・ネット、そして良好な統治である。4本の柱はすべて、貧しい人々の生活を改善するため、非常に貧困な持たざる人々を迎え入れるため、また、包括的な開発を推進するために不可欠である。4本柱の戦略を実施する際、この計画は以下の四点に関する戦略的・横断的手法も強調している。(a) 国家の役割を再定義し、公的な介入を制限すること。(b) 雇用と収入の創出において主導的な役割を担い、NGO、INGO、CBOと共に主要な分野でのサービス提供機能における政府の努力を補い、主要な活動を実施するよう民間部門の協力を求めること。(c) 地域共同体による地域レベルでの活動への参加と管理を推進すること。(d) 良好な統治の主要素である地方分権を加速すること(NPC 2003)。

#### **(b) 農業長期計画：**

APP の書類は「農村の貧困に対する APP の効果は劇的なものになるだろう。APP の終了時には、開始時 (1995 年) に比べて貧困にある人々が 60% 減少するだろう。貧困線を下回る農村人口は 49% から 14% に、70% 減少するだろう。」(APPROSC/JMA 1995) と明確に述べている。

ネパールで食糧安全保障と貧困削減という 2 つの目的を達成するため、農業長期計画 (APP) は、必要な措置を取り、以下のような必須活動を実行する所存であることを明確に宣言している。

- (a) 農業の成長と小規模農家の高価値作物生産集中化による雇用創出を通じて貧しい小規模農家の収入を拡大させること。
- (b) 貧しい人々の成長過程への参加を阻む最も大きな障害、すなわち物理的インフラストラクチャー欠如から生じる地理的な疎外を取り除くこと。
- (c) 成長過程に女性を含めること。
- (d) 行政措置を求めて主張できる集団の組織を支援することによって、貧困な人々の地位を向上させること。
- (e) 短期的な食糧支援、NGO を通じた食糧の配給など、食糧安全保障のための補足的活動を実施し、食糧の貯蔵を維持すること。

**西部丘陵地域での農業における女性に焦点を絞った貧困削減政策。** すでに述べたように、政府は西部丘陵地域の女性に焦点を絞った貧困削減のための具体的な政策を持っていない。共通の第 10 次計画/PRSP および APP が全国に適用される全般的な政策を定めている。開発から取り残された脆弱な集団を対象とした事業とセーフティー・ネットの目的は、女性が行動を求めて主張できる集団の組織を支援することによって女性の地位を向上させること、また女性を成長過程に含めることである。

NAP は女性による関与と参加が可能なすべての農業事業の実施における女性の関与・参加率を 50% まで引き上げることを狙いとしている。女性の研修に関しては、可能な限り遠隔地まで移動研修事業を実施して村や家庭により身近な研修事業を行うことが立案されている。同様に、政策の意図は女性の事業参加に関連した情報とデータの適時な流れを確保することである。

**2004 年国家農業政策(NAP):** NAP の全体的な目的は、商業的で競争性を備えた農業制度を通じ、高度で持続可能な経済成長を達成することによって食糧安全保障と貧困削減に貢献することである。この政策の具体的な目的は以下のとおりである。

- (a) 農業の生産高と生産性を拡大させる。
- (b) 商業的で競争性を備えた農業制度の基盤を開発することによって地域市場と国際市場での競争力を高める。
- (c) 天然資源、環境、生物多様性を適切に保全・促進・活用する。

**テライ地区での米、トウモロコシ、麦の自給自足を強化するための措置 (米・麦の農耕システム):**

テライ地区で米、トウモロコシ、麦の自給自足を強化するため、政府は以下の措置を取っている。

- (a) 浅い管井戸灌漑システムの促進と普及。アジア開発銀行の借款支援を得て、政府はネパールで選ばれたテライ地区において地域地下水灌漑システム海外事業を実施した。
- (b) 地下水と表流水の灌漑システムの並行利用、ならびに雨水利用、池、スプリンクラー、ドリップ、パドル・ポンプなど、従来なかった新しい灌漑システム導入の促進。
- (c) 肥沃な農地を農業以外の目的に使用しないようにするための呼びかけ。
- (d) 灌漑施設、農道、農村の電化、適切な農業技術の開発と普及。農業サービス提供に

おけるポケット・パッケージ戦略の実施。

- (e) 民間部門が同一の競争条件で肥料の輸入・配給に参入できるようにするため、肥料取引を規制緩和。助成の規制を受けずに肥料の可用性を改善し、備品の安価提供において市場原理を活用するため、肥料の助成を廃止。

### **山岳・丘陵地域における貧困削減と食糧安全保障のための政策（散在する山岳農耕系統）:**

- (a) 南北の高速道路と支線道路に隣接する適切な地域における高価値農産物の資金開発を特に優先。特に、遠隔地では軽量で高価値な産物の生産を優先。
- (b) 山岳・丘陵部で農民が管理する小規模灌漑システムの再生・運営・維持への投資と支援を拡大。
- (c) カルナリ特別開発事業、農村アクセス事業などの実施を通じて丘陵・山岳部における雇用を創出。
- (d) 丘陵・山岳部における道路アクセスと輸送設備を改善。

### **貧困削減と食糧安全保障に関する政府の政策における課題と措置**

#### **貧困削減と食糧安全保障に関する政府の政策における課題:**

- (a) 支援と集中的な介入を必要とする特別対象集団の同定（貧困層の中でも最も貧しく不利益状態にある持たざる集団）
- (b) (a) 因襲的な疎外および (b) サービス提供のシステムとプロセスにおける欠陥のために開発の過程と介入から著しく阻害されている貧困で不利な集団に対し提供する支援・助成の性質、種類、および量。
- (c) 性別、民族、カーストによって疎外されている集団、ならびに農村社会における最も貧しい集団が独自の組織によって収入向上と地域共同体インフラストラクチャーへのアクセスを改善するための需要主導型事業の計画と実施。
- (d) 隣国、特にインドが規模的に有利だけでなく肥料、輸出、灌漑（浅い管井戸）など多様な措置を通じて農民を厚く援助しているなか、国内の農産物に競争力を与え、品質を向上させること。
- (e) 貧しい若者がインドの近隣地域で低賃金の労働を求めないようするため、国内の雇用機会を拡大すること。
- (f) 自家消費農業から準商業的農業、準商業的農業から商業的農業への移行を促進するための適切な方法と介入の探索。
- (g) 異なる利害関係者による政府の政策、計画、事業への信頼の確保。
- (h) サービス提供システムにおける透明性、説明責任、予測性の拡大。
- (i) 地方政府機関(DDC)、政府当局機関、NGO、その他の民間組織をつなぐ連携形態の策定。

#### **貧困削減と食糧安全保障の対策:**

政府は貧困削減と食糧安全保障の対策として以下を実施している。

- (a) 民間部門の国経済への関与拡大を可能にする環境作りに向けた努力。これには産業政策とそれに関連する法令の改革、産業機関の設立を認可する透明な手続の採用、全体的な経済政策に応じた柔軟な政策の採用、民間の主導を支援する制度の設立が含まれる。民間部門が銀行その他の金融部門に参入しやすくなったことにより、こういった機関の数と国内での金融基盤が拡大したばかりでなく、金融へのアクセスが向上し、新しい手段が導入され、競争性と専門性の向上を通じてサービスの質が改善された。追加資本を投入し、新しい近代技術を取得し、開発のための追加資源を産出し、貧困を削減する過程における当事者としての民間部門の役割を拡大した。
- (b) 政府と民間部門との対話の促進、マクロ経済と農業部門政策の策定。
- (c) 地方分権化されたサービス提供の強化、ならびに農業普及サービスの地方選出機関、



すなわち地方開発委員会への移転の強化。

- (d) 政府の役割の再定義とそれによる政策の見直し。
- (e) 環境の保全と開発を重要視。
- (f) 複数の下位セクター政策・戦略の策定。これには 2006 年ネパール農業普及戦略、2006 年農業推進政策、2003 年灌漑政策などが含まれる。
- (g) 公共インフラストラクチャー構造、建設運営譲渡(BOT) 2057 (2000 A.D.)、その他ネパール政府（および当時の王国政府）の一般的な法律に従い、灌漑開発への国内外の民間投資を促進。
- (h) サービスの提供、特に貧しい持たざる人々と遠隔地への農村・農業サービスの提供において民間社会組織と NGO 部門を促進。
- (i) ミレニアム開発目標の達成、ならびに利害関係者と対象集団に当該目標を周知させるために導入された複数の活動へ向けての努力。ミレニアム開発目標の第一目標は貧困削減と食糧安全保障に関するものである。
- (j) 貧困削減基金(PAF)など特別事業の実施。この目的は、需要主導型の地域共同体に基づいた事業を実施し、ネパール政府(GON)の第 10 次計画/PRSP の第 3 の柱、すなわち対象事業を直接支えることである。

## 参考資料

### 面接した当局者:

- Mr Asheshwar Jha, 農業協同組合省長官
- Mr. Bhairav Raj Kaini, 農業協同組合省 モニタリング・評価課 長官
- Mr Shrawan K. Adhikary, 農業協同組合省 農業経済学者

### 参照した主な文献:

- 第 10 次計画/PRSP (2002 ~ 07 年), 国家計画委員会
- 農業長期計画 (1995 ~ 2015 年)
- Nepal Resilience Amidst Conflict: ネパールにおける貧困の評価, 1995 ~ 96 年、2003 ~ 04 年, 世界銀行 DFID, ADB
- 2004 年農協同組合省国家農業政策
- 2006 年ネパール農業普及戦略
- 2003 年灌漑政策
- APP 実施行動計画 (草案)
- 2002 年ネパール政府民間部門開発政策
- 地方分権化統治の強化と貧困削減の主導
- 地方分権化に関する政策文書
- 2002 年農業部門実績報告書
- ネパールにおける小地域貧困・カロリー摂取・栄養失調の概算

## 2章: 事業調査

事業シートの続き

### 目的:

制度についての情報、ならびに二国間のドナーNGOが貧困農民の自給自足を達成することを目的として貧困削減と食糧安全保障に関して後述の調査3で同定される対象地域を含む地域において行っている現行事業の課題についての情報を収集すること。

### 方法:

実施された事業の利害関係者との面接、ならびに3つの事業についての補足的文献調査を行う。対象の地域共同体または村の受益者との面接を行うことが望ましいが、時間的な制約を考えると、実施された事業に関連する省庁の職員との面接のみでも可能である。

## 1. 事業名: 畜産開発事業(CLDP)

### 基礎情報

**事業の目的:** 事業の全体的な目的は事業地区内における農村地域共同体の貧困率を削減することである。具体的な目的は以下のとおりである。

1. 環境的に維持可能で社会的に公正な方法による畜産部門の生産拡大を通じ、164,000 世帯について食糧安全保障、栄養、収入、雇用のレベルを改善すること。
2. 人々が自らの現行の開発過程を管理する能力を高めること。

**ドナー機関:** アジア開発銀行 (ADB)

**実施機関:** (a) 債権をともしない畜産開発活動を行う畜産サービス部(DLS)、および (b) マイクロファイナンスを担当する農村マイクロファイナンス開発センター (RMDC)

**合計予算概算:** 3,300 万米ドル (政府予算: 500 万米ドル)、うち 2,000 万米ドルは 長期低利貸付として ADB が融資

### 事業現場・地域の概略

**現場・地域の名前:** 以下の 48 地区において実施されている。

**(a)集中畜産支援 22 地区** (ラムジュン、タナフン、ナワルパラシ、パルパ、バンケ、バルディア、スルケット、ピュータン、ロールパ、サリヤン、ルクム、ダイレク、ジャジャルコット、カイラリ、カンチャンプール、ダンデルドゥラ、ドティ、バイタディ、アチャム)

**(b) 加工・マーケティング・商業化支援 21 地区** (ジャバ、モラング、スンサリ、サブタリ、シラハ、ダヌシャ、マホッタリ、サルラヒ、ラウタハット、バラ、マクワンプール、パルサ、チトワン、カトマンズ、ラリトプル、ヌワコット、カブレ、カスキ、ルパンデヒ、カピルヴァストゥ、ダング)

**(c) 生活パイロット事業 5 地区** (ダルチュラ、ジウムラ、ムグ、フムラ、バジャン)

**対象住民:** 生産対策が及んでいない地域 (ポケット・エリア) - 69,000 世帯  
マーケティング・加工介入事業: 95,000 世帯

**行政地区:** 事業は全 5 開発地域だが、ただし 75 地区のうち 48 地区のみで実施された。

**対象の現場・地域の貧困・食糧安全保障状況:** 貧困率は事業地区の過半数において全国平均の 31%を上回り、特にマガール、リンブー、タマング、およびダマイ、カミ、タルーに分けられるダリットから成る民族集団の間で不利益状態が著しい。貧困率は、1 人あたりの収入の低さ、ならびに経済生産性を高めるためのサービスと教育、健康などの社会サービスの欠如に関連している。プロジェクトサイトでは約 49% (60 万世帯) が貧困ラインを下回る生活をしていると概算される。

下の表は、対象地区の貧困状況を示すとともに、全国平均と比較している。CLDP 地区の貧困水準は、バイタディの 36.8%から最も高いアチャム地区とダイレク地区の 51.6%まで幅がある。

**表: 集中畜産支援 22 地区の貧困率**

全国平均貧困率: 30.8%

全国平均カロリー摂取率: 39.8%

%

SN	地区名	貧困率	カロリー摂取率
1	タナフン	34.6	36.2
2	ラムジュン	31.5	39.4
3	バグルン	40.2	35.6
4	グルミ	42.5	31.1
5	アルガカンチ	44.1	35.7
6	パルバ	42.9	38.3
7	ナワルパラシ	36.3	38.7
8	バンケ	41.2	46.1
9	バルディア	44.9	42.4
10	スルケット	47	43.1
11	ピュータン	51.5	36.7
12	サリヤン	45.5	43.7
13	ダイレク	51.6	48.9
14	ロルバ	58.7	49.5
15	ルクム	49.1	50.2
16	ジャジャルコット	44.1	46.6
17	カイラリ	50.4	42.3
18	カンチャンプール	42.4	45.3
19	ダデルドゥラ	40.3	44.4
20	ドティ	46.4	44.9
21	バイタディ	36.8	47.3
22	アチャム	51.6	42.3

(注: 色のついている数字は地区平均が全国平均を上回ることを示す。)

**ドナー機関: 専門家** (専門家の人数: 国際コンサルタント 117 人月、国内コンサルタント 812 人月 - 合計 17 名 (国際 3、国内 14))。技術支援は、国連食糧農業機関の管理、ドナーであるアジア開発銀行の融資による技術支援チーム (TA team) によって提供される。チームは国際駐在員と国内コンサルタントで構成され、国際駐在員が主導、国内の副リーダーが補佐する。

役割: 技術支援、監督、モニタリング、品質管理、基金の支出

**中央清算機関** (省庁名: 農業協同組合省)

役割: 促進、支援、事業運営委員会の統轄、ドナー調整、監督、モニタリング、品質管理

**受益者清算機関** (省庁名: 農業協同組合・畜産サービス部)

人員数: 未確認

役割: 事業管理ユニットを設立すること。このユニットが担当するのは、全体的な事業管理、ならびに地域開発、能力構築、畜産生産性の向上、畜産加工、マーケティング、高標高畜産パイロット事業の実施を含む債権をともなわないすべての活動。また、比較的定期的に事業管理ユニットを指導するために部レベルで設立された実施調整委員会 (ICC) を統括すること。

**実施機関:** 事業管理ユニット

専門家（本部： 4名(事業マネージャー、事業副マネージャー、計画委員 2名) 現場: 該当なし)

**役割:** 実施機関である畜産サービス部に代わって事業を実施する。具体的には、(a) 他のサービス業者と協議のうえ、年間作業計画とそれに関連する事業報告書を準備し、(b) すべての事業活動および実施機関とサービス業者の作業を監督し、(c) 事業活動をモニタリング・評価する。

**対象地域 (村):** 畜産サービス地区事務所、非政府組織、事業に関連する組織: (農業組合省長官が統括する事業運営委員会、畜産サービス部の事業理事会、農村マイクロファイナンス開発センター (RMDC)、畜産活動チーム(LAT))。

## 実施計画

**事業の選定方法:** この事業が選定されたのは、先行する事業でありやはり ADB の融資による第 3 次畜産開発事業でベストプラクティスに継続性を持たせるためである。1980 年から 2003 年まで、ADB は合計 3,700 万米ドルの借款をもって 3 つの畜産開発事業を支援した。これらの事業は 75 地区のうち 24 地区を網羅したが、多くの貧しい世帯には開発支援は及ばなかった。このため ADB は新しいフォーカスと意識により現行の CLDP を援助した。最新の教訓から、第 3 次畜産開発事業 (1997 ~ 2003 年) ならびにその前の 2 つの事業では、畜産部門における開発と改善のための基礎を定めた。この事業はさらに政府と ADB 共同の落札によって選定され、社会的動員、男女平等、および民間部門・CBO・NGO・企業家による関与に重点がおかれた。

### 事業実施の方法:

地区畜産事務所と地区の拠点 NGO が、地域共同体意識の構築、社会的動員、ジェンダー意識、集団形成、畜産生産の改善、農民研修、地域共同体を拠点とする畜産開発支援、およびモニタリング・評価を含む地区活動を実施する。

## 事業実施のグッドプラクティスと課題

### 事業実施におけるグッドプラクティス:

- 共同体の土地における飼料に基づく生産、酪農との統合。その結果、牛乳の生産費用が削減され、共同体の土地と荒廃地が活用された。
- 社会的動員のための NGO/CBO との提携、DLS による技術支援。
- RMDC を通じて確保される貸付へのアクセス。

### 事業実施における課題:

この事業はまだ開始から間もない。18 ヶ月の借款の発効に遅延が生じたことを除いては、現在までのところ課題は浮上していない。

### 事業実施を改善するための具体的な措置:

政府は事業を完全管理し、適時に委員を任命し、モニタリング・評価のシステムと過程を強化するべきである。

### その他(その他特筆すべき点)

政府、特に実施機関は借款契約を受け入れる際には非常に慎重であるべきである。借款契約は非常に困難であったため 18 ヶ月無効となり、すべての活動が遅延した。TA コンサルタントを

雇うことができなかった。

## 事業番号 2: 作物多様化事業(CDP)

### 基礎情報

**事業の目的:** この事業の全体的な目的は、二次作物（トウモロコシ、豆類、油糧種子、果実、野菜など）の耕作によって農家の現金収入を拡大することにより農村の貧困を削減することである。具体的な目的は以下のとおりである。

- 潜在的なポケット・エリアと農業普及における農民集団手法に特に焦点を合わせた生産の促進と農作物のマーケティングを通じて農家の収入を増やす。
- 民間部門と女性農民の活発な参加を促進する。

**ドナー機関:** アジア開発銀行 (ADB)

**実施機関:** 農業部 (DOA)

**合計予算概算:** 1,404 万米ドル

### 事業現場・地域の概略

12 地区 (ダング、バンケ、バルディア、スルケット、ダイレク、アチャム、ドティ、カイラリ、カンチャンプール、ダデルドゥラ、バイタディ、ダルチュラ)

**対象住民:** 生産対策が及んでいない地域(ポケット・エリア)- 農家 45,300 世帯、12 地区における人口の 12%

**行政地区:** 中西部・極西部の全 5 つの開発地域の 12 地区で実施。

**対象現場・地域の貧困・食糧安全保障状況:** 事業地区の過半数において貧困率は全国平均の 31%を上回る。中西部・極西部の丘陵地区はチェトリ、ブラフミン、タクリのカーストが多く居住し、続いてグルン、マガール、シェルパ、ネワールの民族集団が占めている。しかしながら、貧困率は丘陵部と低地の両方で見られるカミ、ダマイ、サルキといった職業カースト集団の間で最も高い。こういったカースト集団の 60%近くが非常に貧しい。さらに、事業地域は小規模や最小限の土地しか持たない農民が過半数を占める。土地所有は著しく分断されており、農家の約 40%は土地所有面積が 0.5 ヘクタール未満である。貧困世帯の過半数は季節労働や単純労働のためインドへ一時移住し、収入を補っている。

下の表は、対象地区の貧困状況を示すとともに、全国平均と比較している。CLDP 地区の貧困水準は、バイタディの 36.8%から最も高いアチャム地区とダイレク地区の 51.6%まで幅がある。

表: CDP 地区における貧困率

全国平均貧困率: 30.8%  
全国平均カロリー摂取率: 39.8%

SN	地区名	貧困率 (%)	カロリー摂取率 (%)
1	ダング	42.9	36.1
2	バンケ	41.2	46.1
3	バルディア	44.9	42.4
4	スルケット	47.0	43.1
5	ダイレク	51.6	48.9



SN	地区名	貧困率 (%)	カロリー摂取率 (%)
6	アチャム	51.6	42.3
7	ドティ	46.4	44.9
8	カイラリ	50.4	42.3
9	カンチャンプール	42.4	45.3
10	ダンデルドゥラ	40.3	44.4
11	バイタディ	36.8	47.3
12	ダルチュラ	37.7	49

(注: 色のついている数字は地区平均が全国平均を上回ることを示す。)

## 機関組織

**ドナー機関: 専門家** (専門家の人数: 現在 3 名(農業マーケティング、社会的動員、モニタリングの専門家。当初、技術支援は国内外チーム(100.72 人月、国際専門家 3 名、国内コンサルタント 5 名)から成る技術支援チーム(TA team)によって提供された。しかしながら 2 年前より、モニタリング・評価専門家とマーケティング専門家から成る国内チームが技術支援を提供している。

**役割:** 技術支援、監督、モニタリング、品質管理、基金の支出、評価団の定期的な派遣。 ダング、バンケ、バルディア、カイラリ、カンチャンプールの 5 事業地区において CDP と共同で民間社会組織を通じて「貧困農民支援」という事業を実施するため、貧困削減日本基金を通じて関連する技術・助成金を用意。

**中央清算機関** (省庁名: 農業協同組合省)

**役割:** 促進、支援、事業運営委員会の統括、ドナー調整、監督、モニタリング、品質管理

**受益者清算機関** (省庁名: 農業協同組合省・農業部)

**人員数:** 未確認

**役割:** 全体的な事業管理、ならびに地域開発、能力強化を含む全体的な管理と実施に責任を負う事業調整ユニットを設立し、定期的に事業を統括すること。

**実施機関: 事業調整ユニット**

専門家 (本部: 5 名 (プロジェクト調整員、経理責任者、農業技師、予算・計画責任者、モニタリング・評価責任者 現場: 6 名 (2 つの現場事務所に各 3 名)

**役割:** 実施機関である農業部に代わって事業を実施する。具体的には、(a) 他のサービス業者と協議のうえ、年間作業計画とそれに関連する事業報告書を準備し、(b) すべての事業活動および実施機関とサービス業者の作業を監督し、(c) 事業活動をモニタリング・評価する。

**対象地域 (村):** 地区農業開発事務所 (DADOs)

**事業に関連する組織:** 農業協同組合省長官が統括する事業運営委員会、農業部の事業理事会、地区農業開発委員会

## 実施計画

**事業選定の方法:** この事業が選定されたのは、先行する事業でありやはりアジア開発銀行の技術・融資支援を受けた第 2 次農業開発事業のベストプラクティスに継続性を持たせるためである。

**事業実施の方法:** 地区農業事務所と NGO が、地域共同体意識の構築、社会的動員、ジェンダー意識、集団形成、農民研修、およびモニタリング・評価を含む地区活動を実施する。

## 事業実施のグッドプラクティスと課題

### 事業実施におけるグッドプラクティス:

- (a) サービス提供形式の効果を評価するためのアクション・リサーチ（社会的動員の概念を含む社会的動員、ならびに民間機関・NGO への総合発注についての NGO との連携による DADO のみによって実施）。
- (b) 社会的動員を構成する強力なコンポーネントの導入。
- (c) VDC における社会的動員のための男性 1 名、女性 1 名から成る現地チームの活用
- (d) 相対的利点、現地の人々のニーズ、需要、市場とのつながりに基づくポケット・エリア開発

### 事業実施における課題:

- (a) 国立農業研究開発基金(NARDF)を通じた研究。3,000 万ネパール・ルピー（約 4,25,000 米ドル）以上を費やしているにもかかわらず、NARDF が研究事業の選定に手間取りすぎたため、この事業は自らの出資による研究結果の成果を受けることができなかった。
- (b) 事業の期間中、地区は著しく過剰な運営基金を使用していた。事業の終了後、すなわち今年からは、地区が政府予算を使って活動することは極度に困難になるだろう。
- (c) 実施機関 (DOA)とサービス提供の外部委託モデルに基づく下請け業者（民間部門）との関係。
- (d) 技術的知識と社会的動員の成熟度（年数）。

### 事業実施を改善するための具体的な措置

- (a) 運営基金と事業予算とのバランスを維持する。事業支援の終了後に大きな反動が起こらないような方法で運営基金を地区に提供すべきである。
- (b) 最初からモニタリング・評価活動を評価する。これは専門性の高い参加型の評価でなければならない。
- (c) 社会的動員を優先し、技術支援と組み合わせる。ただし、社会的動員を行う担当者としては、少なくともなんらかの技術的知識と経験を持つ適切な人物を選ぶべきである。社会的動員の担当者は、社会的動員の技術だけでなく、農民のごく基本的な問題に対応できる技術的知識を備えているべきである。

## その他

### その他特筆すべき点:

- (a) NARDF は、事業が研究結果を活用できるようにするため、研究案の認可手続を簡素化すべきである。

## 事業番号 3: 農業長期計画支援事業 (APPSP)

### 基礎情報

**事業の目的:** 事業の上位目標は、*農層の貧困生活を改善すること*である。目標は *貧しい生産者と消費者に恩恵をもたらす農業の成長*である。目的は、*政策の改善と制度の整備を通じて農村の貧民に適切な農業支援サービスを提供すること*である。事業は特に、以下の任務の実施において MOAC を支援することを構想している。

- 現在までに排除されている人々 – 遠隔地で天水農業に従事する貧しく小規模な農家、女性、下層カースト・民族集団。
- 中期的実施計画を策定する。
- 外注サービス。
- 政府の役割を実施から認可・促進へ移行する。
- 貧困の焦点をさらに APP に絞る。
- より成果重視型のモニタリング・評価 (M&E) を開発する。

**ドナー機関:** 英国国際開発部(DFID)

**実施機関:** 農業協同組合省 (MOAC)

**合計予算概算:** 987 万英ポンド

### 事業現場・地域の概略

**対象住民:** オカルドゥンガ、ウダイプル、シラハ、シンドゥリ、ラメチャブ、ラウタハット、アルガカンチ、カピラバストゥ、フムラ、ムグ、ピュータン、ロルパ、ルクム、サリヤン、ジャジャルコット、バジュラ、バジャン、アチャム、ドティ、バイタディ。

**行政地区:** 事業は国内全 5 地域から選定された地区において実施された。

#### 対象現場・地域の貧困・食糧安全保障状況:

事業地区には貧困がはびこっている。下の表は対象地区の貧困状況を示すとともに、全国平均と比較している。APPSP 地区の貧困水準は、シラハの 29% (全国平均にせまる) から最も高いロルパ地区の 58.7% まで幅がある。

表 : APPSP 地区における貧困の状況

全国平均貧困率: 30.8%

全国平均カロリー摂取率 39.8%

SN	地区名	貧困率	カロリー摂取率
1	オカルドゥンガ	42.7	34.6
2	ウダイプル	50.8	46.4
3	シラハ	29	30
4	シンドゥリ	60.3	54.6
5	ラメチャブ	48	41
6	ラウタハット	30.2	37
7	アルガカンチ	44.1	35.7
8	カピルヴァストゥ	40.1	42.8
9	フムラ	41.5	59.3
10	ムグ	51	64.8

SN	地区名	貧困率	カロリー摂取率
11	ピュータン	51.5	36.7
12	ロルパ	58.7	49.5
13	ルクム	49.1	50.2
14	サリヤン	45.5	43.7
15	ジャジャルコット	44.1	46.6
16	バジュラ	48.2	49.6
17	バジャン	47.3	48.6
18	アチャム	51.6	42.3
19	ドティ	46.4	44.9
20	バイタディ	36.8	47.3

(注: 色のついている数字は地区平均が全国平均を上回ることを示す。)

## 機関組織

**ドナー機関: 専門家** (専門家の人数: 5名 (専門家駐在員・事業顧問1名、国内コンサルタント4名))

**役割:** 事業アドバイザーは貧困農民に配慮したサービスを強化・維持するための制度と政策の変更を特に重視し、DFIDを代表してAPPのパートナーに戦略的助言を与える。当該事業アドバイザーは、事業の全体的管理と実施において事業マネージャーとチームを支援する。MOAC (政府職員)によって任命された事業アドバイザーと事業マネージャーはひとつのチームとして作業し、事業のすべての重要な局面において、ネパール政府の規定・規制ならびにドナーであるDFIDの枠組みの内において共同で決裁および行動することが求められる。

**中央清算機関** (省庁名: 農業協同組合省)。

管理の責任はまずネパール政府に任命された事業マネージャー (PM)に所在し、これをDFIDの任命によって国際的に採用された常駐の事業アドバイザーが補佐する。この両名で事業の管理チームを組む。PMはMOAC長官に代わり、国立計画委員会(NPC)がモニタリングする緊急行動計画(IAP)の管轄する省庁の責任の一環として事業の進捗と達成に責任を負う。

**実施機関:** 中央支援ユニット専門家 (本部: GON:3名、ドナー:5名 現場: \_\_名)

**役割:** CSUの役割と責任は以下のとおりである。

- 貧困者、疎外されている集団、女性、ダリットおよび少数民族を支援するためのMOACによる農政の検討・改革を促進・支援する。
- APP活動の質を上げるためAPPパートナー間の調整を促進する。
- サービス提供機関の検討・再調整において、農業普及サービスを効率的・効果的に提供するための調整とコミュニケーションを通じてMOACを技術支援する。
- 中央レベルと地区レベルの両方において、参加型実施の確立、およびモニタリング・システムへの影響を促進する。
- MOACによる画期的サービス提供システムの設計と構築を支援する。

**対象地域 (村):** 地区農業開発事務所 (DADOs)、地区畜産サービス事務所

**事業に関連する組織:** 農業協同組合省長官、地方開発省、地区開発委員会、地区を拠点とする非政府組織、地区支援ユニットが統括する事業運営委員会。

## 実施計画

**事業選定の方法:** 遠隔、紛争影響、貧困の程度に基づいて選定された 20 の 地区: 資源(富裕-貧困地区)、人間開発指数(女性の地位を含む)、MLD 地区分類と女性の地位

### 事業実施の方法:

**地区:** 地区における事業は、地方政府の構造(DDC, VDC, CBOs)の枠組み内で、地区レベルの関連機関による様々な形態の共同作業として、政府および非政府を含むサービス提供者によって実施される。APPSP 関連の事業と活動を促進するため、政府職員、DADO または DLSO の従業員で構成され地区プロジェクト調整員(DPC)、APPSP/DFID に任命される地区事業アドバイザー (DPA)、および事業アシスタントとして活動する地区支援ユニットが設立される。

地区レベルの役割を強化して農業サービスを提供し、農業に基づく公正な生活の機会の潜在性を最大化するため、事業が支援する 20 の地区において農業開発基金 (DADF) が設立および運営されている。基金の目的は、農業サービスの提供状況を改善するために必要な金融支援を提供し、新たな制度と業者に対するリスクを削減することである。

DADF はサービス提供者への融資のための地区普及基金 (DEF)、農家の集団による一定の主導を支援するための地方主導基金(LIF)の 2 つの基金で構成される。

**地域:** 地区で実施される事業の参加型共同モニタリングを行って CSU にフィードバックするため、地域連携支援委員が任命される。これらの委員は、地区における APPSP 活動を強化するために地区プロジェクト調整員(DPC)、地区事業アドバイザー (DPA)、DDC、および地区農業開発委員会に対して技術的対策を施す。中央の指導による既存のサービス提供システムに変化をもたらす過程を RLSO がモニタリングし、ニーズに基づく参加型モニタリングを導入する。貧困層、周縁化された人々、女性、下層カースト、民族集団農民が GON その他による普及サービスにアクセスする可能性を拡大する。

**中央:** 農業協同組合省 (MOAC)は事業の実施を担当する主導機関である。実施に関与するその他の省庁は、森林土壌保全省、地方開発省、水資源省である。APPSP は APP の調整と実施を支援する事業として MOAC のモニタリング・評価 (M&E)課に帰属し、APP モニタリング・分析ユニット(APP-MAU)と密接に協働する。APP の多部門的性格に合わせ、APPSP は MOAC 長官が統括し他の APP 実施機関のメンバーを含む中央農業開発実施委員会(CADIC)を通じて APP の集成的実施機関によって管理される。

## 事業実施のグッドプラクティスと課題

### 事業実施におけるグッドプラクティス:

- (a) 地区レベルでの事業活動の実施に対する責任、ならびに事業の構想、設計から実施、モニタリング・評価に至るまで確実に受益者を参加させるための現場レベルでの受益者モニタリング委員会の条件に対する責任を地区開発委員会に持たせること。
- (b) 事業の実施における公監査の導入。
- (c) 事業活動の調整と運営のために新しい委員会を設立するのではなく、活動に対する責任は中央レベルと地区レベルですでに機能している委員会が担うこと。
- (d) モニタリング・評価に焦点を絞ること。
- (e) 競合性を基盤とした地方の農民と集団による主導を支援するための基金 (地方主導

- 基金)の活用。
- (f) 地区の遠隔地に住む不利益状態にある貧困者に焦点を絞ること。
  - (g) 不利益状態にある貧困者と地域のための事業の網羅と支援を評価するための社会・地理監査(SAGA)の定期的な実施。

#### **事業実施における課題:**

- (a) 事業の認可に先立って VDC レベルで受益者委員会が設立されるが、委員会は自らの役割と責任を知らされず、VDC レベルで実施される活動のモニタリング・評価のために BMC が使える手段が用意されていない。
- (b) 現行の政策と実施の課題のための政策支援基金が用意されているにもかかわらず、この基金の支援に基づいて行われた研究は、研究の委託、適切な研究の選定における複数の欠陥、研究完了およびその後の結論の検討、推薦の遅延によりほとんど役に立っていない。

#### **事業実施を改善するための具体的な措置:**

- (a) 受益者モニタリング委員会の機能を強化し、地区農業開発基金の地区普及基金(DEF)と地方主導基金(LIF)を通じて実施された事業のモニタリングのための手段と方法論を提供する。
- (b) SAGA の結果を地区当局、実施機関、および政策立案者に細かく知らせ、SAGA の質を完全する。現在の SAGA 報告書は、事業の目標と目的にほとんど貢献していない。
- (c) 政策関連の研究を委託する現在の制度と過程を見直し、迅速かつ結果が政策または事業の実施に活用または導入されるような制度を構築する。

#### **その他特筆すべき点**

- 農業長期計画への配慮が希薄になっていること、および国家計画委員会(NPC)が現在暫時3年開発計画(2008-2010年)の策定に取り組んでいることを鑑みると、この事業は、NPC チームの一部にするべきだった。

# **3 章： 肥料配給制度**

### 3.1 序

肥料配給制度の研究がネパールの2つの地区、シンドパルチョークとチトワンで行われた。シンドパルチョーク地区は丘陵・山岳地区、チトワン地区はテライ地区の代表として選ばれた。

これら2つの地区における肥料配給制度を論ずる前に、ネパール政府が1997年11月から採用している肥料規制緩和政策について以下に簡単に説明する。

1997年11月に肥料取引規制が緩和される前までは、農業投入材公社(AIC)が肥料の供給を独占管理していた。肥料の輸入と配給はこの組織が管理し、出張所、協同組合、民間取引業者を通じて直接配給していた。助成の停止と規制緩和により、肥料は自由市場の商品となり、1999年肥料管理規定と2002年国家肥料政策で定められた規定の遵守を条件に、だれでも独自の販路を通じて輸入・配給できるようになった。

AICは現在、the Agriculture Inputs Company Ltd (AICL)とthe National Seeds Company Ltdの2つの公共部門の会社に分割されている。前者は肥料を調達・販売するが、輸入と配給の独占管理権は持っていない。AICLは民間分門と同じ条件で競争することが求められる。

### 3.2 シンドパルチョークにおける肥料配給、丘陵・山岳地区の場合

シンドパルチョーク地区にはAICLの出張所が存在しない。規制緩和の前まで、AICLはこの地区ではデュリケル事務所(カブレ・パラチョーク地区)またはシンドパルチョーク地区のBarabishe市場の中に設立された出張所から肥料を配給していた。

規制緩和とともにAICはBarabishe出張所を閉鎖した。AICLはシンドパルチョークには存在しない。この地区の肥料市場は民間取引業者が支配している。民間肥料取引業者は以下の経路から地区に肥料を持ち込んでいる。

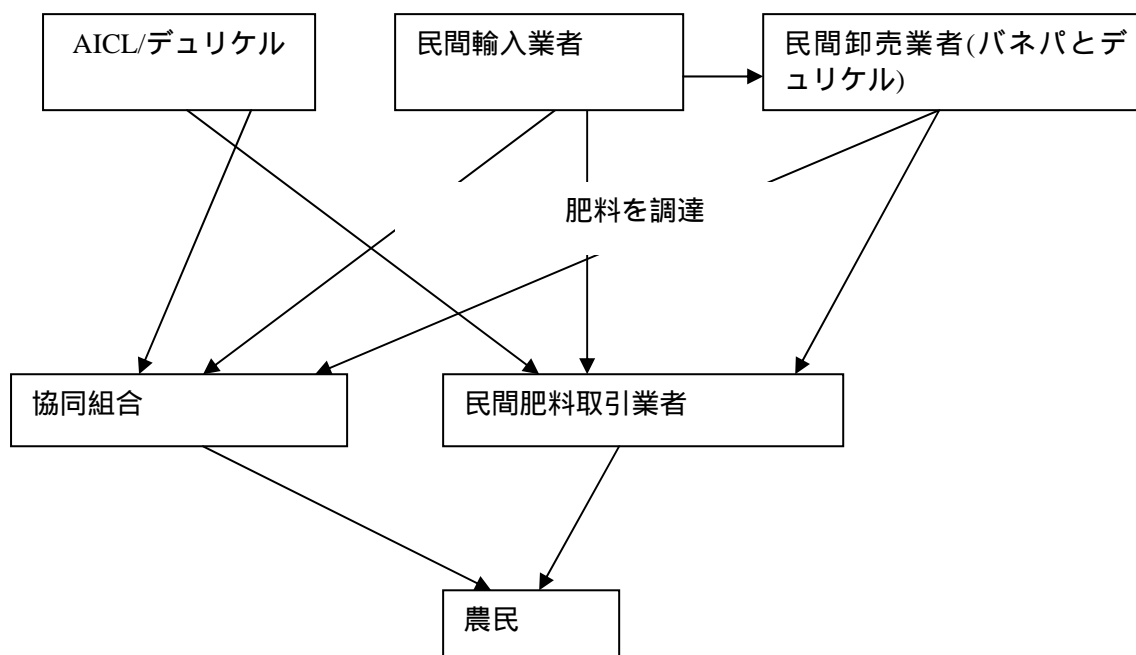
- (a) Agricultural Inputs Company Limited デュリケル支店(カブレ・パラチョーク地区)
- (b) カブレ・パラチョーク地区バネパ市場内の民間卸売肥料取引業者
- (c) 民間輸入業者

1999年肥料管理規定(FCO)に沿って地区農業開発事務所(DADO)は、地区内で肥料を取引することを許可されている肥料取引業者(卸売と小売)を登録している。肥料取引業者(FDs)は卸売と小売の両方とも、地区全体を通じて肥料の配給において重要な役割を担っている。地区農業開発事務所によると、地区事務所にはFCOの公布前に肥料を販売した記録がない。1999~2000年に肥料取引が普及した後、61の業者が地区内で肥料を販売するためにDADOに登録した。メラムチなど一部の市場では、17の取引業者が肥料配給のための資格をDADOから受けた。しかしながら、DADOの登録無しに肥料を配給・販売しても罰則がないため、多くの肥料取引業者はDADOの登録を更新していない。最近の事務所の記録によると、現在地区内には12の取引業者が存在する。これには協同組合も含まれる。

研究の期間中に地区内で肥料を販売していた業者の多くは、収穫の季節(米は6~7月、トウモロコシは4~5月、麦は10~11月)には多くの業者が地区に肥料を持ち込んで販売すると回答した。従って、DADOが地区内の肥料取引業者の数を正確に数えることは非常に困難である。しかしながら、現場訪問の際に面接した人々のほとんどは、肥料取引が規制緩和されて以来、地区内で肥料の不足を経験したことはないとは回答した。



以下の図はシンドパルチョー 地区の肥料配給制度をまとめたものである。



上の図は、肥料取引業者には地区内で肥料を調達して販売するための選定肢が数多くあることを示している。2KR(食糧増産援助)日本政府援助に基づいて地区内に輸入された肥料は、ほとんどの取引業者が一般にバネパ(民間取引業者)から肥料を調達することもあり、この地区にはほとんど届かない。地区農業開発事務所には地区内での2KR(食糧増産援助)肥料販売の記録はない。

下の表は、過去5年間のシンドパルチョーク地区における肥料の配給を表す。

年	尿素	DAP	MOP	合計
2001/02	1613	656	127	2396
2002/03	1213	656	127	1996
2003/04	1051	467	46	1564
2004/05	1019	546	69	1634
2005/06	1475	890	-	2365

MOP- 塩化カリ

出典: 地区農業開発事務所、シンドパルチョーク(年間報告書)

上の表は、地区内の肥料配給制度には大きな変動があることを示している。しかしながら、DADOは農民が自宅で購入する肥料の量の記録を持っていないため、実情はまったく違う可能性がある。多くの農民と肥料取引業者は、肥料取引業者は最近タナフンで農家に直接肥料を届けて販売していると回答している。農民の肥料へのアクセスは著しく拡大したが、農民の肥料に関する最近の問題は、バランスを欠いた植物栄養の使い方、カリウム肥料の不足、同一ブランドの肥料の価格差である。地区農業開発事務所で入手できる記録は部分的なものにすぎず、主な収穫の季節中に業者が販売する肥料の量、ならびに農民が小売業者から自宅で直接購入する肥料の量を記録するための信頼できる機構と制度を事務所は確立していないことが地区内の肥料配給に対する我々の評価で明らかになった。このことは、DADOが定期的に肥料利用調査を行うことの必要性を示唆している。

最後に、下の表はシンドパルチヨーク地区中心部にあるチャウタラ市場における肥料の小売価格を表す (2007年1月29日)

肥料名	特徴	輸入タイプ	価格、ルピー /Kg	ルピー/MT
尿素	小粒子, 46% N	インド (不法輸入)	Rs. 23.00	Rs 23,000.00
尿素	大粒子, 46%N	民間・合法	Rs. 29.00	Rs. 29,000.00
DAP	-	民間・合法	Rs. 33.00	Rs. 33,000.00
アンモニウム リン酸 硫酸	N: P, 20: 20	民間・合法	Rs. 25.00	Rs. 25,000.00
MOP	K-60%	インド (不法輸入)	Rs 25.00	Rs. 25,000.00
アンモニウム 硫酸	N-20%	民間・合法	Rs 20.00	Rs 20,000.00

### 3.3 チトワンにおける肥料の配給、テライ地区の場合

シンドパルチヨーク地区とは異なり、チトワン地区には AICL の出張所がある。規制緩和が行われる前、AICL (旧 AIC) はこの地区で唯一の肥料配給者だった。

規制緩和により、AICL と民間取引業者の両方が地区内で肥料を販売している。AICL の出張所は AICL ビルガンジー倉庫から肥料を持ち込んでいる。ネパールでは肥料を生産していないので、AICL はインドまたは第3国から肥料を輸入している。

2 KR(食糧増産援助)の一環として AICL ビルガンジー倉庫で肥料を保管している。民間肥料取引業者は以下の経路からチトワン地区に肥料を持ち込んでいる。

- (a) パルサ地区のビルガンジー市場の中の民間卸売肥料取引業者
- (b) 民間輸入業者

シンドパルチヨークと同様チトワンでも、地区農業開発事務所 (DADO)が地区内で肥料を販売することのできる業者を登録している。肥料取引業者(FDs)は卸売と小売の双方で、地区全体を通じた肥料の配給において重要な役割を担っており、地区内の肥料市場を支配している。チトワン地区農業開発事務所によると、地区事務所には FCO の公布前に業者が肥料を販売した記録がない。FCO はチトワンで肥料取引業者を登録する権限をチトワン DADO に与えている。2002～03年には56の業者が、地区内で肥料を販売するために登録された。地区内で登録されている肥料取引業者の数は2005～06年に大幅に増加し、現在105に達している。下の表は地区内の肥料取引業者の VDCs による分布を表す。これには協同組合も含まれる。しかしながら、DADO と一部の肥料取引業者との討論により、チトワン地区では5人の主な肥料取引業者が事実上肥料市場を支配していることが明らかになった。

- (a) Mr Rishi Neupane
- (b) Ms. Bina Shreshtha
- (c) Mr Bharat Pathak
- (d) Mr Gopal jee Gupta and
- (e) Mr Raja Ram Regmi

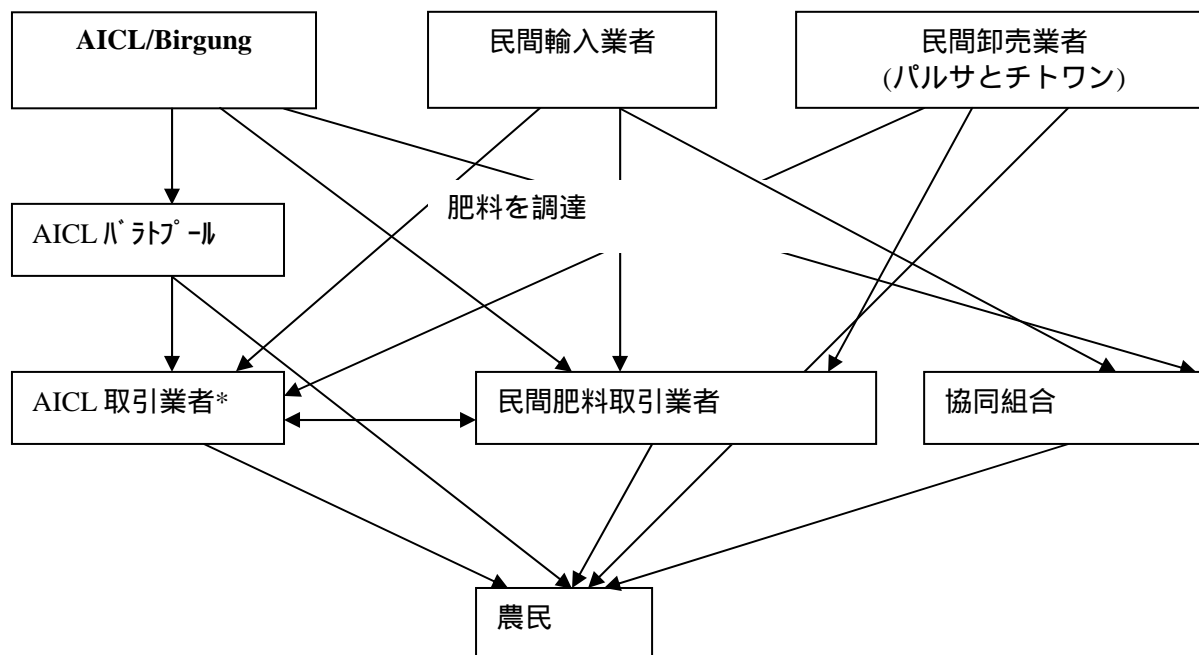
討論の際、肥料取引業者は現在農薬肥料取引業者協会への登録を進めているところであると

発言した。業者はすでに定款を起草しており、協会に登録するための臨時委員会が設立されている。これにより、地区における化学肥料使用が増加し、共通の課題と問題を解決するためには業者間の結束が重要であるとの意識が生まれるものと思われる。この協会は DADO がバランスの取れた植物栄養の使い方を推進し、農民に周知させるための重要な場となりうる。

年	取引業者数	肥料取引業者の分布
2005/26	105	Khairani(18),Kumroj(3), メゴ ーリ (3), Chainpur(4), Shiv-Nagar(1), Bachhauli(2), Darchok(4), Jugedi(1), Mangalpur(5), Gitanagar(4), Kathar(2), Pithuwa(5), Gunjanagar(7), Jagatpur(1), Piple(2), Shaktikhor(2), Shardanagar(3), Baghauda(2), Jutpani(6), Shukranagar(2), Dibya-Nagar(1), パルポティプール (1), Padampur(1), Birendra-Nagar(1), Ayodhyapuri(1), パラトプ ール Munciparty(12), Ratna-Nagar Munciparty (11)

注: カッコの中の数字は取引業者の数を表す。  
 出典: チトワン地区農業開発事務所

以下の図はチトワン 地区における肥料配給制度の流れを簡単にまとめたものである。



\*- 30 の取引業者が AICL の販売権を取得している。ただし、AICL の取引業者もまた民間輸入業者によって輸入・配給された肥料を販売していることを特筆する必要がある。

上の図は、肥料取引業者には地区内で肥料を調達して販売するための選定肢が現在数多くあることを示している。原則として、2 KR(食糧増産援助) 日本政府援助に基づいて地区内に輸入された肥料は地区内で販売するべきではない。なぜなら、地区で肥料が不足することはないだろうが、この地区では実際に 2 KR(食糧増産援助) の肥料(尿素と DAP)も販売されているからである。調査の際、ある取引業者は Manoj International から配給された 2 KR(食糧増産援助) の DAP を最近販売したと報告している。このことは、この肥料が遠隔地および不利益状態にある貧困者に配給されて貧困削減に貢献することを確実にするために、2 KR(食

糧増産援助) 肥料配給の制度と政策を見直す必要があることを示唆している。しかしながら地区農業開発事務所には地区内での 2 KR(食糧増産援助) 肥料販売の記録はない。

下の表 1 はチトワン 地区における過去 5 年間の肥料の配給を表す。

年	尿素	DAP	MOP	合計
2001/02	4450	1593	100	6143
2002/03	4455	1785	101	6341
2003/04	4460	1790	118	6368
2004/05	4680	1820	168	6668
2005/06	4760	2490	424	7674

MOP- 塩化カリ

Source: 地区農業開発事務所、チトワン (年間報告書)

上の表は地区における肥料配給制度が一貫していることを表す。しかしながら、DADO は農民が自宅で購入する肥料の量の記録を持っていないため、実情はまったく違う可能性がある。多くの農民と肥料取引業者は、肥料取引業者は最近タナフンで農家に直接肥料を届けて販売していると回答している。農民の肥料へのアクセスは著しく拡大したが、肥料の品質については農民の不安は増している。地区農業開発事務所で入手できる記録は部分的なものにすぎず、地区内で販売される肥料の量を記録するためのシステム、手順および手段を事務所は確立していないことが地区内の肥料配給に対する我々の評価で明らかになった。多くの民間取引業者は主な収穫の季節には農家への配達サービスを行っており、タナフンにさえも肥料を配給している。DADO によって提供される肥料関連のデータは供給側からの推測にすぎない部分的なものである。このことは、DADO が定期的に肥料利用調査を行うことの必要性を示唆している。

最後に、下の図はチトワン 地区中心部バラトプール市場における肥料の小売価格を表す (2007 年 2 月 11 日)。

肥料の名前	特徴	輸入のタイプ	価格、ルピー/Kg	ルピー/MT
尿素	小粒子, 46% N	インド (不法輸入)	Rs. 14.50	Rs 14, 500.00
尿素	小粒子, 46% N	インド (AICL 輸入)	Rs. 16.00	Rs. 16,000.00
尿素	大粒子, 46%N	民間・合法	Rs. 26.00	Rs. 26,000.00
DAP	18 N, 46 P	民間・合法	Rs. 28.50	Rs. 28,500.00
DAP	18 N, 46 P	民間・合法 (フィリピンから 輸入)	Rs. 29.00	Rs. 29,000.00
DAP	18 N, 46 P	民間・合法 (中国から輸入)	Rs. 29.50	Rs. 29,000.00
DAP	18 N, 46 P	2 KR(食糧増産援助) Buffer Stock, Manoj Int	Rs. 30.50	Rs. 30,500.00
サルガマータ	20:20:0	ネパールで調合 および粒状化	Rs 20.00	Rs 20,000.00

肥料の名前	特徴	輸入のタイプ	価格、ルピー/Kg	ルピー/M T
MOP	K-60%	インド (不法輸入)	Rs 14.50	Rs 14, 500.00

チトワン地区では AICL 事務所が活動を行っているが、1999 年の規制緩和以降販売は著しく減少している。規制緩和の前までは年間 3,500 ~ 4,000 Mt の肥料を販売していた。しかしながら 2005 ~ 06 年には 248 Mt の DAP を配給したのみである。このことから民間部門による肥料市場の支配の程度がうかがえる。

## 4 章:

# 貧困農民の村落調査

### 目的:

- 環境と農業制度の異なる 2 つの村における貧困削減と食糧安全保障に関する貧困農民の現状、課題、措置についての地域共同体レベルの情報を収集すること。

### 方法:

- チェックリストを使って 2 つの村落の調査を行う(対象地域の中から選定された村または地域共同体)。
- 村または地域共同体の主な利害関係者との集団面接。

地区名	調査された村落の名前	村落 ID コード
シンドパルチョーク	Dumphaker	丘陵村 1
シンドパルチョーク	Mankha	丘陵村 2
チトワン	Patihani	テライ村 1
チトワン	Meghuli	テライ村 2

### ネパールにおける貧困農民支援に関する農村の課題;

- 作物・畜産混合農業系、高地混合系の丘陵地域における貧困削減と食糧安全保障の措置 (出稼ぎが広く普及しているため、農業における女性を考慮に入れるべきである)。
- 米、麦、トウモロコシなどの作物の自給自足はほぼ確立されている。しかしながら、耕作地域の拡張が困難な米・麦農業系(夏の稲作と灌漑による冬の麦作)のテライ地域では依然として自給自足の維持と貧困農民への援助が必要とされる。従って、米・麦農耕系統のテライ地域では農業の自給自足が課題である。

従って調査の対象となる地域は以下のようなになるだろう。

- 貧しい丘陵地域の村 (高地混合系)
- テライ地区の村 (米・麦系)