

ROLE OF CROP DIVERSIFICATION PROJECT IN HORTICULTURE DEVELOPMENT IN NEPAL

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ABSTRACT

The CDP (Crop Diversification Project) is being implemented in twelve selected districts of MWDR and FWDR, with the loan assistance of ADB. The project covers an implementation period from 16 July 2001 to 31 Dec 2004. The sectoral goal of the project is reduction in rural poverty through increased cash income for farm households. The immediate objectives are promotion of production and marketing of agricultural crops with a particular focus on secondary crops of commercial importance. The project activities have been grouped under four components: provision for extension services of farmers groups; promotion of private extension services; promotion of client-oriented research; and project management support. In order to enhance the effectiveness and socio-economic impacts of project implementation, the project design has encompassed innovative approaches, such as social mobilization support to DADOs agricultural extension programs; promotion of PSPs for social mobilization and agricultural extension services; client-oriented research through grant assisted NARDF; and cost recovery for use of laboratory facilities. Besides, the project envisages to promote PPAs as focal point for promotional activities, and farmers groups as the grass root level institutions. Promotion of production and marketing, in parallel, has been essential feature of the project design. There has been some delay in implementation of some activities, mainly due to procedural matters, innovative approaches and the volatile security situation.

The lesson learnt in adoption of new approaches is expected to provide valuable guidelines for design and implementation of similar projects in future. However, as most of the new approaches are in initial stage of implementation, it is too early to draw any final conclusion on the effectiveness of these approaches, and examining the possibilities of further replication of the approaches, on the basis of experiences of CDP. Nevertheless, there are some indications of positive impacts of the social mobilization and PSPs activities.

INTRODUCTION

Agriculture continues to be the dominant sector in the Nepalese economy. It accounts for about 40% of the Gross Domestic Products (GDP), 80% of total labour force, and 20% of the export earnings. The countries industrial sector is also largely dependent on agriculture sector in a way that its major portion of the raw materials comes form agriculture, and agriculture sector provides market for a significant portion of the industrial outputs. However, despite the high priority accorded in various national development plans, the performance of the agriculture sector has not been so encouraging, so far the growth of this sector is concerned. This necessitates adoption of appropriate strategies to boost the overall growth in the agriculture sector. Though agriculture sector comprises of the crops, livestock, fisheries sub-sectors, it is the crop sector, which accounts for most of the activities of the government as well as farmers. Thus, agriculture sector has to play an important role, as a lead sector of the economy, not only as a source of food for the country's growing population but also as a booster of the other sectors of **Crop Diversification Project**

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Location Map



the economy. This is more true in the context of very slow growth rate in non-agricultural sectors. The Agriculture Perspective Plan (APP) emphasizes to transform gradually the subsistence farming system to a more commercialized one, based upon the comparative advantage of crops selected for commercialization.

Among the crops, development of horticultural crops (fruits, vegetables and spices) is considered to have high potentials to contribute significantly to the overall share of agriculture in the countries GDP. Being cognizant of the importance of horticultural crops, the APP has accorded due priority for the promotion of production and marketing of horticultural crops in potential pocket areas, on commercial scale, for both the domestic consumption and export markets. Promotion of production of selected fruits and vegetable crops, based upon their agro-climatic suitability and market demand, has been emphasized.

In conformity with the above policy and strategies of the government, the Crop Diversification Project (CDP) has been designed, and is being implemented in 12 selected mid-hills and terai districts of the Mid Western and Far Western Development Regions, by the Department of Agriculture (DOA) under MOAC, with the loan assistance of the Asian Development Bank (ADB).

THE CROP DIVERSIFICATION PROJECT

Project Area

The Crop Diversification Project is presently being implemented in 12 selected districts of MWDR and FWDR. The districts covered under the Project are Banke, Bardiya, Dang, Surkhet and Dailekh in MWDRs, and Kailali, Kanchanpur, Dadeldhura, Baitadi, Doti, Achham and Darchula in FWDRs. These districts have been selected based on criteria that include: i) districts covered under the

Secondary Crops Development Project (SCDP); ii) districts where similar activities had been implemented in the past under other projects; iii) availability of vehicular access to the district headquarters; iv) potential for the production and marketing of secondary crops; and v) Food self-sufficiency status. The implementation period of the project, as designed, is of 5.5 years, that is from 16 July 2001 to 31 December 2006. Thus, the project is in the third year of its implementation. In line with the APP, the project design envisages development of Farmers Groups as the grass root level institutions, and thus, the activities are to be based on the farmers group approach in agricultural extension. The project will focus on the production pocket areas as growth centres for the promotion of potential crops on commercial scale.

General Constraints and Potentials for Horticultural Crops in the Project District

CONSTRAINTS

Through the project design has some in-built measures to address the constraints, identified at the time of its design and appraisal, a number of general constraints are experienced, at present, in development of horticultural crops in the project districts. These are as follows:

- a. ***Adverse Security Environment:*** The volatile security situation prevailing at present in many parts of the project area is posing a serious problem in promotion of the specified secondary crops and their marketing. The present adverse security scenario is considered as constraints in planning, implementation and monitoring and supervision of the PPA level activities. There is a general psycho fear among the project staff, specially during movement in fields.
- b. ***Inadequate Availability of Key Production Inputs:*** There has been problem of short supply of some of the key production inputs, specially seeds of vegetables, seed potato, citrus saplings, in desired quantity and quality. In case of citrus, there are a few citrus nurseries in the project districts. Most of these nurseries produce and distribute undersized saplings of doubtful progenies and mostly of seedling type. These nurseries are not exercising adequate prophylactic measures to produce healthy plants. The nurseries, in general, lack permanent nursery structures and operating on temporary basis, and thus, do not care for gaining the long term reputation, which otherwise is so vital in the nursery business.
- c. ***Lack of Organized Markets and Marketing Physical Infrastructure:*** In some areas of the project districts, where fruits, vegetables, potato and ginger are already produced for commercial purpose, difficulties are experienced in the marketing of the produce due to lack of organized markets and marketing physical infrastructures, such as collection centers, market yards etc.
- d. ***Difficult Terrains and Inadequate Transportation Facilities:*** Through during recent years, there has been significant improvement in vehicular accessibility in many parts of the project districts due to construction of various roads. However, most parts of the districts are still inaccessible, so far the road transport facilities are concerned. The commercial production of perishable commodities, like fruits and vegetables, are constrained due to lack of market access for the produce.

- e. **Weak Research and Extension Linkages:** Problems have also been observed, sometimes, due to weak linkages of research and extension services, in a way that there are many field level problems needing attention of research for their solution.
- f. **Diseases and Pests:** Incidence of various kinds of diseases and pests in fruits, vegetables and spices cause, sometimes, excessive damage in terms of reducing the total yield and effecting the quality of produce adversely. Mango crop is affected by mango hoppers and fruit fly, and shooty mold. Banana Weevils and Banana Beetles are the main insect pest of banana. Decline (caused by a multiplicity of factors), Fruit Fly, and Green Sting Bug are the serious diseases and pests of citrus crops. Similarly, Early and Late Blights, Tuber Rots, and Red Ants cause serious damage to potato crops; and Rhizome Rot has been observed as the main disease of ginger. Incidence of Early and Late Blights and Bacterial wilt pose, sometimes, serious problems in cultivation of tomato. Fruit Borer is the main insect pests of brinjal causing significant damage to the produce including reducing its market value.
- g. **Long Gestation Period and High Investment Costs:** In case of the many fruit species, there are long gestation periods making difficult on the part of poor farmers, to adopt fruit farming. Though in long run, fruit farming is more paying as compared to the traditional food grain crops, the farmers immediate needs for growing subsistence crops, and high investment costs, involved in establishment of the fruit orchards, come in the way of promoting fruit farming on commercial scale.

POTENTIALS

Despite the general constraints mentioned above, there exists immense potentials for promoting horticultural crops in the project districts of MWDR and FWDR, for both domestic consumptions and export.

- a. **Diverse agro-climatic conditions:** Prevalence of a wide range of climatic conditions in the project area, which is mainly due to variation of altitudes, presents an unique opportunity for promotion of production of various kinds topical, sub-tropical and temperate fruits, on commercial scale.
- b. **Development of road infrastructure:** During recent year, there has been rapid development of road infrastructure, opening many new areas to outside markets. Though many parts of the districts of MWDR and FWDR are still inaccessible, commercial cultivation of selected horticultural crops (fruits, vegetables and spices) based upon their agro-climatic suitabilities and marketing potentials can be promoted in the areas which have vehicular access.
- c. **Profitability of Horticultural Crops:** Wherever marketing possibilities exist, cultivation of fruits and vegetable crops have been found more profitable as compared to the alternative tradition food grain crops.
- d. **Impact on Environment:** In hills there exist large areas under terraced land which are marginal for the present cropping system, such lands can be brought profitability under fruit crops. Cultivation of fruit crops can help improve the deteriorating environment in the hills.

- e. **Export Potentials:** There exist immense potential for cultivation of off-season vegetables in both hills and terai, taking advantage of their seasonality, as the growing seasons of vegetables in hills and terai are different due mainly to variation in temperature regime. There exist good market potentials for off-season vegetables also in bordering towns of India.
- f. **Promotion of Subsidiary Industries and Value Addition:** Promotion of horticultural crops may give rise to many subsidiary industries, such as packaging, transportation, processing and storage, which will help in value addition to the produce.
- g. **Employment Generation:** Cultivation of horticultural crops being labour intensive will provide additional employment opportunities to the otherwise unemployed large labour force. Additional employment opportunities are also expected from various post-harvest operations, like packing, transportation, storage and processing.
- h. **Integration of Economy of Hills and Terai:** Cultivation of horticultural crops can provide cash income to the hill farmers, and thereby enhance their purchasing power to consume goods of their necessity, which are produced in terai, and thus, will help integrate the economy of hills and terai through promoting North-South trade in the country.
- i. **Impact on Nutrition:** With increase in the production of fruits and vegetables, their consumption at the household level will increase, which will help improve the nutritional status of the otherwise mal-nourished population.

Selection of Production Pocket Areas and Lead Secondary Crops

In line with the project design, a total of 205 production pocket areas have been identified by the concerned DADOs, following the process and criteria spelt-out in the Project Administrative Document (PAM). Out of the total, 91 PPAs have been selected in MWDR and 114 in FWDR districts. The main criteria followed in the selection of PPAs are: i) willingness of the local communities to participate in the development of a pocket area and to focus on the production and marketing of the identified secondary crops; ii) existence of rural infrastructure, such as roads, irrigation facilities and local markets; iii) agro-climatic suitability for the production of identified secondary crops; and iv) marketability of the produce and interest from agricultural traders and agro-business enterprises.

Each PPAs has been selected primarily for one lead secondary crop, based upon its technical and market potential, to be promoted on the priority basis. However, the crops in each of the PPAs may include: a) one lead secondary crops for which the PPA has been selected; b) one or two other potential secondary crops, if feasible; and c) a few other important crops falling in the crop rotations with the selected secondary crops. The main secondary crops selected for promotion include fruits (Mango, Banana, Citrus and Walnut; Vegetables (mainly off season vegetables); Spices (Ginger and Chilli); Potato; Legumes (Lentil, Soybean, and Rajma Bean); and Oilseeds. The PPAs selected for the various lead secondary crops in various project districts have been shown in Table 1. For detail refer Appendix 1.

Table 1: Summary of Lead Cropwise Number of Production Pockets in MWDR and FWDR

S.No	Crops	Total MWDR	Total FWDR	Total
Horticulture Crops				
1	Mango	1	3	4
2	Banana	2	9	11
3	Citrus	0	14	14
4	Walnut	0	4	4
5	Vegetables	25	33	58
6	Potato	16	16	32
7	Ginger	4	12	16
8	Chilli	0	2	2
Sub Total (Hort. Crops)		48	93	141
Percentage of the Total		53	82	69
Other Secondary Crops				
9	Maize	8	3	11
10	Legumes	29	15	44
11	Oilseeds	6	3	9
Sub Total (Field Crops)		43	21	64
Percentage of the Total		47	18	31
Total		91	114	205
Percentage of the Total		100%	100%	100%

OBJECTIVES

The overall objective (Sectoral Goal) of CDP, as spelt-out in project document the Program Administration Memorandum (PAM), is "reduction in rural poverty through increased cash income for farm households". In line with the sectoral goal, the immediate objective of the project has been defined as "Promotion of Production and marketing of agriculture crops with a particular focus on secondary crops in potential areas". Towards realization of the specified objectives, the Project primarily aims at:

- a) Benefiting about 45,000 farm families directly through per household increase of income by Rs. 5,300 per year in terai districts and by Rs 6,300 in the hilly districts of the Project.
- b) Generating about 15,300 person years of incremental employment opportunities.
- c) Promoting commercial secondary crops on an incremental area of 16,300 ha in 205 selected production pockets in 12 project districts.
- d) Making available increased volume of production of secondary crops and processed products in the local, national and export markets.
- e) Ensuring active participation of women, and poor and disadvantaged groups in promotional activities under the Project.

The project has been designed with due emphasis on the active participation of the private sectors in various aspects of the project implementation. The project envisages the active participation of women farmers (about 35% of the total target beneficiaries). Similarly, about 50% of the total project beneficiaries (farm households) are to be from the poor and disadvantaged groups of the farming communities.

PROJECT COMPONENTS

The project activities has been grouped under four broad components as follows:

- i) Provision of extension services for farmer groups,
- ii) Promotion of private extension services,
- iii) Promotion of client-orientated research activities, and
- iv) Project management support.

EXTENSION SERVICES FOR FARMERS GROUPS

The project focuses on Production Pocket Areas (PPAs) as growth centers. The coverage is expected to reach about 20 pocket areas per project district in the Terai and about 15 pocket area per district in the hilly physiographic regions. The respective DADOs are to form field teams to support the strengthening and formation of farmers groups in PPAs. Each field team is to consist of one male and one female social mobilizers and work for one production pocket area. The field team, recruited by DADOs through contracted NGOs/CBOs, are to work with JT/JTAs assigned to the concerned ASCs and ASSCs. In addition, one Team Supervisor (TS) per district will be recruited under the similar arrangements to provide day-to-day guidance and supervision to the filed teams. The Field Teams are to provide the farmers groups with intensive support over an initial period of three years. The Project is to support regional training programs and workshops to be organized by PIUs for the field teams to improve their job- related skills, mainly in group mobilization, participatory assessments and planning, group management and gender analysis.

Whereas the social mobilization and farmers level institutional development are the main responsibilities of the Field Teams, the DADOs staff, including JT/JTAs, are responsible for the farmers training and technical support to on-farm production programs. The implementation of the PPA level promotional programs is the joint responsibility of the DADOs staff (JT/JTAs) and social mobilizers. Thus, the jobs of JT/JTAs and social mobilizers are complementary in nature. The number of FGs in each PPA, incase of hilly districts, is expected to be about 15, and incase of terai district, about 20. Similarly, the number of farmers in each group is to be about 20 in case of hills and about 25 in case of Terai.

Out of the 205 PPAs, Field Teams have been recruited, trained and mobilized in 99 PPAs, and 11 Team Supervisors have been recruited one for each of the project districts (except Doti). The recruitment of new batch of field teams (94) is being processed. It may be noted that of the total, 12 PPAs, one in each project districts, have been contracted-out to NGOs/CBOs under the provision of the project component-2: Promotion of Private Service Providers (refer section 2.5.2 for detail). In the PPAs with Field Teams, 1889 Farmers Groups (FGs) have been either strengthened or newly formed. Table 2 Presents the Development Region wise status of farmers groups and group members.

Table 2: Status of Farmers Groups in the Project Area

Development Region	No. of Groups	No. of Group Members			Disadvantaged/Poor	
		Male	Female	Total		
MWDR	940	11,439	7,663 (40.1)	19,102	7,577	(39.7)
FWDR	949	10,978	8,569 (43.8)	19,547	10,868	(55.6)
TOTAL	1889	22,417	16,232 (42.0)	38,649	18,445	(47.7)

Figure in parentheses indicate the percentage of the total.

As indicated in the above table, out of the total group members of 38,649 the number of women members is 16,232 which constitutes about 42% of the total. The participation of women members in the group is about 40% and 44% in MWDR and FWDR respectively. Similarly, the participation of poor and disadvantaged group members is 47.7 at the project level.

PROMOTION OF PRIVATE EXTENSION SERVICES

Under this component, the project is to promote the use of Private Service Providers (PSPs), including NGOs and CBOs, to form and strengthen farmers groups and provide agricultural extension services for them. The private extension services will be introduced gradually in to the Project. The selection and awarding of contracts to PSPs is to be done through competitive bidding. Each contract is to primarily cover the identified production pocket areas and include detail specification of expected outputs in terms of the number and type of farmers groups (FGs) to be strengthened and formed, and training programs to be conducted. In case of such contracted-out PPAs, carrying out all activities related to formation and strengthening of FGs, delivery of extension services and marketing support is the sole responsibility of the contracted PSPs.

In line with the Project's provision, 12 PPAs, one in each of the project districts, have already been contracted-out to PSPs to carry out the promotional activities in the contracted-out pocket areas Table 2 shows the district wise contracted PPAs and the corresponding lead crops.

Table 3: District wise contracted-out Production Pocket Area

Region	Districts	Contract-out Pocket	Lead Crop	Private Service Provider (Implementing NGO)
MWDR	Banke	Lentil Production Pocket, Betahani	Lentil	JV of BASE, Users Center
	Bardia	Vegetable & Banana Production Pocket, Magragadi	Vegetable	JV of BASE, Users Center
	Dang	Potato Production Pocket, Bhojpur	Potato	JV of BASE, Users Center
	Surkhet	Vegetable Production Pocket, Kunathari	Vegetable	JV of BASE, Users Center
	Dailakh	Potato Production Pocket, Bajthala	Potato	JV of SAHABAGI AND SOCEC Dailekh
FWDR	Kailali	Banana Production Pocket, Lalpur	Banana	Creation of Creative Society
	Kanchanpur	Oilseed Production Pocket, Beldandi	Oilseed	JV of CCS and LRS
	Dadeldhura	Vegetable Production Pocket, Amargadhi	Vegetable	CEAPRED
	Baitadi	Vegetable Production Pocket, Gokuleshor	Vegetable	Parbatfedi Sirjana Youth Club
	Achham	Temperate Fruit Production Pocket, Gairitand	Temperate Fruit	ECARDS-Nepal
	Doti	Ginger Production Pocket, Simchuar	Ginger	ECARDS-Nepal
	Darchula	Citrus Development Pocket, Shankarpur	Citrus	Community Rural Development Society, Darchula

The contracted PSPs have already initiated promotional activities in their respective PPAs. The earliest contracted PSP was in Banke district (7 March 2003), and the latest in Dailekh (19 Jan 2004). Though the planning and implementation of the PPA level promotional programs related to social mobilization, extension services and marketing support is the prime responsibilities of the PSPs, DADOs are responsible for monitoring the PSPs activities closely and regularly to ensure the quantity and quality of services being provided by PSPs, as specified in their Term of Reference (TOR).

PROMOTION OF CLIENT ORIENTED RESEARCH

The Project is to support research proposals on the priority subject identified for the project area, through the Regional Technical Working Groups (RTWG) and DADOs. Such research topics should be able to address the immediate problems confronted in developing the specified secondary crops. Research proposals are to be invited from public and private institutions, which are to be financed under the project through

contribution to the National Agriculture Research Fund (NARDF). It is expected that the use of the funds for research activities will facilitate a shift of the agricultural research system to be more responsive; minimize unnecessary interference; and involve the eventual clients in the identification of research problems, selection of proposals, and possibly sharing the funding of the research activities.

The main activities accomplished so far under this component, include establishment of NARDF; preparation and signing of Memorandum of Understanding (MOU) between CDP and NARDF; Identification of a total of 17 priority research areas (seven in FY 2002/03 of which five topics have been short listed, and 10 in current 2003/04); and awarding four research contracts to private research entities.

PROJECT MANAGEMENT SUPPORT

Project Management Support are to be provided at the central, regional and district levels, mainly through the provision of service vehicles and office equipment; construction of office and staff quarters facilities for PIU at Khajura (Banke) and Amargadhi (Dadeldhura), establishment of training centre at Sundarpur in FWDR; construction of buildings for regional laboratories (seeds, soil and plant protection) at both Sundarpur (FWDR) and Khajura (MWDR); rehabilitation of DADOs, ASCs and ASSCs buildings; developing guidelines for implementing the policy of cost recovery for the use of laboratory facilities. In addition supports are to be provided to enhance, the overall management capabilities through providing formal and informal trainings, development of necessary systems, guidelines, manuals etc.

The main activities already accomplished under this component include:

- Establishment of Project Management System (PPMS) and development of Project Performance Information System (PPIS).
- Establishment of PIUs at Khajura (Banke) in MWDR and Amargadhi (Dadeldhura) in FWDR.
- Preparation of a number of guidelines, manuals and training materials.
- Recruitment of and assistance from PICT to PCU, PIUs and DADOs in their respective fields of expertise.
- Procurement of about 70% of the civil works, vehicles and equipment.
- Initiation of use of the guidelines for Cost Recovery for use of the Regional Laboratory Facilities.
- Establishment of the Regional Agricultural Training Centre at Sundarpur (FWDR).
- Organization of orientation seminars and workshops at various levels of the project management.
- Establishment of the Project Steering Committee (PSC) and Project Action Committee (PAC).
- Establishment of the Environmental Monitoring Desk.
- Marketing Development Support.
- Training need assessment for In-country Higher Studies and overseas training.
- Staff skill development through organization of various training programs.

IMPLEMENTATION ARRANGEMENTS

At the central level, the overall responsibilities of the project implementation lies on the Project Co-ordination Unit (PCU) under the Department of Agriculture (DOA). The implementation responsibilities at the regional level are of two Project Implementation Units (PIUs) located at Khajura (Banke) for MWDR, and Amargadhi (Dadeldhura) for FWDR. At the district level, the District Agriculture Development Offices (DADOs) are the front line implementing agencies. To assist in the implementation of the project, there is a Project Implementation Consultancy Team (PICT), which comprises of two International and five domestic consultants in various fields of expertise, who are to provide their services, on intermittent basis, during the initial three years of the project implementation (from November 20, 2001 to November 19, 2004).

PROJECTION OF AREA AND PRODUCTION OF CROPS

Projected Area and Production of Horticulture Crops and other Field Crops have been presented in Table 4.

Table 4: Projection of Cropped Area and Production under the Project

Particular	Secondary Crops			Others Crops	Total
	Horticultural Crops	Other Secondary Crops	Total		
Area (ha)					
Base Year	12,336	125,985	138,321	346,892	485213
Projected (2006/07)	24,541	137,132	161,673	338,004	499677
Incremental	12,205	11,147	23,352	-8,888	14463
Production (mt)					
Base Year	129,502	378,542	508,044	853,173	1361217
Projected (2006/07)	343,520	467,350	810,870	1,003,425	1814295
Incremental	214,018	88,808	302,826	150,252	453078

As is evident from the above table, the area under horticultural crops is expected to increase from 12,336 to 24,541/ha by the end of the project, which is an incremental of 12,205/ha over the base year. Similarly, the increase in production of the horticultural crops, is expected from 129,502 mt in the base year, to 343,520 mt, during the same period, that is an net increase of 214,018 mt. The projected area and production of crops in MWDR and FWDR have been presented in Appendix 2.

INNOVATIVE APPROACHES IN DESIGN OF CDP

Various approaches have been adopted to accelerate the pace of agriculture development for overall high growth rate of the agriculture sector and reduction of rural poverty through increased income of the farm households. Historically, during late fifties and early sixties, agriculture development was the core component of the Tirbhuvan Village Development Program (TVDP), where the "Block Development Approach" was followed for promotion of various sectors, including agriculture. Village Development Workers (VLW) were the grass root level extension agents. However, the TVDP could not be continued longer.

Various approaches in agriculture extension were followed subsequently, where besides reorganizing the overall development administration in agriculture, JTs and JTAs were recruited as the field level agricultural extension workers. Various extension methods, such as individual contracts, group contacts and mass contacts were used for dissemination and adoption of improved technologies by the farming communities. The most common extension tools, such as methods and result demonstration, agricultural fairs and farmers

day, farmers field visits and observation tours, and audio-visual aids were used. This traditional approach of extension continued for many years before some of its basic weaknesses were identified as the limiting factors in motivating adequately the farmers for their active participation in the promotional activities. It was realized that majority of the farmers, specially the poor and deprived communities, remained, by and large, out of the reach of the extension services. Among others, main reason attributed to such situation, was the limited number of field level extension workers. In order to overcome this problem and for reinforcement to the field level regular extension workers (JT/JTAs), para-extension workers, such as "Agricultural Assistance" and "Tuki", were employed under different agricultural and rural development projects. However, due to lack of adequate motivation, these para-extension workers very soon became non-functional.

Thus, the agricultural extension services by the JT/JTAs was facing not only the numerical problem of non-availability of adequate number of field level extension workers, but it also suffered conceptually, as too much emphasis was laid on providing technical support and the social mobilization aspects remained weak. Furthermore, it was gradually realized that the government alone may not be able to cater fully to the needs of providing necessary inputs, and technical services to all the farmers, and in all the geo-graphical areas. Participation of private service providers in agriculture extension, input supply, various post-harvest operations including marketing, and generation of technologies was considered vital to improve the situation as regard to overall service delivery for the promotion of production and marketing of Agricultural Crops in general. Accordingly, the government has adopted the policy of carrying out the agricultural extension activities through following the farmers group approach in one hand and involving, to the maximum extent, the community based organization (CBOs) and NGOs in development efforts of the governments, on the other.

In light of the experience gained so far and in conformity with the stated government policy and strategies, the design criteria of CDP has encompassed the following new and non-conventional approaches:

- a) Providing social mobilization support to DADOs for development of the pocket areas (under project component-1);
- b) Promotion of Private Service Providers for social mobilization and agricultural extension services (under project component-2);
- c) Support to agriculture research through grant assisted NARDF (under project component-3);
- d) Deliberate attempt to streamline and ensure active participation of women (35%) and poor and deprived group members (50%) in the agricultural development activities under the Project; and
- e) Cost recovery for the use of regional laboratory facilities.

All the first four approaches indicated above have been described in reasonably detail under section 2.5. As to the cost recovery for the use of the regional laboratories, a guideline has been prepared for the purpose. The regional laboratories have already initiated charging partially the cost for use of the services, from the client farmers. The project document also envisage to examine the possibilities of sharing the cost of client oriented research and private extension services, by the farmers groups. However, such cost recovery seems, at present, a remote possibility.

Besides, the above new approaches, the project design has emphasized to make concerted efforts to operationalize the production pocket areas and farmers group approaches to realize the desired results from these approaches. Accordingly, 205 PPAs have been identified and about 1800 FGs have already been formed which include men, women and mixed groups. The overall participation of women is 42 % in the groups. The participation of women in executive positions of FGs and Farmers Groups Co-ordination Committees (FGCCs) is also encouraging.

PROBLEMS FACED DURING THE IMPLEMENTATION

The project is in the third year of its implementation. Significant progress has been made in implementation of some of the basic activities. The initial period of the project has largely been devoted to preparatory works on which the subsequent activities may be implemented on an accelerated pace. There has been some initial delay in implementation of some of the activities, such as recruitment and deployment of social mobilizers, and so also in acceleration of PPA level promotional activities. The major problems faced during the project implementation may be enumerated as follows:

- Quality seeds, saplings and other inputs are not available in time and required quantity.
- Procedural delay in recruitment of social mobilizers and PSPs. The unexpected delay in the recruitment of social mobilizers have been due to factors like change in the HMGN financial rules, and the contract-out process for the recruitment of the social mobilizers being totally non-conventional and new to the DADOs who are administering the contract-out process.
- Delay in fulfillment of vacant positions in DADOs.
- Continued security problem hampering the field activities, especially the movement of DADO staff to the Production Pocket Areas. As a result, DADO staff are not able to provide on-site technical advice, and PPA level monitoring and supervision visits are very much restricted, which otherwise is so vital for ensuring the quantity and quality of the activities implemented in PPAs.

LESSONS LEARNED

Though the project is still in the initial stage of implementation, specially of the field level activities, the real outcomes of the project as a whole, and various innovative approaches being practiced are still to come. However, based upon the initial indication, the followings may be mentioned about the lessons learnt so far.

- The Field Teams need to have not only competency in social mobilisation but also need to have preliminary technical training, in order to provide effective support to the FGs. Here, it may be noted that the social mobilizers are not the substitute of the DADOs field staff (JT/JTAs).
- To ensure that the FGs in the Production Pocket Areas produce a marketable surplus of secondary crops it is important that proper forward planning takes place at the PPA level not only for production of crops but also for the development of linkages with market entities. These two activities have to be done in parallel.
- Ways need to be sought to review the present system of contract-out of Field Teams and Private Service Providers, and examine the possibilities of making them more cost effective, in future.
- The innovative process of contracting-out the implementation of agricultural extension system as detailed in the project design is in the process of being tested. In many respects this approach is showing signs of some success, even though it is too early to draw any final conclusion.
- The project is in its initial stage of program implementation, due to the delay in recruitment of Field Teams and Private Service Providers who were fielded starting in mid-2003. It is therefore premature at this stage to comment on this point, except to state that a new way of contracting-out of extension service delivery systems has been developed.

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

The Project is in the midway of its implementation period of 5.5 years, as about 50% of the project period has already elapsed. As explained in earlier sections, there has been unexpected delay in implementation of some of the key activities, due to reasons beyond the control of the project management. The project design has been based on various innovative and non-conventional approaches, such as provision for social mobilizers to assist the DADOs field staff in supporting the farmers level promotional activities related to both production of the selected secondary crops, and marketing of the produce; contracting-out Production Pocket Areas to Private Service Providers (PSPs); carrying out client-oriented research activities by contracted research entities, to be funded by the project through NARDF; and operationalizing the cost recovery system, specially in case of sharing the costs by the farmers for the use of laboratory facilities.

As, experiences, in general, in implementing such new approaches have been very much limited,, there has been unexpected procedural delay in implementing these approaches. Nevertheless, implementation of all these approaches, despite some initial delay, have now been initiated. The volatile security situation, prevailing in most parts of the project areas, has been posing problems in the planning and implementation of the PPA level activities, and the field level monitoring and supervision by the concerned project staff. In the PPAs, where the movement of DADOs staff is restricted due to security problems, the presence of social mobilizers in the PPAs, who are mostly locals, has been found to be an effective link between the PPAs and DADOs. As to the program in contracted-out PPAs to PSPs, the preliminary indications are positive. However, it will be premature to draw any final conclusion about this approach.

The experiences to be gained in adoption of the new approaches, if found positive, may serve as an important guidelines for planning and implementation of similar programs in other parts of the countries.

RECOMMENDATIONS

In light of what has been discussed earlier and conclusion drawn, the following recommendations are made to enhance the effectiveness of implementation of the project activities and the impacts thereof:

1. Close and regular monitoring and supervisions are vital for ensuring the success of the programs. Close guidance by all concerned to the field level activities and getting feed-back, on regular basis, are essential for assessing the appropriateness and effectiveness of various innovative approaches being following under the Project, and examining the possibilities of their further replication, on wider scale.
2. The Input supply situation should be improved, on priority basis, specially in case of vegetable seeds, seed potatoes, citrus saplings, and seeds of pulses and oilseeds. A study to prepare the operational plan to improve the input supply situation is in process of being commissioned. The outcome of the study may serve as an important guideline for preparing and implementing the annual programs by DADOs.
3. The promotion of production and marketing of secondary crops should go in parallel. For the marketing development, a District Marketing Development Action Plan (DMDAP) is under preparation. Operationalizing the program by DADOs may go a long way in taking care of the present marketing problems, specially of the horticultural crops. In this context, the possibilities of operationalizing the wholesale markets at Kohalpur (Banke) and Lamahi

(Dang), constructed under SCDP, should also be explored. Development of a market yard at Chaulikababa in Nepalganj may be attended on priority basis.

4. The recruitment of new batch of the social mobilizers for remaining 94 PPAs should be completed at the earliest, in view of the fact that there has already been too much delay in their recruitment and deployment.

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Appendix 1: Summary of Lead Cropwise Number of Production Pockets in Project District

S.N	Crops	Mid-Western Development Region						Far-Western Development Region						Total				
		Banke	Bardiya	Dang	Surkhet	Dallekh	Total MWDR	Kailali	Kanchanpur	Dadeldhura	Baitadi	Doti	Achham		Darchula	Total FWDR		
Horticulture Crops																		
1	Mango	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	3	4
2	Banana	0	1	1	0	0	2	7	0	0	0	0	0	0	0	1	9	11
3	Citrus	0	0	0	0	0	0	1	0	3	0	4	2	14	4	2	14	14
4	Walnut	0	0	0	0	0	0	0	0	0	2	0	2	4	0	2	4	4
5	Vegetables	4	2	8	6	5	25	6	2	3	7	6	5	4	33	4	33	58
6	Potato	3	3	3	3	4	16	0	2	2	2	3	3	3	16	3	16	32
7	Ginger	0	0	1	3	0	4	3	0	0	3	3	1	2	12	2	12	16
8	Chilli	0	0	0	0	0	0	1	0	1	0	0	0	0	2	0	2	2
Sub Total (Hort. Crops)		7	6	14	12	9	48	18	7	9	14	16	13	16	93	16	93	141
Percentage of the Total		35	35	58	86	56	53	90	50	64	88	100	76	94	82	94	82	69
Other Secondary Crops																		
9	Maize	2	4	1	1	0	8	0	1	1	0	0	1	0	3	0	3	11
10	Legumes	11	4	9	1	4	29	2	5	4	2	0	1	1	15	1	15	44
11	Oilseeds	0	3	0	0	3	6	0	1	0	0	0	2	0	3	0	3	9
Sub Total (Field Crops)		13	11	10	2	7	43	2	7	5	2	0	4	1	21	1	21	64
Percentage of the Total		65	65	42	14	44	47	10	50	36	13	0	24	6	18	6	18	31
Total		20	17	24	14	16	91	20	14	14	16	16	17	17	114	17	114	205
Percentage of the Total		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Appendix 2: Projection of Cropped Area and Production of Crops

Particular	District		Secondary Crops						Total	Others Crops	Total
	Banke	Bardiya	Dang	Surkhet	Dailekh	Horticultural Crops	Field Crops				
MWDR	20	17	24	14	16						
Area (ha)											
Total Area (ha)											
Base Year	40,805	85,844	26,227	8,759	16,670	6,722	64,194	70,917	107,388	178,305	
Projected (2006/07)	45,828	88,071	28,897	9,772	19,138	12,406	74,478	86,884	104,822	191,706	
Incremental	5,023	2,227	2,670	1,014	2,468	5,683	10,284	15,967	(2,566)	13,401	
Production (mt)											
Total Production (mt)											
Base Year	91,504	262,685	55,808	30,442	30,383	66,856	134,709	201,565	269,258	470,822	
Projected (2006/07)	132,688	342,385	99,918	44,279	62,679	167,880	189,196	357,076	324,872	681,948	
Incremental	41,184	79,700	44,109	13,837	32,296	101,024	54,487	155,512	55,614	211,126	
FWDR											
Area (ha)											
Total Area (ha)											
Base Year						5613.12	61791.56	67404.68	239504	306908.68	
Projected (2006/07)						12135.38	62653.64	74789.02	233182.3	307971.32	
Incremental						6522.26	862.08	7384.34	-6321.7	1062.64	
Production (mt)											
Total Production (mt)											
Base Year						62646.03	243833.17	306479.2	583915.07	890394.27	
Projected (2006/07)						175640.04	278153.57	453793.61	678552.8	1132346.4	
Incremental						112994.01	34320.4	147314.41	94637.73	241952.14	
PROJECT AREA											
Area (ha)											
Base Year						12,336	125,986	138,321	346,892	485213.18	
Projected (2006/07)						24,541	137,132	161,673	338,004	499677.12	
Incremental						12,205	11,146	23,352	(8,888)	14463.94	
Production (mt)											
Base Year						129,502	378,542	508,044	853,173	1361216.7	
Projected (2006/07)						343,520	467,350	810,870	1,003,425	1814294.8	
Incremental						214,018	88,808	302,826	150,252	453078.08	