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COMMERCIAL AGRICULTURE DEVELOPMENT PROJECT
ADB TA 3949-NEP

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CURRENCY EQUIVALENTS

(as of [*day / month / year*])

Currency Unit	–	Nepali Rupees (Rs.)
US$1.00	=	Rs.

ABBREVIATIONS

ADB	–	Asian Development Bank
ADBN	–	Agriculture Development Bank of Nepal
AEC	–	Agro-Enterprise Center
AICC	–	Agricultural Information and Communication Center
AMIS	–	Agriculture Market Information Service
APP	–	Agriculture Perspective Plan
AREP	–	Agriculture Research and Extension Project
ASC	–	Agriculture Service Centre
ASPR	–	Agriculture Sector Performance Review
CAA	–	Commercial Agriculture Alliance
CAB	–	Commercial Agriculture Board
CACGF	–	Commercial Agriculture Credit Guarantee Fund
CACGS	–	Commercial Agriculture Credit Guarantee Scheme
CADP	–	Commercial Agriculture Development Project
CAF	–	Commercial Agriculture Fund
CAN	–	Commercial Agriculture Network
CAS	–	Commercial Agriculture Secretariat
CCI	–	Chamber of Commerce and Industry
CIM	–	Chamber of Commerce at Morang
CIP	–	International Potato Center (Centro Internacional De La Papa)
DADO	–	District Agriculture Development Office
DDC	–	District Development Committee
DfiD	–	Department for International Development
DG	–	Director General
DICGC	–	Deposit Insurance and Credit Guarantee Corporation
DOA	–	Department of Agriculture
DOLIDAR	–	Department of Local Infrastructure Development and Agriculture Roads
DRCs	–	domestic resource costs
EA	–	Executing Agency
EDR	–	Eastern Development Region
EIA	–	Environment Impact Assessment
EIRR	–	Economic Internal Rate of Return
GDI	–	Gender Development Index
GDP	–	Gross Domestic Product
GTZ	–	German Agency for Technical Cooperation
ha	–	Hectare
HDR	–	Human Development Report
HMGN	–	His Majesty's Government of Nepal
HOTPA	–	Himalayan Orthodox Tea Producers' Association
HVC	–	High Value Crops
IA	–	Implementation Agency
ICDCA	–	Institutional Capacity Development for Commercial Agriculture
IEE	–	Initial Environmental Examination
IPM		Integrated Pest Management

IPNM	–	Integrated Plant Nutrient Management
LDO	–	Local Development Officers
LSGA	–	Local Self Governance Act
M&E	–	Monitoring and Evaluation
MDD	–	Marketing Development Directorate
MFI	–	Micro Finance Institution
MOAC	–	Ministry of Agriculture and Cooperatives
MOF	–	Ministry of Finance
MTEF	–	Medium Term Expenditure Framework
NARC	–	Nepal Agriculture Research Council
NARDF	–	Nepal Agriculture and Research Development Fund
NGO(s)	–	Non-Government Organization(s)
NPC	–	National Planning Commission
NPCs	–	nominal protection coefficients
NPV	–	Net Present Value
NRB	–	Nepal Rastra Bank
NRs	–	Nepalese Rupees
PCU	–	Project Coordination Unit
PERC	–	Public Expenditure Review Commission
PIU	–	Project Implementation Unit
PRA	–	Participatory Rural Appraisal
PRSP	–	Poverty Reduction Strategy Paper
R&D	–	Research and Development
RAD	–	Regional Agriculture Directorate
RATC	–	Regional Agricultural Training C enter
Rs.	–	Nepali Rupees
SMAC	–	Social Mobilization for Agricultural Commercialization
SME	–	Small and Medium Enterprise
SPG	–	Seed Producers Group
TA	–	Technical Assistance
TOR	–	Terms of Reference
WDO	–	Women Development Offices
WTO	–	World Trade Organization
WUO	–	Water Users' Organization

WEIGHTS AND MEASURES

Km	–	kilometer
Kg	–	kilogram
ha	–	hectare

NOTES

(i) The fiscal year (FY) of the Government and its agencies ends on 15th July. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2000 ends on 15th July 2000.

(ii) In this report, "$" refers to US dollars

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ADB TA 3949-NEP

NEPAL

COMMERCIAL AGRICULTURE DEVELOPMENT PROJECT

PROJECT PROPOSAL SUMMARY

November 2003

I. THE PROPOSAL

1. The following report and recommendation is submitted for a proposed loan to His Majesty's Government of Nepal for the Commercial Agriculture Development Project (CADP).

II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS AND OPPORTUNITIES

A. PERFORMANCE INDICATORS AND ANALYSIS

2. Nepal is an agrarian society, with agriculture contributing 40% of the gross domestic product (GDP). About 88% of the population live in rural areas and depend on agriculture for livelihood. Most of this population comprises smallholders, and poverty is widespread. The Agriculture Perspective Plan (APP) formulated in 1995 considers agricultural growth as the key to poverty reduction. The APP stressed the need to diversify agricultural production on the basis of geographical location and commercialization of agro-products. The Ninth Five-Year Plan (1996-2001) also saw the start of the 20-year APP and drew upon its strategies. The 1990s also saw changes in government policy, with reforms moving the economy towards a more market-oriented system. The second major change that has affected the agricultural system over the past decade is the move towards decentralization, with the Self-Governance Act 1999, providing for greater devolution of power to the local government. An increased emphasis on participation and on partnerships between the public sector and other service providers has been embodied in the formulation of recent projects in the agriculture sector. As a result of the impetus given by the APP and these policy changes, growth in the agriculture sector has accelerated during the 1990s, although it is still short of the APP target of 2% growth per capita.

3. The Tenth Five-Year Plan (2002–2007) has been finalized recently. Its main objective is poverty reduction, but now by means of empowerment, human development, security and targeted programs. The Tenth Plan strategy is to establish self-employment creating, income earning and protective programs that directly benefit economically, geographically and socially backward groups, castes, disabled and helpless people and those living below the poverty line. To increase rural employment and income generation, the agriculture sector will be commercialized. The role of the public sector will be as a facilitator and referee where the private sector is interested. A strong and direct role of government will be established in the backward and remote areas and areas where private investment is not attractive. To diversify and commercialize agriculture, the approach will include (i) mobilizing private and non-government service providers in partnership and on a contract basis; (ii) promoting cooperative and contractual farming; (iii) devolving local agricultural programs to local bodies; (iv) strengthening agriculture stations as resource centers to ensure the supply of quality seeds, saplings, and breeds for subsequent multiplication for local needs; and (v) providing technical backstopping.

4. The EDR, comprising 16 districts, has a favorable agro-ecological environment for crop agriculture. The performance of agriculture over the past decade has shown improvement in productivity of paddy, the region's main crop. High value crops (HVC) comprise no more than 13% of total area, but this is growing at a faster rate than the area under cereals. The performance of some HVC has been successful, particularly vegetables, potato and tea. Improvement in yield in these three crops has supported more advanced commercialization than in other crops. The private sector, non-government organizations (NGOs), cooperatives, and trade associations have led the commercialization process in the EDR. Infrastructure in the EDR, although better than in other parts of the country, is characterized by a poor road network, limited availability of power, limited access to drinking water and a weak telecommunication network. Social indicators in the EDR are slightly better than the average for Nepal, but still low by world or regional standards. The sector analysis points to various

strengths, weaknesses, opportunities and threats to the development of commercialization in the EDR.

5. The main strengths of the EDR related to the development of commercial agriculture are:

i. *A diverse agro-climatic environment suitable for the production of HVC*. The review of agro-ecological areas, climate and soils reveal that both the Terai and the Hill districts can grow a variety of tropical, sub-tropical and temperate crops. Off-season vegetables fetch high prices both in Nepal and in neighboring India and Bangladesh. Spices and tea have enormous potential that has been only very modestly exploited until now.

ii. *Labor force and women more educated than in other parts of Nepal*. Even though there is enormous progress to be made both in education and in women development, indicators such as mean years of schooling, literacy rate, educational attainment index and gender development index (GDI) compiled by the Human Development Report (HDR) present a situation for the EDR better than the average for Nepal. For example, the mean years of schooling is 2.7 years in the EDR and 2.3 years in Nepal; GDI is 0.30 in the EDR and 0.27 in Nepal.

iii. *An entrepreneurial basis in commercial agriculture particularly in the Terai.* Several agro-processing and agribusiness units are based in the EDR, particularly in the Morang-Sunsari area including sugar cane processing, fruits and vegetable processing, jute milling, cold storage and vegetable ghee processing, in addition to rice mills, dhal factories, beer and liquor factories, tanning and leather processing and paper industries. The situation in the Hills is less developed as a result of poor infrastructure and limited access to electricity. However, even in the Hills several agro-entrepreneurial skills have developed in more recent years particularly in the fields of vegetable and fruit production and marketing, spices and tea (Orthodox).

iv. *Examples of farm and women organizations successful in commercial agriculture.* Fieldwork conducted by the TA Team identified several organizations that are involved in commercial agriculture. Farmer groups engaged in commercial agriculture have been visited in most of the 11 districts of the project area; the most dynamic ones however are in only 7 districts, namely the 5 districts of the Terai and the Hill districts of Ilam and Dhankuta. Cooperatives like the Koshi Multipurpose Cooperative in Dhankuta has been able to export to India; the Betel Nut Producer Association in Jhapa is quite active in exports and promoting the interest of its members; and the Chamber of Industry in Morang includes some of the main agro-industrialists in the region.

v. *Road corridors along the east-west and south-north axes*. A main road runs along the east-west axis in the Terai and two main roads run along the two south-north corridors leading to Dhankuta and Ilam, respectively. The relation between road infrastructure and development of commercial agriculture is strikingly close. As mentioned above, the most dynamic farmer groups and commercial agro-enterprises are to be found along the road corridors in the region.

6. The main weaknesses of the EDR related to the development of commercial agriculture are:

i. *Weak and supply-pushed research and extension services to commercial agriculture*. The weakness of the research and extension system to provide effective services to commercial agriculture stakeholders is particularly acute in the case of HVC and in the post-production functions including marketing and processing. Commercial farmers and agro-enterprises interviewed by the TA Team indicate little linkage with research and extension organizations; moreover,

commercial stakeholders do not seem to receive research or extension services that respond to their needs. Most of the research and extension efforts are "supply pushed" by public research institutes, District Agriculture Development Offices (DADOs), non-governmental organizations (NGOs) and universities. Research and development is not demand-driven. At best, the main commercial actors (usually farmer groups) involved cooperate with research projects put to them by the supply pushers. They do not commission or pay significantly for research and development themselves.

ii. *Poor infrastructure connecting producing areas to main roads*. Even though there exist some relatively acceptable main road connections in the region, the secondary connections to the main roads are few and often in a dismal condition. This is particularly the case for agricultural roads connecting producing areas to markets. When roads are constructed, the input of communities is not adequately taken into consideration. As a result, road construction is expensive and quality is low. Maintenance of roads that are not owned by communities is virtually absent, a situation that often results in agricultural road construction not lasting much more than one season after completion of the construction.

iii. *No clear strategies to promote commercialization.* Even though there is much talk about commercialization and even the APP mentions commercialization, it is not clear to commercial stakeholders in the EDR what strategies are currently in place to promote commercialization. The strategy of the APP is basically a supply-driven strategy consisting of a package of priority inputs (roads, irrigation, fertilizer and technology). The underlying assumption is that the provision of these inputs will result in high agricultural growth. However, high growth may be achieved with different strategies and different combination of inputs than those rigidly specified in the APP. For example, some of the most dynamic changes in commercial agriculture of the EDR, namely those related to Orthodox tea, sugar cane, potato and hybrid vegetables have occurred largely because of the initiative of commercial stakeholders and not because of the APP. The agricultural strategies and programs pursued so far seem to have only a superficial view of commercialization and have not moved beyond the simple idea that commercialization imply increasing the production sold to the market.

iv. *Limited access to markets for quality inputs (e.g. seed and fertilizer).* Farmers in the EDR have experienced and still are experiencing difficulty in getting access to high quality seed and planting material especially disease-free potato seed and disease-free fruit seedlings. In the case of fertilizer, in spite of greater availability, there is a widely held perception that quality has deteriorated. Farmers rightly demand higher quality for input. However, it is also often the case that farmers at low level of commercialization are not ready to pay the highest costs associated with higher quality. It will take some time before most farmers realize the need of covering the full cost (including research and development) of seeds, fertilizer and other inputs. More commercialized farmers do recognize that higher quality inputs cost more.

v. *Limited access to credit and finance.* Excessive emphasis is often given to interest rates as explanatory factors for the limited credit available to producers, traders and processors. In fact, even at high interest rates, smallholder farmers have a demand for credit. Apart from high interest rates, it is the presence of poorly understood and sometimes complex procedures to access credit, the lack of knowledge of proper procedures and the absence of adequate collateral that prevents commercial stakeholders from getting additional credit. On one hand, competition among banks and financial institutions to a large extent ensures that market forces determine interest rates. On the other hand, the risk associated with lack of collateral presents a problem in the credit market that cannot be easily solved unless adequate insurance markets are established. The problem of lack of

collateral is aggravated by the perception that commercial and HVC production and prices are highly variable.

vi. *Weak coordination among institutions involved in agriculture.* In spite of a number of coordination committees (such as the Regional Agriculture Development Coordination Committee, the District Agriculture Development Coordination Committee and the Regional Technical Working Groups on Agriculture), there is little effective coordination among line agencies involved in agriculture (e.g. among agricultural extension, irrigation and livestock extension), and also within the same sector (e.g. between research, extension, producers, traders and processors or crop commodities).

vii. *Poorly developed post-production system*. The sub-sector analysis of the TA Team gives several specific examples of the rudimentary status of post-production technology in the EDR. Some examples include: (i) lack of cool and other appropriate storage and poor quality facilities at the farm or collection center level for perishable fruits and vegetables, leading to sales almost exclusively at low "glut" prices at harvest time; (ii) weaknesses in packaging and transport of perishable produce, leading to high losses and in some cases to unattractive presentation of the produce in eventual urban wholesale or consumer markets; (iii) inadequate technical know-how of the commercial refrigerated cold stores, apart from storing potatoes; and (iv) limited marketing and branding capabilities in export markets, even in sectors such as orthodox (highland) tea where Nepali processed products are of full international competitive quality.

7. The main opportunities of the EDR related to the development of commercial agriculture are:

i. *Comparative advantage in a variety of crops*. It is widely accepted that the Hills have a comparative advantage in off-season vegetables, seed production, citrus and spices. However, the Terai can also achieve considerable success in the commercialization of a variety of crops, including vegetables and tropical fruits, oilseed, CTC tea, betel nuts and cereals. To a large extent any of the crops produced in the region can be developed to a commercial level if effective value chains are organized. Analysis of Domestic Resource Cost shows that the EDR has a comparative advantage in a variety of commodities; however, this comparative advantage is eroded by a weak post-production system that makes it difficult to gain competitiveness relative to regional partners.

ii. *Proximity to huge markets (India and Bangladesh) for agricultural products*. The EDR's east and southern borders with India and the proximity to Bangladesh provide an important opportunity for commercial agriculture. Traditionally, many agricultural innovations have come from India to Nepal via the EDR. Currently, major markets in India, including Siliguri, Calcutta and New Delhi are outlets for Nepali agricultural products.

iii. *Growth of agriculture and rural economies with poverty reduction effects*. Growth of commercial agriculture in the EDR will be associated mostly with a growth of employment of the rural labor force, and increased linkages between agriculture and other sectors in the rural economy, which is one of the main messages of the APP. In fact, growth of agriculture is expected to be perhaps the single most important factor in poverty reduction, for the simple reason that most of the poor depend on agriculture for their livelihood. Commercial agriculture development is expected to benefit the poor primarily through employment creation and the creation of opportunities in the non-farm sector.

iv. *Advancement of women status*. Women are the main labor force in agriculture and also represent a considerable share of the labor force in the post-production sector. Commercialization of agriculture is expected to increase the income going

to women and to stimulate female entrepreneurship in activities such as trade and processing, traditionally controlled by men.

v. *Success in the region could be replicated elsewhere in Nepal*. Even though the conditions of the EDR are relatively more favorable for commercialization than in other regions, successful commercialization in the EDR might stimulate replication in other regions. The underlying hypothesis is that, in spite of different conditions from region to region, there are strong similarities as well, including the topographic gradient from south to north, the proximity to India, the social stratification along the dimensions of caste ethnicity and gender, the weak linkages between stakeholders, and limited access to technology, finance and markets.

8. The main threats of the EDR related to the development of commercial agriculture are:

i. *Competitive world and regional markets after access into WTO*. In principle, a largely subsistence agriculture could abstract itself from the vagaries of international markets. However, as commercialization increases, the exposure to international markets becomes both an opportunity for more business and a threat to existing business. Unless agro-enterprises and farmers are able to compete successfully and to maintain their comparative advantage, the gains of commercialization might be short-lived. The current level of commercialization today in the EDR is insufficient to compete internationally or regionally.

ii. *Natural calamities and lack of insurance mechanisms*. The agrarian and rural society structure of Nepal, and the EDR in particular, is characterized by a great multitude of smallholder farmers with little assets. When farm households with little land and limited access to other sources of income face natural calamities (such as flood, drought, pests and diseases), they can easily precipitate into poverty and aggravate their already vulnerable situation. When many households in the region are in this situation, the scope for risk taking and innovation necessary for commercial agriculture are greatly reduced.

iii. *Food insecurity*. A large number of smallholder farmers are hesitant in shifting to commercial production of HVC because of the concern for food security. Price and production of HVC are more variable than cereals, as the result of inherent characteristics of the products (e.g. perishability) or thin markets (e.g. fruits and vegetables).

iv. *Political instability and social unrest*. This is the situation that has persisted over the years and been aggravated recently. The current conflict has increased uncertainty and is not conducive to strong investment in rural areas.

v. *Social stratification retarding the process of commercialization*. The EDR is perhaps the most socially diverse region of Nepal. It counts more than 100 groups (castes, ethnic and sub-ethnic groups); and more than 28 languages are spoken in the region. This extreme social stratification contributes to difficulties in establishing trust relations or business relations. Social customs and prohibition have perhaps retarded commercialization in the past (the prohibition for Brahmin to plough the land or the habit of not selling fruit) and the full participation of women in commercial activities (even though this is much less the case for Burmese-Tibetan groups).

vi. *Intensification leading to unsustainable practices, pests and diseases*. Farmers complain about the increasing presence of pests and diseases when they intensify production; sometimes loss of soil fertility has also been denounced as a side effect of intensified commercial activity. In fact, these effects are the results of unsustainable practices. Integrated plant, soil, water and nutrient management techniques are today very much part of good commercialization practices. Commercialization is not necessarily bad for the environment; however, the way

commercialization is conducted could be either beneficial or detrimental to the environment.

B. ANALYSIS OF KEY PROBLEMS AND OPPORTUNITIES

9. The sector analysis points to several conclusions:

i. *Agricultural commercialization can provide substantial benefits provided that growth is broad-based*. HVC can provide a much higher income than cereal crops. Smallholder farmers can share the gains in income; in fact, the most productive HVC farmers are not largeholding farmers. Benefits of commercialization can reach both smallholder farmers and the poor and vulnerable groups, provided that employment opportunities are created by increased production of HVC and commercialization at both the production and post-production levels. The benefits to women depend on the complexity of relationships within households. Commercialization will increase the cash income of households but whether or not women benefit depends on how decisions are made within the households. Focus group discussions with women suggest a positive outcome of commercialization in terms of greater financial and in-kind assets they can accumulate. Nevertheless, in light of the lower wages obtained by women for the same amount of work done by men, the longer work hours induced by commercialization might have negative effects unless they are accompanied by a reduced burden of household chores.

ii. *Numerous factors constrain stakeholders in the process of development of commercialization*. The constraints affect both smallholder farmers and other stakeholders including the private sector (marketers and entrepreneurs), NGOs, line agencies and financial institutions. Technology constraints exist both in production and post-production systems; limited access to markets, credit and information and poor infrastructure are almost universal. Risk is another key factor constraining commercialization. At the level of smallholder farmers, particularly the poor and vulnerable groups, their low risk-bearing capacity seriously constrains adoption of new technology and specialization; at the level of marketers and entrepreneurs, the lack of contract enforcements and lack of information make attempts at new ventures within domestic and international markets extremely risky; and at the level of financial institutions, there are no risk-sharing mechanisms that can enhance the supply of credit to commercial agriculture.

iii. *Individuals face enormous difficulty in resolving these constraints*. They can be successful, however, if they establish linkages and partnerships with others. The analysis of linkages among different stakeholders reveals weak linkages. The paucity of effective farmer organizations, producer associations, trade associations and coordination mechanisms among stakeholders (e.g. between research and extension) is seen as a major obstacle to further commercialization by stakeholders. Success stories, however, do exist. Replication and further strengthening the success stories is one of the main challenges for CADP.

iv. *There are different degrees and concepts of commercialization*. The main emphasis of the CADP should not be to convert subsistence farmers into commercial farmers, but to move from the current low level of commercialization to a higher level. To move to a higher level of commercialization does not imply that the project will work only with largeholding farmers and enterprises. The fieldwork of the TA Team revealed success stories of commercialization involving farmer organizations (groups, cooperatives, associations) consisting mostly of smallholder farmers. The analysis of HVC production also indicated that smallholder farmers are among the most productive farmers. However, small producers, marketers and enterprises as individuals have difficulty in accessing technology, markets, information and finance required to embark on a sustainable commercialization path.

v. Rather than focusing on the issue of which crops should be commercialized, the TA Team suggests that *the emphasis of the project should be on who will commercialize (the actors) and how the commercialization process should take place (the institutions).*

10. The core problem impeding the development of commercial agriculture in the EDR is the absence of a network of functional value chains—where a value chain is defined as the full range of activities required to bring a product or service from conception, through the intermediate phases of production, to delivery to final consumers and final disposal after use. A functional value chain means that key stakeholders (farmers, marketers and entrepreneurs) are aware of their mutual linkages, make a deliberate effort to improve them, and organize themselves in such a way that they can benefit from the mutual linkages in the network, including other stakeholders such as research and extension providers. The success of stakeholders in adding value to their production lies in their ability to access these networks. The lack of functional value chains in the EDR is responsible for the current low state of agricultural commercialization. Smallholder farmers are isolated or organized in small groups, and have difficulty in accessing inputs, credit and technology. Their limited knowledge of technology and markets is reflected in low productivity which, in turn, results in lower than potential income. Enterprises, farmers and marketers are unable to link with each other effectively and are less able to capture opportunities arising from rapidly growing urban, regional or international markets. Because they do not belong to a commercial network, they find it difficult to gain access to these markets and to the knowledge necessary to improve quality, add value and make innovations. Unless the demand for high value products and quality is recognized and acted upon, there is little incentive for developing post-production systems. Isolated smallholder farmers and agro-enterprises are less able and/or willing to invest in new technology, infrastructure, production and processing assets.

11. Most of the agricultural projects implemented in Nepal and in the EDR have paid relatively little attention to the link between production and marketing[1]. Their emphasis has been on transfer of production technology rather than on developing commercial skills and linking farmers to markets. There are, however, some key lessons that are relevant to the design of the current project.

i. ***The need of including stakeholders in the design and planning of the project***. It is increasingly realized that without participation of the key actors, it will be very difficult to have ownership and enthusiastic support for the proposed changes on the part of the beneficiaries of the project. This is particularly the case for commercial stakeholders who will not accept a design imposed on them and without their full involvement.

ii. ***The need of involving stakeholders other than line agencies in the implementation of the project***. Given the nature of commercialization and the context of a market-oriented system, the beneficiaries of a commercialization project will necessarily be stakeholders already involved in some degree of commercial agriculture. Unless these beneficiaries are actively involved in the implementation of the project, it will be difficult for the project to successfully develop commercial agriculture. Other projects show that when producers, marketers and processors have been actively involved in implementation there has been a stronger response of beneficiaries and higher benefits of project activities.

iii. ***Provide adequate institutional assessment of the various actors involved***. Too often, projects are implemented through line agencies and other organizations that not necessarily are in the position of successfully implementing the project. In the case of a commercialization project, there are several challenges that are likely to be phased by agencies (e.g. the DOA) who traditionally have focused on production without sufficient

[1] See Lessons Learned from Previous Projects in Chapter 2 and Impact of Previous Development Activities in the EDR in Appendix 2.

consideration for marketing, processing and trade, or without the institutional capacity to look at inter-sector linkages between agriculture, industry and services. This inadequate institutional assessment is true not only for government agencies, but also for non-government agencies, such as NGOs, farmer groups and associations and the private sector[2].

iv. ***Make explicit the inter-sector linkages between agriculture, industry, and services.*** To regard agriculture only from the perspective of production does not allow moving much further on the road to commercialization.

12. These lessons have been incorporated into the design of the CADP. Stakeholders including farmers, traders, processors, NGOs and line agencies were part of the initial design and planning workshops held in April, July, and August 2003. The design of the CADP has also made explicit that stakeholders other than line agencies will be directly involved in the implementation of the project. In fact, the design of the CADP is innovative in putting stakeholders other than line agencies in the driving seat of decision-making related to investment decisions for promoting agricultural commercialization. This is the result of the inadequate or weak institutional capacity of line agencies to provide support for agricultural commercialization, as it is recognized in the sector analysis in Appendix 1 and in the analysis of linkages in Appendix 14. The linkages between agriculture, industry and services are clearly embedded in the conception and design of the Commercial Agriculture Network (CAN) and the design of activities of the Commercial Agriculture Alliance (CAA) (see chapter 3, Appendix 4, and Appendix 7).

III. THE PROPOSED PROJECT

13. The project design is based on several assumptions: (i) It recognizes that agricultural commercialization is a complex and dynamic process involving several dimensions related to technology, markets, finance, institutions, infrastructure and social structure; (ii) It focuses on the farmers, traders and processors as the key agents of commercialization, and not on commodities that can be commercialized; (iii) It emphasizes the need for a demand-driven approach, where the key players themselves make investment decisions related to technology, infrastructure, marketing and capacity, rather than the investments being supply-driven by the public sector; (iv) It recognizes that the stakeholders in the commercialization process are poorly integrated, and attempts to provide institutional mechanisms that facilitate the emergence of effective networks and value chains.

A. OBJECTIVE

14. The project objective is to establish a network of competitive and innovative agricultural value chains. This will contribute to the overall goal of sustainably increasing the level of commercialization of agriculture in the EDR.

15. The EDR comprises 16 districts of which 5 are in the Terai (Siraha, Saptari, Sunsari, Morang and Jhapa), 8 are in the Hills (Okhaldhunga, Khotang, Udayapur, Bhojpur, Dhankuta, Terhathum, Panchthar and Ilam) and 3 are in the Mountains (Solukhunbu, Sankhuwasabha and Taplejung). The districts differ considerably in terms of area, population, infrastructure level and agricultural development. In principle, the "project area" could include any district in the region where commercial agriculture takes place. However, out of 16 districts in the EDR, the 5 districts of Solukhumbu, Sankhuwasabha, Okhaldhunga, Khotang and Bhojpur are more isolated and have much less potential for agricultural commercialization than the remaining 11 districts; therefore those 5 districts are not included in the remaining discussion of the project area. The project area includes the 5 districts in the Terai and the 6 districts in the

[2] The analysis of linkages in Appendix 14 provides a detailed analysis of various institutions.

Hills/Mountain area including Udayapur, Dhankuta, Terhathum, Panchthar, Ilam and Taplejung.

B. COMPONENTS AND OUTPUTS

16. The project recognizes the key role of networks in the development of value chains. The CADP facilitates the emergence of a network of well-functioning agricultural value chains. It provides institutional mechanisms through which the key stakeholders and their service providers can effectively link to each other by forming partnerships and alliances. Stakeholders participate in a commercial agriculture network when they recognize that participation in the network increases their opportunity to establish mutually beneficial partnerships and alliances.

17. The project proposes methods for sharing information. Sharing information, however, is not going to be translated into higher incomes and more effective services unless complemented by other mechanisms that give stakeholders the means to make investment decisions needed to move to higher levels of commercialization. Demand-driven investments will improve the efficiency of allocation of scarce public resources. The formulation, approval and implementation of demand-driven investments will also contribute to the development of alliances and partnerships between stakeholders and service providers.

18. Constraints related to limited access to information and capital are addressed through improved marketing information services and institutional mechanisms that allow sharing risk of different parties.

19. The project builds and strengthens existing capacity of service providers to facilitate the development of commercial agriculture. Improved capacity of service providers facilitates the development of commercial agriculture in two ways: by directly providing better services to currently well-organized commercial stakeholders (the members of the CAA) and by mobilizing and organizing currently loosely-organized farmer groups operating at a low-level of commercialization.

20. In order to achieve the overall objective of moving to a higher level of commercial agriculture in the EDR, the project is organized into six inter-linked components: (i) establishment of a Commercial Agriculture Network (CAN) that will facilitate the exchange of information among key stakeholders (producers, traders and processors) and service providers; (ii) creation of a Commercial Agriculture Alliance (CAA), with a management Board and a Commercial Agriculture Fund (CAF) that will provide a mechanism for different types of key stakeholders (producers, traders and processors) to work together by formulating, selecting and implementing investments that move commercialization to a higher level; (iii) development of an Agriculture Market information System (AMIS) that will provide a service to stakeholders involved in commercial agriculture; (iv) institution of a Commercial Agriculture Credit Guarantee Scheme (CACGS) that will reduce the risk involved in credit transactions by sharing the risk between borrowers and lenders, and thereby facilitate access to credit; (v) provision of Social Mobilization for Agricultural Commercialization (SMAC) to facilitate the transformation of loosely-organized farmer groups already involved in low-level commercialization into better-organized and larger farmer groups operating at a higher level of commercialization; and (vi) development of Institutional Capacity for Commercial Agriculture (ICDCA), to strengthen existing capacity and build new capacity of service providers to adequately understand and respond to the needs of commercial agriculture.

21. Different components of the CADP address market failures related to the formation of commercial organizations, provision of information, risk sharing and investment in new technology and infrastructure. The CAN, the CAA and the SMAC components address the failure of diverse commercial stakeholders to organize themselves into larger units and to establish mutually beneficial relationships; the CACGS addresses the failure of different parties (borrowers and lenders) to reduce risk involved in credit transactions; the AMIS

addresses the failure of supplying and disseminating information to improve production and marketing. The CAF and its managing Board address the failure of investing in new technologies and infrastructure providing public good benefits.

22. The various components of the project are interlinked and reinforce each other. The CAN members will benefit from association with other Network members by developing joint investment proposals for approval by the CAA Board. The institutional capacity development activities will strengthen the capacity of institutions to provide services to CAA members, farmer groups and small and medium agro-enterprises. The investments approved by the CAA Board will complement investments made possible by the increased credit disbursed to commercial agriculture made possible by the credit guarantee scheme and the improved information and knowledge disseminated by the AMIS. The following sections provide a brief description of each component, its rationale and outputs[3].

1. Commercial Agriculture Network (CAN)

23. Under this component, it is proposed a mechanism to facilitate communication, information sharing and formation of partnerships among and between commercial stakeholders and service providers.

24. The rationale for this component is the weakness of existing coordination committees at the district and regional levels and the lack of networking mechanisms between commercial stakeholders (farmers, traders and processors) and service providers (e.g. research and extension organizations, NGOs, financial institutions, line agencies) in the region.

25. The outputs of this component include a database on CAN members, bi-monthly bulletins distributed to all CAN members, women agro-entrepreneurship news, semi-annual workshops, a website of the CAN and the formation of partnerships among members of the network.

26. The institutional framework for this component envisages a network manager whose main responsibility is to coordinate and promote the flow of information between commercial stakeholders and service providers. The CAN component is closely linked to all the other components of the project.

2 Commercial Agriculture Alliance[4] (CAA)

27. Under this component, it is proposed a mechanism to facilitate the formation of effective value chains and the provision of demand-driven services and investments. The members of the CAA consist of EDR-based commercial farmers, traders, processors and their organizations. The CAA will elect a Board of Directors responsible for the approval of investment proposals submitted by CAA members. These investments will be co-financed by the CAA members and by a CAF provided by the CADP and managed by the CAA Board. The proposals will be related to technology, infrastructure, marketing, information and capacity development.

28. The rationale which defines the activity of the proposed private-sector-based mechanism of an EDR CAA, operating a CAF, is the weakness of the public sector to meet the needs of commercial agriculture stakeholders.

29. Commercial agriculture actors in the EDR often operate as ineffective agricultural value chains. Most farmers are not organized into entities larger than small groups (of 10-20 farmers); as a result, smallholder farmers, even though engaged in some form of commercial

[3] See Chapter 3 (The Proposed Project) and Appendix 5 (Proposed Investment Measures).
[4] See also Appendix 7 (The Commercial Agriculture Alliance).

agriculture, are unable to achieve the scale of economies facilitating technology innovation, and improved access to markets, finance and information. Similar difficulty of organization exists for traders and processors. There is a paucity of service provision by the existing institutions to the main commercial actors. Only relatively weak service and trading linkages exist between these actors themselves.

30. The purpose of setting up the CAA/CAF is to enable farmer, trader and processor members of CAA to secure effective, market-oriented services or investments of their own choosing. The chosen investments will help them to increase their income, profitability and productivity by strengthening their linkages with each other and with other private and public value chain stakeholders.

31. While strengthening the linkages among the key commercial actors, the CAA will accelerate the movement from the current low level of agricultural commercialization to a higher level characterized by increased competitiveness and innovation. The success of the CAA will be a major contributing factor in the growth of regional income and employment and in meeting the challenges and opportunities of increasing urbanization and integration with international markets.

32. The outputs of this component include demand-driven investments related to infrastructure, technology, marketing and information and capacity development. Qualifying services or investment programs would not normally be financed by a bank, even to borrowers with substantial collateral, good credit ratings and proven commercial track records. These investments in services or infrastructure would either (a) benefit more than one party by their direct implementation; or (b) being risky and innovative in nature will, if successful, probably stimulate imitation by other parties, thus helping to move the commercialization of the agricultural sector in the EDR upwards to a higher general level. They are ‘promotional’ or ‘developmental’ investments or programs, and the CAF co-financing of them will accordingly be in grant form.

33. The institutional framework for this component envisages the creation of the CAA as a legal entity under the Company Act – a foundation with its governing Board of Directors and Articles of Association. The CAA will have a full-time paid Secretariat (hereinafter referred to simply as the Secretariat) consisting of a General Manager and a small number of skilled professional staff, plus a small additional number of support staff. The Secretariat will ensure that proposals by CAA members are well formulated and programs are well executed. It will perform professional functions related to briefing the Board of Directors and operating the CAF as a co-financing mechanism. The Board will select the Secretariat staff from among candidates responding to public advertisement.

34. Several criteria for membership in the CAA, management of the CAF, review and appraisal of proposals, monitoring and evaluation and auditing systems, etc. have been proposed to provide effective governance and transparency of the Board.

3. Agriculture Market Information Service (AMIS)

35. Under this component, it is proposed a mechanism to improve access of farmers, traders, processors and service providers to information related to commercial agriculture in the region.

36. The rationale for this component is the dearth of relevant and organized agricultural market information in the region. Without such information, decisions on production, marketing and investment strategies to gain competitive advantage in international or regional markets will be difficult.

37. The outputs of this component include radio broadcast of marketing information, database of price, trade and production data that can be accessed via Internet, and enhanced capacity to collect and interpret marketing data.

38. The institutional framework for this component envisages a service that will work closely with the Agro-Enterprise Center (AEC), the Agricultural Statistics and Agribusiness Promotion Division of the Ministry of Agriculture and Cooperatives (MOAC), the Economic Analysis Directorate at the Department of Agriculture (DOA), the owners of markets in the region, the radio stations (Radio Nepal and FM Radio in Biratnagar and Birtamod), the Chambers of Commerce and Industry in the region and the Central Bureau of Statistics.

4. Commercial Agriculture Credit Guarantee Scheme (CACGS)

39. Under this component, it is proposed a mechanism to facilitate the flow of credit to commercial agriculture stakeholders by reducing the risk of lending to them. A Commercial Agriculture Credit Guarantee Fund (CACGF) will be established; the Deposit Insurance and Credit Guarantee Corporation (DICGC) will manage the Fund in order to guarantee loans by financial institutions to commercial agriculture stakeholders in the EDR.

40. The rationale for this component is the limited access to credit of several commercial stakeholders involved in commercial agriculture. The guarantee will reduce the risk faced by banks and other financial institutions in lending to borrowers who lack collateral or because of inherent risks associated with commercial agriculture.

41. The outputs of this component include increased guaranteed loans to commercial agriculture in the EDR and improved capacity of staff to assess risk in commercial agriculture.

42. The institutional framework for this component envisages a CACGS unit established under DICGC. The scheme will operate within the regulatory framework supervised by NRB and will be supervised by the Project Implementation Unit (PIU) under MOAC.

5. Social Mobilization for Agricultural Commercialization (SMAC)

43. Under this component, it is proposed a mechanism to facilitate the transformation of farmer groups already involved in commercial agriculture into larger organizations at the higher level of commercialization needed to satisfy the criteria for membership of the CAA.

44. The rationale for this component is that farmer groups in Nepal are often small in size, have difficulty in joining with other farmer groups to become larger organizations, and have limited access to markets, information, finance and technology. Some farmer groups have made the transition from subsistence to some form of low level commercialization, particularly in the case of HVC such as vegetables, potato and fruits.

45. NGOs and line agencies have sometimes targeted farmer groups with a large proportion of women, poor and disadvantaged ethnic groups. In order for these targeted farmer groups already involved in commercialization to be able to meet the more demanding criteria of the CAA they will need to organize themselves into larger groups, such as cooperatives and producer associations. The experience of NGOs such as CEAPRED has proved that social mobilization strategies can be sustainable. Farmer Field School experience in Integrated Pest Management is an important lesson for a modality of farmer-to-farmer effective extension and social mobilization.

46. The outputs of this component include awareness programs, commercial learning activities, study tours, information sharing through the CAN and formation of larger farmer organizations.

47. The institutional framework for this component envisages that in each of the eleven project districts about 20 groups of farmers (on average about 20 farmers per group) will be targeted every year (total of 1,100 groups over 5 years). These groups will be selected from those: (a) already involved in commercial agriculture, and (b) with a large component of women, poor and disadvantaged ethnic groups. The coordination with PIU will be ensured by liaison officers working under Local Development Officers (LDOs) of each district. These officers will be the actual liaisons between the CADP and the DDCs. With technical support from the PIU they will work to facilitate the implementation of the social mobilization activities by NGOs and line agencies in their respective districts. The selection of the NGOs and line agencies implementing the SMAC will be decided by a committee at DDC. The funds will be channeled by MOF directly to DDC's Local Development Fund.

48. NGOs and line agencies belonging to CAN and who are participating in relevant capacity strengthening activities will implement the social mobilization component under the supervision of the PIU, i.e. facilitating social mobilization of farmer groups will be an institutional strengthening activity whereby the NGO and line agency staff involved will 'learn by doing', and develop needed competence in the process.

49. Involvement in other commercial agriculture programs with the targeted groups will be a criterion for selection of NGOs and line agencies for participation in the SMAC. TORs for NGOs and line agencies implementing the SMAC are provided in Appendix 15.

6. Institutional Capacity Development for Commercial Agriculture (ICDCA)

50. Under this component, it is proposed a mechanism to conduct capacity building and strengthening of institutions involved in providing services to commercial agriculture stakeholders.

51. The rationale for this component is the weak capacity of line agencies, NGOs and private sector institutions to meet the needs of commercial stakeholders. There is a need for service providers to build or strengthen capacity in different thematic areas such as value chain management, agricultural marketing extension, planning and managing market infrastructure, proposal and business plan preparation and female entrepreneurship. However, this component argues that there is little point in building or strengthening capacity of individuals and institutions unless that increased capacity is actually put to use and is evaluated as useful by the very beneficiaries for which it was intended.

52. The outputs of this component include training courses, action research projects and study tours.

53. The institutional framework for this component envisages a component manager planning, supervising and monitoring the capacity development activities using contract-out services of experts in different thematic areas. Linkages with the Regional Agricultural Training Center, DOA, Nepal Agriculture Research Council (NARC), universities and international organizations will be actively sought. Each trainee will be requested to conduct an action research project together with the commercial stakeholders. The action research will provide a practical testing of what has been learned during training and the opportunity of making an actual contribution to the project beneficiaries.

C. COST ESTIMATES5

54. The total project cost (including interest during implementation, and taxes and duties) is estimated at $27.7 million equivalent (see Table 1), comprising a foreign exchange

[5] See details in Appendix 8.

component of $5.2 million (18.5% of total cost) and a local currency cost of $22.5 million equivalent (81.5% of total cost).

Table 1: Cost Estimates ($thousand)

	Local	Foreign	Total
A. Base Costs			
1. Commercial Agricultural Network	135,500	58,100	193,600
2. Commercial Agricultural Alliance	12,894,292	2,228,116	15,122,408
3. Market Information	477,200	241,200	718,400
4. Credit	384,500	330,500	715,000
5. Social Mobilization	2,625,900	-	2,625,900
6. Institutional Capacity Building	918,110	417,100	1,335,210
7. Project Management	340,000	583,000	923,000
B. Contingencies	17,775,502	3,858,016	21,633,518
Physical Contingencies	1,777,550	385,802	2,163,352
Price Contingencies	2,970,993	211,197	3,182,189
	22,524,045	4,455,014	26,979,059
C. Interest During Implementation	-	741,313	741,313
Total	22,524,045	5,196,328	27,720,372

D. FINANCING PLAN[6]

55. The Government will finance 18.4% of total cost, ADB 72.6% and beneficiaries 9%. The contribution of beneficiaries will be primarily in conjunction with the investments of the CAA. On average, each investment approved by the CAA Board will require 18.5% financing by the beneficiaries.

Table 2: Financing Plan ($ million)

	Foreign	Local	Total	Percent
The Government	-	5,079,902	5,079,902	18.4
Asian Development Bank	5,122,168	14,955,533	20,077,701	72.6
Local Government	-	-	-	-
Beneficiaries	-	2,488,609	2,488,609	9.0
	5,122,168	22,524,045	27,646,213	100.0

E. IMPLEMENTATION ARRANGEMENTS

1. Project Management

56. The Ministry of Agriculture and Cooperatives (MOAC) will be the Executing Agency (EA) responsible for the overall project management and coordination. There will be 4 implementing agencies (IAs), namely the Project Implementation Unit (PIU), the Commercial Agriculture Alliance (CAA), the Deposit Insurance and Credit Guarantee Corporation (DICGC) and the District Development Committees (DDCs).

57. MOAC, through the PIU, will be responsible for the implementation of activities related to the CAN, AMIS and ICDCA; it will also provide technical support to the SMAC component implemented by the DDCs. The CAA Board will be responsible for the implementation of the activities related to the CAF. The DICGC will be responsible for the activities related to the implementation of activities related to the CACGF.

[6] See details in Appendix 9.

58. MOAC will also provide guidelines to the project and, through PIU, will supervise monitoring and evaluation of all project activities.

59. MOAC will appoint a Project Coordination Unit (PCU) at MOAC in Kathmandu under the heading of a Joint Secretary and with assistance of a Class II officer. The head of the PCU will be the Project Director for the CADP. The main roles and functions of the PCU consist in coordination between CADP and other line agencies; reporting and coordination with ADB; reporting and coordinating with MOF and NRB; organization of meetings of Steering Committee, Implementation Coordination Committee, Credit Guarantee Scheme Coordinating Committee and CAF Advisory Group. The PCU will also take charge of the pre-inception activities described in a later section, including recruitment of international consultants, facilitation of the formation of CAA under the Company Act, and recruitment of domestic consultants in the management position of the PIU.

60. The Project will provide funding for a PIU which will be staffed by: (i) a managerially competent Class I officer (project manager); (ii) one Class II officer (deputy project manager); (iii) one Class II officer for M&E; (iv) one Class II planning officer; (v) one Chief Accountant; (vi) one Gender Specialist; (vii) one Computer Specialist; (viii) four support administrative staff (accountant, secretaries, computer, monitoring and evaluation); and office support staff.

61. The PIU will act as a facilitating unit for the entire project. The PIU will (i) prepare annual work plans and relevant project reports, in consultation with the Secretariat and the management of the CACGS; (ii) supervise project activities related to the CAN, AMIS and SMAC; (iii) provide technical support to the SMAC component implemented by DDCs; and (iv) carry out monitoring and evaluation of all project activities, project outputs and expected impacts. The PIU will also have responsibility for ensuring that several crosscutting issues are firmly embedded in the project activities, namely: (i) the value chain approach; (ii) gender awareness and gender equity; (iii) environment concern; and (iv) good governance.

62. The PIU will be based in Biratnagar, at office facilities rented by the CADP. The facilities will host other components of the project, including the CAA, the CAN, the AMIS, the SMAC and the ICDCA. The facility will be appropriately located and provided with well-functioning infrastructure for office space, communications (including internet) and meeting rooms. The PIU will also be provided with adequate equipment, furniture and vehicles (see budget in Appendix 8, Table A8.7).

63. The scope and details of the CAA, including the associated Board, the Secretariat and the Fund are described separately[7]. The PIU and the Secretariat will coordinate closely through liaison officers selected by the PIU and the CAA Board.

64. Periodic reporting of CAF activities will be submitted by the Secretariat to the PIU; monitoring and evaluation and impact assessment of CAA activities will be conducted by the PIU. The periodic and final monitoring and evaluation of project portfolio progress, implementation and impact of CAF activities will be in addition to: (a) monitoring of project activities and flows and uses of funds during project implementation; (b) assessment of project outputs and impact during and after implementation; and (c) ongoing monitoring and evaluation of project portfolio progress, implementation and impact. The Secretariat will conduct (a), (b) and (c) on behalf of the CAA Board and make reports available to the PIU Manager. Financial audit of the CAA and its use of CAF funds will be performed by the CAA's statutory independent auditors as a legal entity and by other independent auditors of the use of CADP funds appointed by HMGN/MOAC as overall implementing agency of the project. As is normal practice, the auditors' starting point will be comprehensive draft accounts produced

[7] See Appendix 7.

by the Chief Accountant and his or her assistant using a fully-developed and professional internal accounting system.

65. The Secretariat will be selected by the CAA Board and will consist of a staff of experts including (i) the General Manager; (ii) the Chief Accountant; (iii) the Rural Sociologist; (iv) the Economist/Financial Analyst; (v) the Rural Infrastructure Specialist; (vi) the Agricultural Marketing Specialist; (vii) the Crop Specialist; and (viii) external advisors as requested by the implementation of activities. The budget for the Secretariat is provided in Appendix 8, Table A8.2.

66. The scope and details of the Commercial Agriculture Credit Guarantee Fund (CACGF) are described separately in Appendix 5. The PIU and the unit of the DICGC responsible for the CACGF will coordinate closely through liaison officers selected by the PIU and the Board of the DICGC. In addition to the normal mechanisms of supervision and monitoring internal to the DICGC, the PIU will also conduct periodic and final monitoring and evaluation of project portfolio progress, implementation and impact of CACGF activities.

67. The DICGC will appoint a unit responsible for the implementation of the CACGS and the management of its fund. The head of the unit will coordinate with the PIU and the CAA.

68. The LDO of the DDCs will implement the SMAC component of the project. Liaisons officers in each of the eleven districts will be selected to manage the social mobilization activities with technical support from the PIU. By competitive bidding, the DDCs will select NGOs and line agencies to carry out the TORs for the social mobilization activities (see Appendix 15).

2. Implementation

69. Before inception of the CADP, the CAA will be established. The process will be facilitated by an international consultant recruited by the PCU and supervised by PCU. The CAA will be established under the Company Act. The members of the CAA will adhere to the Articles of Agreement and the Operations Manual initially designed with the help of the international advisor. The guidelines provided in Appendix 7 will be taken into account during this phase.

70. During the first year, the Project will establish the CAN, CAF, CACGF and the AMIS, and initiate capacity development activities and planning of social mobilization activities.

71. Investments approved by the CAA Board will commence implementation in the second year of the project. Social mobilization activities will also be in full swing during the second year of the project.

72. The TA will also be mobilized at the beginning of the project, particularly advisory services related to the CAA, the CAN and monitoring and evaluation.

73. A Project Steering Committee will be established to oversee the implementation of the project and it will meet as necessary, but not less than once a year, to review progress and resolve policy issues. The Secretary of MOAC will chair the Committee, which will include ministerial representatives from the MOF, Ministry of Women, Children and Social Welfare, Ministry of Industry Commerce and Supply, Ministry of Local Development, the National Planning Commission (NPC), the Director General (DG) of DOA, AEC, the Chair of the Board of the CAA, the DG of the CACGF, NRB, the Joint Secretary heading the PCU and the Project Manager of the PIU being the member Secretary.

74. An Implementation Coordination Committee will be established to guide the PIU on a more regular basis. Chaired by the Joint Secretary heading the PCU at MOAC, the Committee

will comprise the DG of DOA, heads of DOA directorates, the Regional Agriculture Directorate (RAD), the DDC, the Women Development Centers, the Chamber of Commerce and Industry (CCI) in the EDR, NARC, NGOs and the Project Manager of the PIU. The Committee will meet on a trimester basis in the EDR. Its responsibility will be to address and resolve implementation issues, to advice on technical matters, and to advice the Project Steering Committee on policy matters.

75. A Credit Guarantee Scheme Coordination Committee will be established to guide the CACGS on a more regular basis. Chaired by the NRB, the Committee will comprise representatives of Agriculture Development Bank of Nepal (ADBN), commercial banks participating in the CACGS, micro finance institutions (MFI) wholesalers including MCDC and MFIs prominent in the EDR. The Chair of the CAA Board, the CACGS Manager, the DICGC DG, the Joint Secretary heading the PCU and the PIU Manager will also participate. The function of the Committee will be to monitor, report and evaluate progress, identify problem areas for correction and review premiums policy.

76. A Commercial Agriculture Fund Advisory Group will be established to provide advisory services and policy guidance to the CAA Board. Chaired by the Joint Secretary heading the PCU, the Group will comprise the DG of DOA and representatives of DOA directorates, the RAD, the DDC, the Women Development Centers, the CCI in the EDR, NARC, NGOs, the Department of Cooperatives, the Food Technology and Quality Control Department, the Project Manager of the PIU, the CACGF Manager and the CAA Board members. The Group will meet as necessary, but no less than on a quarterly basis. According to the Tenth Plan a National Agriculture Promotion Center will be established. It is suggested that if the Center is implemented during the implementation period of the CADP, the Center take the leadership of the Advisory Group.

3. Component Implementation

77. The PIU will supervise the implementation of the CAN, the AMIS and the institutional capacity development; it will also provide technical support to the DDCs in the implementation of the social mobilization component. Each of these components will have a manager responsible for implementation. The CAN Manager will be directly responsible to the PIU Manager and will coordinate with all the components of the project, the CAN members and regional coordination committees. The AMIS Manager will be responsible to the PIU Manager and coordinate closely with the MDD, the AEC, AICC, CCI and radio stations in the EDR. The Social Mobilization Manager attached to the PIU will work closely with the liaison officers of the DDC to prepare annual work plans, supervise and monitor activities by the NGOs and line agencies in the implementation of the SMAC component. Social mobilization activities include district level activities involving awareness programs, training programs and study tours for farmer groups already involved in commercial agriculture. The manager will coordinate closely with DDC in the selection of implementing agencies at the district level and in the choice of farmer groups. The Institutional Capacity Development Manager will be responsible for the implementation of capacity development activities made available through the Regional Training Center.

78. The Secretariat will be responsible to the CAA Board and provide services to the CAA members. The Secretariat will be appointed by the CAA Board and be responsible for evaluating the technical feasibility of proposals by CAA members, submitting the proposals to the Board for approval, supervising the disbursement of funds for implementation of the approved proposals, monitoring and evaluating project implementation and project portfolio, preparing annual plans and reports, coordinating with the PIU, and facilitating meetings of the CAA, Board Meetings and participation of Board members to other committees provided in the CADP (Steering Committee, Coordination Committee, Advisory Group).

4. Office

79. The CADP will operate from two offices: one small office at MOAC hosting the PCU and a bigger office at Biratnagar hosting the PIU, the Secretariat, the AMIS, the Network Manager, the Institutional Capacity Development Manager and the Social Mobilization Manager (see Figure 3.4). The presence of different project components under the same office roof in Biratnagar will greatly facilitate coordination within the CADP.

5. Implementation Period

80. The Project will be implemented over a 5-year period. Initial activities will include recruitment of staff and consultants for the PIU, establishing a project performance monitoring system, carrying out baseline surveys, establishing the procedures for the CAA (including the Board, the Fund and the Secretariat) and the CACGF, identifying and partnering with local NGOs, establishing the CAA (including the Board and the Secretariat) and procurement of essential equipment. While activities related to the AMIS and to institutional capacity development will start in the first year, investment projects approved by the CAA Board will likely start implementation in the second year of the project. Social mobilization activities at the district level will also start in the second year of the project, after the CAN and the CAA has been formed and capacity of service providers has been strengthened. Appendix 16 contains the Implementation schedule of the project.

6. Pre-Inception Activities

81. Prior to inception of the project, and perhaps as a condition of the loan agreement, several activities need to be implemented, including:

- Clarification of the extent to which civil servants and line agencies could bid for implementation of some of the activities of the project;
- Recruitment of International Advisors to facilitate the formation of CAA, the census of commercial agriculture stakeholders in the EDR, and the awareness campaign about the CADP;
- Awareness campaigns in the EDR about the CADP;
- Operations Manual for the CAA;
- Identification of suitable staff for the PIU;
- Census of commercial agriculture stakeholders in the region with a view to identifying suitable members of the CAA;
- Establishment of the CAA; and
- Approval of the Agricultural Markets Development and Management Bill. The bill will provide a regulatory framework for the organization of markets by both the private and the public sectors. The bill was in a position to be passed by the House of Representatives in May 2002. The House was dissolved in May 2002 and the status of the bill is unclear at present. Its approval before inception of the CADP would facilitate the development of marketing.

7. Procurement

82. Appendix 17 summarizes the procurement of goods and services in the different components of the CADP. Procurement of goods will be made on the bases of local competitive bidding, international shopping and direct purchase. Procurement of services will be made by the local competitive bidding and international competitive bidding.

83. All procurement related to the CAA investment projects will be conducted by the Secretariat on the basis of local competitive bidding. Since most civil works will be small and widely dispersed, foreign contractors are unlikely to be interested in bidding. Consequently, all

the civil works contracts will be procured on the basis of local competitive bidding among prequalified contractors in accordance with the Government's procurement procedures acceptable to ADB. Prequalification, selection and engagement of contractors will be subject to the approval of the CAA Board. A contracted private sector engineer under the guidance of the Secretariat will advise on the award of contracts for infrastructure rehabilitation and market improvements.

84. It is not expected that there will be supply contracts for equipment or materials estimated to cost $500,000 or more, but should a contract be required it will be awarded on the basis of international competitive bidding, and those costing less than the equivalent of $500,000 (other than minor items) will be awarded on the basis of international shopping. Direct purchase procedures will be used for small or off-the-shelf items valued at less than $100,000.

8. Consulting Services

85. Consulting services will be recruited to provide technical assistance to the project. Appendix 6 provides the TOR for international and domestic consultants required for a smooth implementation of the project. Several of the positions indicated for domestic consultants could be well provided by HMGN officers, including officers at MOAC, DOA, RAT and DADOs. The principle of recruitment, however, should be based on selecting the most competent candidate for each position. In case such candidate is from line agencies, then their professional services should be provided as consultants to the project, implying a leave from their respective units in HMGN. That leave of absence will require previous approval from the HMGN (see above under section on Line Agencies Bidding).

86. The project envisages three packages of consulting services. Package 1 will refer to International Consultants. Package 2 refers to Domestic Consultants to work under the PIU, CAN, AMIS, SMAC, ICDCA and CGSCA. Package 3 refers to Domestic Consultants to work in the Secretariat of the CAA.

87. Each package will be procured based on competitive bidding by local and international firms. Package 1 will be selected by the MOAC/PCU. In the case of Package 2, the procurement of consultants will take place in two phases. During phase 1 (at the pre-inception phase), only the management of the PIU and the managers of CAN, AMIS, SMAC and ICDCA will be selected by MOAC/PCU. During phase 2 (at the beginning of the CADP), the management of PIU, CAN, AMIS, SMAC, ICDCA and DICGC will procure the remaining consultants mentioned in Appendix 6, again according to competitive bidding. Package 3 will be selected by the CAA Board.

9. Project Performance Monitoring and Evaluation

88. A list of indicators is available in the Logical Framework (see Appendix 4); and a list of means of verification is available for each measure envisaged in the CADP. Appendix 13 provides detailed information about all the activities of M&E. These activities include pre-inception activities, baseline surveys, project input monitoring, participatory monitoring and evaluation, project benefit monitoring and evaluation, aggregate output data monitoring, project reporting and reviews.

89. Pre-inception activities relate to awareness program of the CADP, a census of agricultural commercialization in the EDR and a workshop to agree about the indicators and the methods for M&E proposed in the CADP design.

90. M&E staff will be part of the PIU. Each component of the project will have to be closely monitored and evaluated by the management of that component. M&E specialists (both

international and domestic) will provide technical assistance to facilitate the various monitoring activities of the project.

10. Flow of Funds

91. Project funds are envisaged to flow through four channels as follows:

- Direct allocation from MOF to CAA in order to establish and replenish the CAF periodically.
- Direct allocation from MOF to the DICGC in order to establish the CACGF.
- Allocation to MOAC for activities of the PCU and PIU.
- Allocation to DDC for implementation of activities related to social mobilization.

92. The four channels correspond to legal entities that are established at the pre-inception stage of the CADP. The CAA is a legal entity constituted under the Company Act. The DICGC is a public corporation. The PIU will be under direct control of MOAC. The DDC are representative of local government, which can receive allocations directly from MOF according to the Self-Governance Act. The coordination of the funds flow will be the responsibility of the PCU of MOAC and will provide the overall linkage between MOF and the various entities involved in the implementation of the CADP.

93. Financial accountability for the funds is embedded in the design of the project. The project funds are scrutinized at different levels, through proper accounting procedures, monthly reporting, monitoring and evaluation activities and auditing. The PIU will be responsible for consolidating all the accounts for final review by the PCU.

11. Accounting, Auditing and Reporting

94. PCU will submit to ADB quarterly and annual progress reports on project implementation. The PIU will prepare the reports. The PIU will particularly address progress in meeting the project targets. The progress reports will include information on the physical progress of the project and the status of the project components. Within 3 months of substantial physical completion of the Project, PCU will submit to ADB a project completion report that will cover the details of project implementation, cost, project performance management activities and other information requested by ADB.

95. PIU will maintain separate project accounts and records so as to facilitate identification of income and expenditures related to the Project. The PIU will be assigned sufficient qualified accounting staff, including an accountant. An auditor acceptable to ADB will audit all the accounts and statements of expenditures and revenues related to the Project annually. The Auditor General Office of Nepal is considered acceptable for this purpose. The annual audit will include an audit of the CAF and CACGF. The annual audit report will include a separate audit opinion on the use of the two funds. Audited financial statements and project accounts, together with the report of the auditor, will be submitted within nine months of the close of the financial year.

12. Project Review

96. ADB will review the Project at least twice a year, supplemented by a mid-term review, to be carried out by the Government and ADB. The regular project reviews will include a review of the performance of PCU and the PIU, CAA, participating NGOs and any other project implementing agencies, implementation of the loan covenants, implementation of the gender action plan, physical progress of project implementation and capacity-building activities. The proposed mid-term review will allow the Government and ADB to monitor the project closely and to make appropriate adjustments to the project design and implementation arrangements.

IV. PROJECT BENEFITS, IMPACTS AND RISKS

A. ECONOMIC IMPACT[8]

97. Economic analysis of the proposed Project has been carried out using economic costs, with financial costs adjusted to allow for transfer of payments including taxes, duties or subsidies, and to correct any market distortions. The overall economic internal rate of return (EIRR) is estimated to be 37.1%. This is calculated on the aggregate sum of all costs of all components, with quantifiable benefits from four of the components.

98. The main benefits will accrue from the CAA and the subprojects to be financed from the CAF. The interventions will be demand-driven and therefore are not possible to predict precisely. The financial and economic analyses examine some of the likely interventions that are expected to be demanded, including (i) technology, such as production enhancement, new processing techniques, post-harvest methodologies; (ii) small infrastructure works, such as rural roads, market or collection centers, storage facilities, irrigation interventions; (iii) marketing and information services, such as new market information, introduction of new marketing techniques; and (iv) capacity building of stakeholders, such as extension and quality improvement programs.

99. Additional benefit will arise from the Credit Guarantee Scheme. The scheme will improve access to credit of micro, small and medium agro-enteprises and will result in increased net income and employment generation. Both the social mobilization and the institutional capacity development components will have effect in terms of higher income generation and in terms of increased productivity, reflected in higher wages.

B. SOCIAL AND GENDER IMPACT[9]

100. Poverty reduction impacts of the proposed Project are expected to derive through three channels: (i) employment generation, (ii) social mobilization and organization of smallholder farmers into larger groups, and (iii) additional income opportunities in a more dynamic rural economy. Poverty reduction through employment generation will be achieved through increased and diversification of employment opportunities, both on-farm and in the post-production system. Increased employment opportunities for the poor will be derived from increased demand for agricultural products. Social mobilization approaches will motivate the poor and vulnerable groups to overcome barriers to organization into larger units, and thus enable them to better cope with risk and improve access to technology, markets, credit and information. It is expected that a more commercialized agriculture sector will increase income and growth of agriculture in the rural economy, and generate demand for a variety of goods and services. Agricultural growth multipliers are estimated to be in the order of 3 to 4; i.e., for each percentage point of agricultural growth, there will be 3–4 percentage points of growth in non-agriculture sectors. The poverty impact ratio—expressing the proportion of net economic benefits accruing to the poor—has been estimated at 53%.

101. The Project will have impacts on social and gender development by (i) expanding opportunities for the poor and disadvantaged groups and for women to engage in commercial activities; (ii) reduce vulnerability of disadvantaged groups arising from commercial agriculture; and (iii) enhance capabilities of the poor, disadvantaged groups and women to engage directly in or benefit indirectly from commercial agriculture. A Gender Plan has been prepared (see Appendix 12).

[8] See Chapter 4 and Appendix 9.
[9] See Chapter 4 (Costs, Benefits, and Impacts), Appendix 9 (Financial and Economic Analysis), Appendix 10 (Social and Gender Analysis), and Appendix 12 (Gender Action Plan).

102. The design of the CADP envisages increased opportunities for income growth and employment generation for the poor, women and disadvantaged groups. The increased opportunities will be the effect of investment projects conducted by the CAA to facilitate access to technology, markets, infrastructure and information. The investments of the CAA are expected to expand production and marketing of a broad range of agricultural products such as labor-intensive vegetables, tea and sugar cane thus resulting in the promotion of organizations that involve smallholder farmers production and employment of labor both on the farm (production activities) and off-farm (post-production activities). The expansion of credit to commercial agriculture agro-enterprises (including farmer groups, cooperatives, farmer association and agribusiness) is also expected to expand production and employment opportunities for the poor and women. The expanded opportunities are part of the design of the information services (reaching through radio most of the rural population in the EDR) and the CAN. The focus of the social mobilization on targeted groups (women, poor and disadvantaged groups) will also expand opportunities for these groups.

103. The CADP aims at moving commercialization from the current low level to a higher level. At the higher level of commercialization, stakeholders are better organized as value chains and therefore better able to cope with challenges and risk arising from natural events and markets. The social mobilization activities highlight the importance for the smallholder farmers and the targeted groups of poor, women and disadvantaged people to form larger organizations able to connect to markets, access technology and make larger investments. Reduction of risk through risk sharing between banks and borrowers is also a way to expand the availability of credit for commercial agriculture, including those groups who have not sufficient collateral. The promotion of higher level of commercialization implies the greater use of contracts between farmer groups and processors, thus reducing the vagaries of markets and weather. The growth of agribusiness and agro-industry will also stimulate the growth of employment, both at the farm and off-farm levels, stabilizing the flow of seasonal labor out of rural areas.

104. The CADP design recognizes that there is a considerable amount of work to be done in order to increase capacity to move commercial agriculture to a higher level. To a large extent, the CADP could be regarded as a project that is building capabilities for stakeholders to form value chains and establish mutually profitable linkages among themselves. Capability development within CADP takes place in all components, but primarily at the institutional capacity development, the CAA and the social mobilization levels. Awareness and women leadership programs and organizational skills to benefit targeted groups are part of the various modules proposed both in the social mobilization and the institutional capacity development components.

C. ENVIRONMENTAL IMPACT[10]

105. Environmental analysis of the proposed Project indicates that some adverse effects may be generated. These impacts may arise from intensified use of land and water resources, increased use of agro-chemicals (fertilizers and pesticides) and development of infrastructure (agricultural roads, and rehabilitation of small irrigation systems). An initial environmental examination suggests that possible negative impacts will be small and can be mitigated. The CACGS offers the opportunity of incorporating environmental considerations in the credit guaranteed by the Project, by developing guidelines to outline environmental measures to be incorporated in the implementation of various types of subprojects. The CAA appraisal of investment proposals will include environmental criteria in compliance with existing environmental regulations of Nepal. The institutional capacity development and the social mobilization components through training and awareness programs will increase adoption of sustainable agriculture practices and increase awareness of environmental issues.

[10] See Appendix 11.

D. RISKS AND ASSUMPTIONS

106. The major assumption of the project is that the ongoing social unrest will be resolved. In the absence of such stability, also lacking will be an environment that is conducive to strong investment in commercial agriculture. It should be noted, however, that the central role given to the CAA in this project might prove to be an important element of stability. Differently from a project supply-pushed by the Government, the CADP is designed to be a project demand-driven by commercial stakeholders including farmers, traders and processors. As such it is likely that it will be perceived to be less of a target for political confrontations.

107. Although it is difficult to assess the impact of the conflict in the EDR so far and to predict its future development, it seems that the region has proved to be more resilient in coping with the difficulties associated to the conflict than other regions. For example, the EDR has witnessed less instances of violence and extraction of compulsory taxes. Perhaps, this is the result of relatively more developed agriculture and higher human development indicators in rural areas of the EDR than in other regions of Nepal. The involvement of smallholder farmers in commercial agriculture, both in the Terai and in some of the more prosperous Hills areas (for example Ilam and Dhankuta) has provided an outlet to move out of poverty. The proposed CADP is expected to further accelerate economic activities and the generation of employment for the poor in rural areas, thus addressing the problem of poverty, which is central to the dynamics of the conflict.

108. The major risk of the project is the capacity of institutions and individuals to adapt to the new approach of CADP. By putting the commercial stakeholders in the driving seat of decisions regarding investment on commercial agriculture, the project proposes a demand-driven approach. The new approach requires an almost radical change in the way service providers operate. This is true for both public service providers and for NGOs. Rather than implementing programs decided by the government or donors, the service providers will have to respond to the demands of the key stakeholders who have the control of the resources needed to implement investment proposals. The new approach requires a change of attitude that will take time. In order to facilitate this change of attitude the project will support through institutional capacity development, a functioning network and technical assistance.

109. Despite the risks, the potential benefits of a well implemented project are so great that they justify the approach and the project design.

EXECUTIVE SUMMARY

A. OBJECTIVES

1. The objective of the TA on Commercial Agriculture Development Project (CADP) is to assist the Government in designing an investment project that enhances income and employment opportunities through increased and sustainable commercialization of agriculture in the Eastern Development Region (EDR). The project will promote production, processing and marketing of high-value crops (HVC), and capacity building of all stakeholders in order to support and sustain the process of commercialization.

2. The Final Report presents the main findings of the TA Team, identifies the core problem for the commercialization of agriculture in the EDR, presents the design of the CADP, and discusses the estimates of costs, benefits and expected impacts of the proposed project.

B. POLICY CONTEXT[1]

3. The Tenth Plan has recently been prepared and published. Its main objective is reducing poverty by means of empowerment, human resources development, security and targeted programs. The Plan promotes policies for the efficient mobilization of resources with economic opportunities and employment, and expansion in the joint participation of government, local bodies, private sector and civil society. The strategy of the Tenth Plan is to establish employment-creating, income earning and protective programs which directly benefit the economically, geographically and socially backward groups, castes, disabled and helpless people and those living below the poverty line.

4. To increase rural employment and income generation, the agriculture sector will be commercialized. The role of the public sector will be as a facilitator and referee in those sectors where private sector is interested but a strong and direct role of government will be established in the backward and remote areas, oppressed caste groups and areas where private investment is not attractive. The major focus of the Tenth Plan in agriculture is to achieve high and sustainable economic growth and poverty alleviation, and improve the food and nutrition status of the people by increasing agriculture productivity through integrated packages of agricultural inputs and services as outlined in the Agriculture Perspective Plan (APP). Major strategies for expediting those focuses are to generate and disseminate agricultural technology, to increase access by farmers to agricultural inputs and credit, and to commercialize and diversify agriculture.

C. METHODOLOGY

5. The methodology followed by the TA Team is based on the combination of two approaches: the **Value Chain Approach** and the **Participatory Learning System Approach**[2]. The Value Chain Approach focuses on the interaction of actors along each step of the production system (from raw producers to consumers) as well as the linkages within each set of actors. Such an approach thus considers trade relations as being part of a series of networks of producers, exporters, importers, processors and retailers, whereby knowledge and relationships are developed to gain access to markets and suppliers. The success of the developing regions in adding value to their production lies in the ability of these regions to access these networks.

6. The Participatory Learning System Approach is based on the concept of collaborative, experiential learning. Learning is viewed as an iterative process of finding out about the situation to be improved, making sense of this and taking appropriate action. An underlying

[1] See Chapter 1 (Introduction).
[2] See Chapter 1 (Introduction).

assumption is that the way we see the world largely determines the way we act in it, with the corollary that we must change the way we 'see' if we are to change the way we 'act'. It follows that we need a process for enabling this to occur and collaborative learning is the key to this. Collaboration is important because we must usually act together to improve a situation.

7. In addition to analytical work based on secondary data and review of literature, the TA Team has undertaken fieldwork visits and surveys, supervised an NGO-led social survey based on Participatory Rural Appraisal (PRA) tools, and organized three participatory stakeholders workshops in the EDR. The assumptions of the TA and the CADP design have been discussed with stakeholders from the EDR including farmers, traders, processors, NGOs, research and extension professionals, financial institutions representatives and other service providers. The participants to the stakeholders' workshops in the region have enthusiastically contributed and supported the conceptualization and design of the project as presented in this report[3].

D. SWOT ANALYSIS FOR COMMERCIALIZATION[4]

8. The sector analysis points to various strengths, weaknesses, opportunities and threats to the development of commercialization in the EDR.

1. Strengths

9. *A diverse agro-climatic environment suitable for the production of HVC.* The review of agro-ecological areas, climate and soils reveal that both the Terai and the Hill districts can grow a variety of tropical, sub-tropical and temperate crops. Off-season vegetables fetch high prices both in Nepal and in neighboring India and Bangladesh. Spices and tea have enormous potential that has been only very modestly exploited until now.

10. *Labor force and women more educated than in other parts of Nepal.* Even though there is enormous progress to be made both in education and in women development, indicators such as mean years of schooling, literacy rate, educational attainment index and gender development index (GDI) compiled by the Human Development Report (HDR) present a situation for the EDR better than the average for Nepal. For example, the mean years of schooling is 2.7 years in the EDR and 2.3 years in Nepal; GDI is 0.30 in EDR and 0.27 in Nepal.

11. *An entrepreneurial basis in commercial agriculture particularly in the Terai.* Several agro-processing and agribusiness units are based in the EDR, particularly in the Morang-Sunsari area including sugar cane processing, fruits and vegetable processing, jute milling, cold storage and vegetable ghee processing, in addition to rice mills, dhal factories, beer and liquor factories, tanning and leather processing and paper industries. The situation in the Hills is less developed as a result of poor infrastructure and limited access to electricity. However, even in the Hills several agro-entrepreneurial skills have developed in more recent years particularly in the fields of vegetable and fruit production and marketing, spices and tea (Orthodox).

12. *Examples of farm and women organizations successful in commercial agriculture.* Fieldwork conducted by the TA Team identified several organizations that are involved in commercial agriculture. Farmer groups engaged in commercial agriculture have been visited in most of the 11 districts of the project area; the most dynamic ones however are in only 7 districts, namely the 5 districts of the Terai and the Hill districts of Ilam and Dhankuta. Cooperatives like the Koshi Multipurpose Cooperative in Dhankuta has been able to export to

[3] See Proceedings of the First Stakeholder Workshop (8-9 April 2003), Second Stakeholder Workshop (9-13 July 2003) and Third Stakeholder Workshop (21-22 August 2003). The three workshops were held in Biratnagar.
[4] See Chapter 2 (Sector Performance and Key Issues) and Appendix 1 (Sector Analysis).

India; the Betel Nut Producer Association in Jhapa is quite active in exports and promoting the interest of its members; and the Chamber of Industry in Morang includes some of the main agro-industrialists in the region.

13. *Road corridors along the east-west and south-north axes. A main road runs along the east-we*st axis in the Terai and two main roads run along the two south-north corridors leading to Dhankuta and Ilam, respectively. The relation between road infrastructure and development of commercial agriculture is strikingly close. As mentioned above, the most dynamic farmer groups and commercial agro-enterprises are to be found along the road corridors in the region.

2. Weaknesses

14. *Weak and supply-pushed research and extension services to commercial agriculture*. The weakness of the research and extension system to provide effective services to commercial agriculture stakeholders is particularly acute in the case of HVC and in the post-production functions including marketing and processing. Commercial farmers and agro-enterprises interviewed by the TA Team indicate little linkage with research and extension organizations; moreover, commercial stakeholders do not seem to receive research or extension services that respond to their needs. Most of the research and extension efforts are "supply pushed" by public research institutes, District Agriculture Development Offices (DADOs), non-governmental organizations (NGOs) and universities. Research and development is not demand-driven. At best, the main commercial actors (usually farmer groups) involved cooperate with research projects put to them by the supply pushers. They do not commission or pay significantly for research and development themselves.

15. *Poor infrastructure connecting producing areas to main roads.* Even though there exist some relatively acceptable main road connections in the region, the secondary connections to the main roads are few and often in a dismal condition. This is particularly the case for agricultural roads connecting producing areas to markets. When roads are constructed, the input of communities is not adequately taken into consideration. As a result, road construction is expensive and quality is low. Maintenance of roads that are not owned by communities is virtually absent, a situation that often results in agricultural road construction not lasting much more than one season after completion of the construction.

16. *No clear strategies to promote commercialization*. Even though there is much talk about commercialization and even the APP mentions commercialization, it is not clear to commercial stakeholders in the EDR what strategies are currently in place to promote commercialization. The strategy of the APP is basically a supply-driven strategy consisting of a package of priority inputs (roads, irrigation, fertilizer and technology). The underlying assumption is that the provision of these inputs will result in high agricultural growth. However, high growth may be achieved with different strategies and different combination of inputs than those rigidly specified in the APP. For example, some of the most dynamic changes in commercial agriculture of the EDR, namely those related to Orthodox tea, sugar cane, potato and hybrid vegetables have occurred largely because of the initiative of commercial stakeholders and not because of the APP. The agricultural strategies and programs pursued so far seem to have only a superficial view of commercialization and have not moved beyond the simple idea that commercialization imply increasing the production sold to the market.

17. *Limited access to markets for quality inputs (e.g. seed and fertilizer).* Farmers in the EDR have experienced and still are experiencing difficulty in getting access to high quality seed and planting material especially disease-free potato seed and disease-free fruit seedlings. In the case of fertilizer, in spite of greater availability, there is a widely held perception that quality has deteriorated. Farmers rightly demand higher quality for input. However, it is also often the case that farmers at low level of commercialization are not ready to pay the highest costs associated with higher quality. It will take some time before most farmers realize the need of covering the full cost (including research and development) of

seeds, fertilizer and other inputs. More commercialized farmers do recognize that higher quality inputs cost more.

18. *Limited access to credit and finance.* Excessive emphasis is often given to interest rates as explanatory factors for the limited credit available to producers, traders and processors. In fact, even at high interest rates, smallholder farmers have a demand for credit. Apart from high interest rates, it is the presence of poorly understood and sometimes complex procedures to access credit, the lack of knowledge of proper procedures and the absence of adequate collateral that prevents commercial stakeholders from getting additional credit. On one hand, competition among banks and financial institutions to a large extent ensures that market forces determine interest rates. On the other hand, the risk associated with lack of collateral presents a problem in the credit market that cannot be easily solved unless adequate insurance markets are established. The problem of lack of collateral is aggravated by the perception that commercial and HVC production and prices are highly variable.

19. *Weak coordination among institutions involved in agriculture.* In spite of a number of coordination committees (such as the Regional Agriculture Development Coordination Committee, the District Agriculture Development Coordination Committee and the Regional Technical Working Groups on Agriculture), there is little effective coordination among line agencies involved in agriculture (e.g. among agricultural extension, irrigation and livestock extension), and also within the same sector (e.g. between research, extension, producers, traders and processors or crop commodities).

20. *Poorly developed post-production system.* The sub-sector analysis of the TA Team gives several specific examples of the rudimentary status of post-production technology in EDR. Some examples include: (i) lack of cool and other appropriate storage and poor quality facilities at the farm or collection center level for perishable fruits and vegetables, leading to sales almost exclusively at low "glut" prices at harvest time; (ii) weaknesses in packaging and transport of perishable produce, leading to high losses and in some cases to unattractive presentation of the produce in eventual urban wholesale or consumer markets; (iii) inadequate technical know-how of the commercial refrigerated cold stores, apart from storing potatoes; and (iv) limited marketing and branding capabilities in export markets, even in sectors such as orthodox (highland) tea where Nepali processed products are of full international competitive quality.

3. Opportunities

21. *Comparative advantage in a variety of crops.* It is widely accepted that the Hills have a comparative advantage in off-season vegetables, seed production, citrus and spices. However, the Terai can also achieve considerable success in the commercialization of a variety of crops, including vegetables and tropical fruits, oilseed, CTC tea, betel nuts and cereals. To a large extent any of the crops produced in the region can be developed to a commercial level if effective value chains are organized. Analysis of Domestic Resource Cost shows that the EDR has a comparative advantage in a variety of commodities; however, this comparative advantage is eroded by a weak post-production system that makes it difficult to gain competitiveness relative to regional partners.

22. *Proximity to huge markets (India and Bangladesh) for agricultural products.* The EDR's east and southern borders with India and the proximity to Bangladesh provide an important opportunity for commercial agriculture. Traditionally, many agricultural innovations have come from India to Nepal via the EDR. Currently, major markets in India, including Siliguri, Calcutta and New Delhi are outlets for Nepali agricultural products.

23. *Growth of agriculture and rural economies with poverty reduction effects*. Growth of commercial agriculture in the EDR will be associated mostly with a growth of employment of the rural labor force, and increased linkages between agriculture and other sectors in the rural economy, which is one of the main messages of the APP. In fact, growth of agriculture is expected to be perhaps the single most important factor in poverty reduction, for the simple reason that most of the poor depend on agriculture for their livelihood. Commercial agriculture development is expected to benefit the poor primarily through employment creation and the creation of opportunities in the non-farm sector.

24. *Advancement of women status.* Women are the main labor force in agriculture and also represent a considerable share of the labor force in the post-production sector. Commercialization of agriculture is expected to increase the income going to women and to stimulate female entrepreneurship in activities such as trade and processing, traditionally controlled by men.

25. *Success in the region could be replicated elsewhere in Nepal*. Even though the conditions of the EDR are relatively more favorable for commercialization than in other regions, successful commercialization in the EDR might stimulate replication in other regions. The underlying hypothesis is that, in spite of different conditions from region to region, there are strong similarities as well, including the topographic gradient from south to north, the proximity to India, the social stratification along the dimensions of caste ethnicity and gender, the weak linkages between stakeholders, and limited access to technology, finance and markets.

4. Threats

26. *Competitive world and regional markets after access into WTO.* In principle, a largely subsistence agriculture could abstract itself from the vagaries of international markets. However, as commercialization increases, the exposure to international markets becomes both an opportunity for more business and a threat to existing business. Unless agro-enterprises and farmers are able to compete successfully and to maintain their comparative advantage, the gains of commercialization might be short-lived. The current level of commercialization today in the EDR is insufficient to compete internationally or regionally.

27. *Natural calamities and lack of insurance mechanisms.* The agrarian and rural society structure of Nepal, and the EDR in particular, is characterized by a great multitude of smallholder farmers with little assets. When farm households with little land and limited access to other sources of income face natural calamities (such as flood, drought, pests and diseases), they can easily precipitate into poverty and aggravate their already vulnerable situation. When many households in the region are in this situation, the scope for risk taking and innovation necessary for commercial agriculture are greatly reduced.

28. *Food insecurity.* A large number of smallholder farmers are hesitant in shifting to commercial production of HVC because of the concern for food security. Price and production of HVC are more variable than cereals, as the result of inherent characteristics of the products (e.g. perishability) or thin markets (e.g. fruits and vegetables).

29. *Political instability and social unrest.* This is the situation that has persisted over the years and been aggravated recently. The current conflict has increased uncertainty and is not conducive to strong investment in rural areas.

30. *Social stratification retarding the process of commercialization.* The EDR is perhaps the most socially diverse region of Nepal. It counts more than 100 groups (castes, ethnic and sub-ethnic groups); and more than 28 languages are spoken in the region. This extreme social stratification contributes to difficulties in establishing trust relations or business relations. Social customs and prohibition have perhaps retarded commercialization in the past (the

prohibition for Brahmin to plough the land or the habit of not selling fruit) and the full participation of women in commercial activities (even though this is much less the case for Burmese-Tibetan groups).

31. *Intensification leading to unsustainable practices, pests and diseases.* Farmers complain about the increasing presence of pests and diseases when they intensify production; sometimes loss of soil fertility also has been denounced as a side effect of intensified commercial activity. In fact, these effects are the results of unsustainable practices. Integrated plant, soil, water and nutrient management techniques are today very much part of good commercialization practices. Commercialization is not necessarily bad for the environment; however, the way commercialization is conducted could be either beneficial or detrimental to the environment.

E. CONCEPTS OF COMMERCIALIZATION[5]

32. Commercialization means different things to different people. The First Stakeholder Workshop conducted in Biratnagar on 8-9 April 2003 provided a variety of interpretations of commercialization[6]. Some stakeholders have in mind an increase in production above subsistence level and resulting sales of marketable surplus. Other stakeholders stress the management of markets, including the stable procurement of raw materials and the capacity to access regional and foreign markets. Others point out the greater role of modern technology in production, or the integration of farmers with agricultural processors, or the emergence of strong farmer and agribusiness organizations.

33. These various concepts of agricultural commercialization have relevance for the design of the project, its expected impact and its likelihood of success. The various concepts could be perhaps understood as different degrees of development of a value chain. At the low level of commercialization, there is a large number of subsistence farmers. The marketable surplus is generally small, with the exception of a few HVC. Farming is a way of living, rather than a profession. Formal training for farming and formal procedures for production, marketing and processing are virtually absent. Information about new technologies and market opportunities is disseminated slowly, mostly by word of mouth. There are few large markets, most market transactions are local and take place in cash. Research and extension systems are usually public, poorly functioning and reaching just a few of the producers, and almost none of the post-production actors. Farmer organizations are few and often ineffective. Trade associations are in a similar situation. Few financial instruments are available. A large part of credit is informal. Most credit, including formal sources, is for the very short term (3-6 months), and little private investment in agriculture is taking place. Production is not intensive and farmers or post-production actors use little modern technology.

34. As the degree of commercialization increases, several dimensions acquire different significance and movement towards higher use of technology, formalized processes, integration, information and finance sophistication takes place. In the EDR some farmers are already commercialized, in the sense that significant volumes of marketed output pass through organized, mostly private sector, channels including traders and sometimes processors. Moreover, the marketed output: (a) is generally produced deliberately for commercial sale and is not merely surplus over farmers' production for their own subsistence consumption of the crop in question; and (b) sometimes travels considerable distances to the final markets, including occasionally export markets. However, there is little doubt that overall in the region agricultural commercialization is still at a low level. Commercial activities affect a considerable number of smallholder farmers engaged in the production of fruits and vegetable, spices, potato, onion and garlic, tea, sugar cane and jute. In the case of medium and largeholding farmers, cereal production is also largely commercialized.

[5] See Chapter 2 (Sector Performance and Key Issues).
[6] See First Stakeholders Proceedings and Main Findings, TA 3949-NEP.

35. What is important to decide is what should be the target level of commercialization and what the CADP can do in order to move from the current level to a higher level. Even though the CADP over the course of its 5-year implementation will not be able to jump dramatically from one stage to the next, it is nevertheless possible and desirable that the CADP initiate the process of change and accelerate the movement towards a higher level of commercialization in a way that provides benefits in aggregate income, broad-based growth, poverty reduction and promotion of women's role in agriculture happen.

36. Any process of change will involve some winners and losers. The process of commercialization is no different. It will be important to realize who will gain and who will lose, and mitigate the negative impact if necessary and possible. Commercialization might increase the pressure on a fragile eco-system; it might lead to concentration of assets; it will lead to a demise of traditional farming systems and a more intensive use of technology and formal processes that will be reflected in different power relations within the households, the village and society; it might lead to loss of biodiversity and pollution; it might be promoting cultural attitudes that go against social norms and restrictions; it might promote new roles for women that are not accepted by society. These are examples of negative effects or conflicts that commercialization might cause. Conversely, there are examples of positive effects, such as higher income, more employment for the poor, greater consumer satisfaction and recognition of women's role in agriculture and improvement of their access to assets, information and decision-making.

37. Whatever specific design the CADP adopts, there are some features to be taken into account for project success:

- Commercialization will have to involve smallholder farmers, since they are the vast majority of the farming population and are already engaged in some commercialization of agriculture. Some among them happen to be the most productive farmers in the region.

- The project will have to consider mechanisms to involve a larger number of women and promote their role in commercial agriculture since they are the main labor force in agriculture.

- The project should have a positive effect in reducing poverty since this is consistent with the overall objective of the Tenth Plan.

- The proposed activities will have to consider any negative environmental impact and promote sustainable practices.

F. MAIN CONCLUSIONS OF THE SECTOR ANALYSIS

38. *Agricultural commercialization can provide substantial benefits provided that growth is broad-based.* HVC can provide a much higher income than cereal crops. Smallholder farmers can share the gains in income; in fact, the most productive HVC farmers are not largeholding farmers. Benefits of commercialization can reach both smallholder farmers and the poor and vulnerable groups, provided that employment opportunities are created by increased production of HVC and commercialization at both the production and post-production levels. The benefits to women depend on the complexity of relationships within households. Commercialization will increase the cash income of households but whether or not women benefit depends on how decisions are made within the households. Focus group discussions with women suggest a positive outcome of commercialization in terms of greater financial and in-kind assets they can accumulate. Nevertheless, in light of the lower wages obtained by women for the same amount of work done by men, the longer work hours induced by commercialization might have negative effects unless they are accompanied by a reduced burden of household chores.

38. *Numerous factors constrain stakeholders in the process of development of commercialization.* The constraints affect both smallholder farmers and other stakeholders including private sector (marketers and entrepreneurs), NGOs, line agencies and financial institutions. Technology constraints exist both on production and post-production systems; limited access to markets, credit and information and a poor infrastructure are almost universal. Risk is another key factor constraining commercialization. At the level of smallholder farmers, particularly the poor and vulnerable groups, their low risk-bearing capacity seriously constrains adoption of new technology and specialization; at the level of marketers and entrepreneurs, the lack of contract enforcements and lack of information makes attempts at new ventures within domestic and international markets extremely risky; at the level of financial institutions, there are no risk-sharing mechanisms that can enhance the supply of credit to commercial agriculture.

39. *Individuals face enormous difficulty in resolving these constraints. They can be successful, however, if they establish linkages and partnerships with others.* The analysis of linkages among different stakeholders reveals weak linkages. The paucity of effective farmer organizations, producer associations, trade associations and coordination mechanisms among stakeholders (e.g. between research and extension) is seen as a major obstacle to further commercialization by stakeholders. Success stories, however, do exist. Replication and further strengthening the success stories is one of the main challenges for CADP.

40. *There are different degrees and concepts of commercialization. The main emphasis of the CADP should not be to convert subsistence farmers into commercial farmers, but to move from the current low level of commercialization to a higher level.* To move to a higher level of commercialization does not imply that the project will work only with largeholding farmers and enterprises. The fieldwork of the TA Team revealed success stories of commercialization involving farmer organizations (groups, cooperatives, associations) consisting mostly of smallholder farmers. The analysis of HVC production also indicated that smallholder farmers are among the most productive farmers. However, small producers, marketers and enterprises as individuals have difficulty in accessing technology, markets, information and finance required to embark on a sustainable commercialization path.

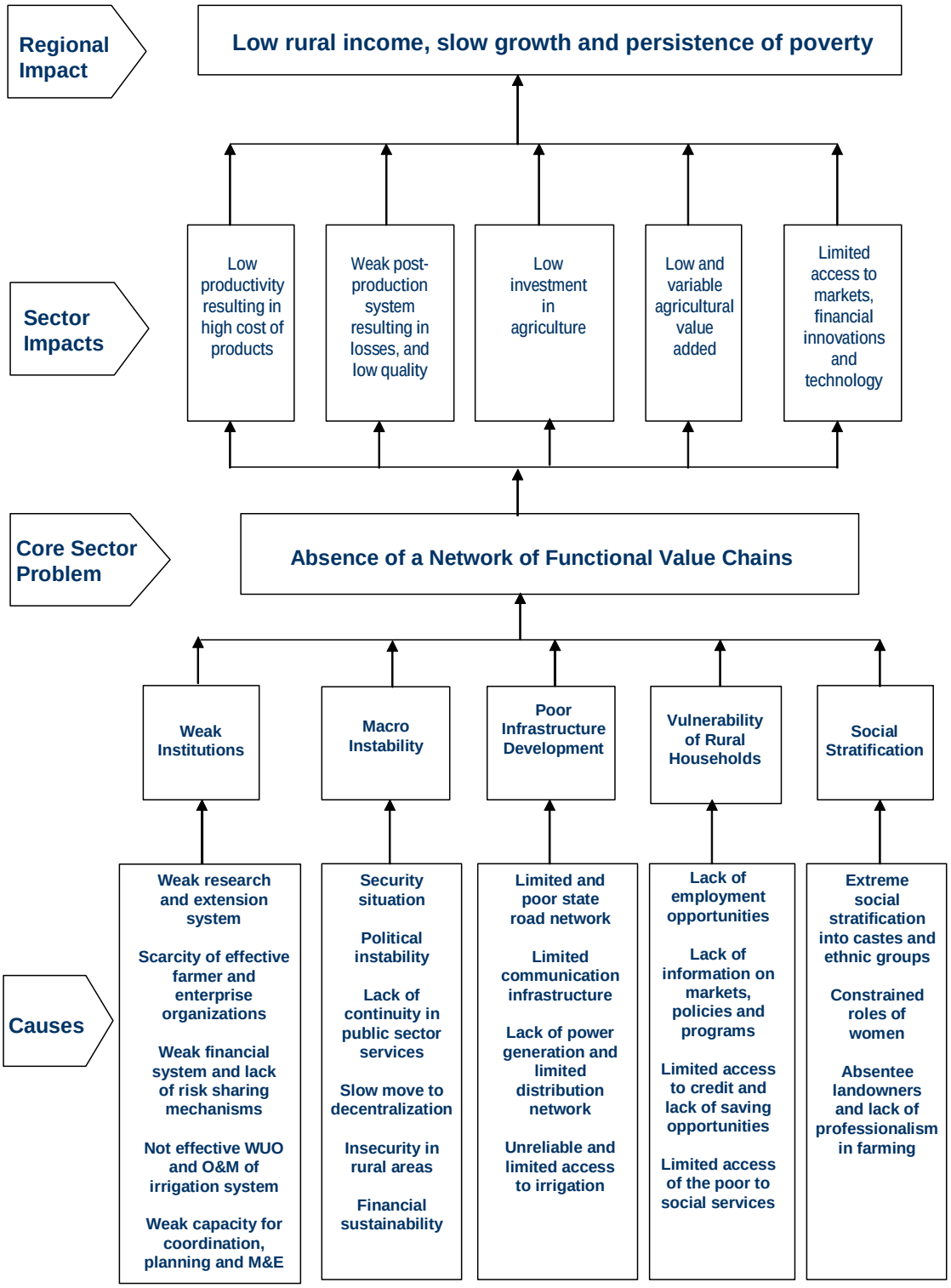
41. Rather than focusing on the issue of which crops should be commercialized, the TA Team suggests that *the emphasis of the project should be on who will commercialize (the actors) and how the commercialization process should take place (the institutions*).

G. THE CORE PROBLEM FOR COMMERCIALIZATION OF AGRICULTURE IN EDR[7]

42. The core problem for the development of agricultural commercialization in the EDR is the absence of a network of functional Value Chains. The conclusion emerges from the problem tree analysis of the core problem, its causes and impact on agriculture and the overall EDR. A Value Chain is the full range of activities which are required to bring a product or service from conception, through intermediary phases of production, to delivery to final consumers. Different types of stakeholders are needed to carry out the full range of activities in a Value Chain. Currently, in the EDR, stakeholders have weak relations with each other. A functional Value Chain means that the key stakeholders (farmers, marketers and entrepreneurs) are aware of their mutual linkages, make a deliberate effort to improve them, and organize themselves in such a way that they can benefit from the mutual linkages in the network including other stakeholders such as research and extension providers, banks and micro finance institutions (MFIs), input providers, line agencies and NGOs. Figure 1 shows the problem tree analysis including the causes and the impact of the core problem.

[7] See Chapter 2 (Sector Performance and Key Issues).

Figure 1: CADP Problem Tree Analysis



43. The lack of functional Value Chains is responsible for the low state of agricultural commercialization in the region. Smallholder farmers are isolated or organized in small groups and have difficulty in accessing inputs, credit and technology. Their limited knowledge of technology and markets is reflected in low productivity which in turn results in lower than potential income. Enterprises, farmers and marketers are unable to link with each other effectively and are less able to capture opportunities arising from rapidly growing urban, regional or international markets. Because they do not belong to a commercial network, they find it difficult to gain access to these markets, and to the knowledge necessary to improve quality, add value and make innovations. Unless the demand for high value products and quality is recognized and acted upon, there is little incentive for developing post-production systems. Isolated smallholder farmers and agro-enterprises are less able and/or willing to invest in new technology, infrastructure, production and processing assets.

44. The adoption of new technology by smallholder farmers is retarded by the absence of mechanisms that allow risk sharing. Production grows but at a slow rate and employment opportunities for the landless, poor and vulnerable remain limited. Farmers wait passively for markets to come to them, rather than going to the markets. Spot markets rather than contracts are the usual type of financial transaction. The result is high variability of prices and income and a diffuse belief that the traders are exploiting farmers. The overall impact of a low level of agricultural commercialization in the EDR is a situation characterized by low rural income, slow growth of agricultural value added and persistence of poverty.

H. ASSUMPTIONS[8]

45. The design of the project is based on several assumptions. First, it recognizes that agricultural commercialization is a complex dynamic process involving several dimensions related to technology, markets, finance, institutions, infrastructure and social structure. Second, the project focuses on the actors of commercialization (the farmers, the traders and the processors) as the key agents of commercialization. Third, the project emphasizes the need of a demand-driven approach, whereby the commercial actors themselves make investment decisions related to technology, infrastructure, marketing, and capacity rather than the investments being supply-driven by the public sector. Fourth, the project recognizes that the stakeholders in the commercialization process are poorly integrated and it attempts to provide institutional mechanisms that facilitate the emergence of effective networks and value chains. Each of these assumptions will be briefly discussed in the following paragraphs.

1. Multi-dimensional Nature of Commercialization

46. Commercialization is a dynamic process involving several dimensions related to technology, markets, finance, institutions, infrastructure and social structure. In the transformation from semi-subsistence to higher degrees of commercialization, these dimensions take different values. Achieving a higher degree of commercialization will require moving along different dimensions. The success of the CADP will depend on the adoption of market-friendly technologies, better marketing, adequate finance and effective institutions. Given the complexity of the process, the project cannot be expected to affect the overall transformation of the agricultural system into a commercialized one. A large number of farmers in the region are still at a subsistence or semi-subsistence level. Rather, the emphasis of the project will be to facilitate the shift of stakeholders currently at a low level of commercialization to a higher level. If successful, however, the project will accelerate the overall process of transformation of the region's agriculture into a commercialized one.

[8] See Chapter 3 (The Proposed Project).

2. Shifting the Emphasis from the Crops to the Actors

47. More important than the issue of which commodities have to be promoted for commercialization is the issue of who (which stakeholders?) will actually commercialize and how (through which institutions?) that will take place.

48. Too much emphasis in past discussions about commercialization in Nepal and the EDR has been given to the question of which crops to commercialize. According to this perspective, once the crops are prioritized, then resources and effort should be spent on these crops and the outcome will be a higher level of commercialization. The TA Team took a different view.

49. Farmers, traders and processors already know the commodity priorities for commercialization. In the various field level activities conducted by the TA Team and the Social Survey Team, farmers and agro-enterprises have already indicated crop priorities. They have indicated such priorities in practice, by already investing their time and resources in the enterprise of their choice.

50. It is the experience of the TA Team that participatory discussions, expert consultations, study of APP documents, analysis of comparative advantage and other formal and informal methods of establishing priorities result in the usual lists of suspects[9]. Most of these lists of "priority crops" are no different from one another. They are usually long lists involving dozens of crops. Diluted effort is usually the result of implementing research and development programs based on such lists.

51. The basic flaw of the commodity focus for promoting commercialization is that choices that are reasonable at one point of time and space are not appropriate at another point in time and space. Markets are dynamic processes and demand and supply conditions create new opportunities and new challenges at a different point in time and space. Proposing a package of measures based on commodity choice is not necessarily the best way of promoting commercialization. In most cases, the critical issue is not even what to do. Most of the problems are relatively well known (e.g. weak knowledge of plant and water management, high storage losses, limited information about markets). What is not known is how to solve them and who will do the resolving.

52. The commercialization strategy of choosing a few commodities and promoting them with adequate technical and financial support is sometimes known as "***picking the winners***". According to this view, the project should focus on few HVC and try to promote their commercialization with adequate technical, financial and infrastructure support. To a certain extent this is the "pocket approach" of the APP. However, as shown in the Agriculture Sector Performance Review (ASPR), the pocket approach might not be consistent either with a truly commercial approach (farmers or enterprises might be interested in different commodities) or with a truly decentralized approach, whereby stakeholders plan and make their own decisions (they might be interested in other commodities than what those originally chosen by the project).

3. Shifting from a Supply-Driven to a Demand-Driven Approach to Commercialization

53. A supply-driven approach, typical of most development projects implemented in Nepal is unlikely to be successful in bringing the necessary linkages and transformation of agriculture required for commercial agriculture. A supply-driven approach implies that the experts, the

[9] Namely, "priority" crops for the Hills are tea (Orthodox), citrus, cardamom, ginger, broom grass, off-season vegetables, potato and medicinal plants; and "priority" crops for the Terai are paddy, sugar cane, potato, vegetable, mango, banana, aquaculture and tea (CDC).

planners and the public sector know what are the problems and the solutions of commercial agriculture more than the commercial agriculture stakeholders themselves. This approach has proved unsuccessful in the past, as implied by the low growth of agriculture in Nepal over the past decade.

54. A demand-driven approach recognizes that commercial stakeholders need to develop their capacity of making investment decisions in order to learn how best to adapt and innovate in a changing environment. Having commercial stakeholders in the driving seat of the project investment decisions is also consistent with the policy changes that have happened in the latter part of the 1990s, namely the adoption of a more market-oriented approach and the emphasis on participatory planning and decentralization. Even though policy recognizes a greater role for the private sector and the civil sector in the implementation of government program, in practice participatory planning and the view of the public sector as facilitator of development are still at a beginning stage. The demand-driven approach of the CADP presents an opportunity for the project to be consistent with the overall policy shift.

55. One approach to commercialization would be to list the constraints to commercialization and then make the investments needed to alleviate those constraints. For example, limited access to modern inputs would imply provision of modern inputs and demonstrations. If successful, this approach might perhaps induce some crop diversification and increase the marketed surplus of some farmers and their income. However, their level of commercialization would not necessarily be different from the one currently in place in the EDR. If the objective is to move one step-further in the path towards higher levels of commercialization, maybe a different approach is needed. Such an approach could be to take the current situation of already commercialized farmers (organized as smallholder farmer groups or cooperatives), trade associations and agro-enterprise associations and facilitate them to move further along the commercialization path. In order to do so, the project will have to provide institutional mechanisms for these organizations to express their needs for technology, information, capacity development and infrastructure that would raise their business from its current level of commercialization to a higher level. Rather than the project telling the stakeholders what they need to do to further commercialize, the stakeholders will tell the project what their effective demands are. The expectation is that this change of approach will build ownership, address demand and facilitate the emergence of effective stakeholder networks.

4. Poorly Integrated Stakeholders

56. Value Chains become strong mechanisms to gain competitive advantage in domestic and international trade if they are able to establish strong alliances and networks within themselves. Brands (for example Himalayan Tea or Mountain Potatoes) require the concerted efforts of producer associations, marketers and agribusiness. Moreover, the success of a Value Chain in adding value depends on the capacity of building networks that include different partners such as banks, research and extension providers, and government agencies. This integration facilitates the linkages with international markets and prepares Nepal farmers and entrepreneurs to the challenges and opportunities of WTO accession. Higher level of commercialization will see a growth in the number and intensity of linkages with different organizations.

57. Isolated or poorly organized commercial agriculture stakeholders will have enormous difficulty in accessing and adopting new technologies, accessing market information and credit, and overcoming the challenges posed by international integration and access to WTO. A poorly developed infrastructure (even in a region like EDR), an agrarian structure characterized by a multitude of smallholder farmers with very limited assets and an extremely socially differentiated rural society constrain the emergence of value chains that are able to compete and innovate successfully in an increasingly integrated global agriculture.

58. There are thousands of farmer groups and hundreds of thousands of smallholder farmers in the EDR. However, there are very few cooperatives engaged in commercial production of HVC. As long as the size of farmer organizations does not increase, the scope for commercialization is going to be limited, since production volumes will be small, quality control almost non-existent, bargaining power of farmers weak, and access to markets, inputs, credit and technology also limited. Similarly, traders and agro-enterprises are usually not organized into trade associations. When they are organized into associations, members are often not positive about the effectiveness of the associations.

59. The problems of poor integration highlighted above are compounded in the case of socially excluded groups such as women, vulnerable groups and disadvantaged minorities and ethnic groups. There is a general scarcity of institutional mechanisms to overcome the social stratification and vulnerability.

60. The design of the CADP includes mechanisms such as the Commercial Agriculture Alliance (CAA), the Commercial Agriculture Network (CAN) and the Social Mobilization for Agricultural Commercialization (SMAC) that facilitate the integration of commercial stakeholders and the emergence of larger organizations able to overcome the constraints faced by isolated and disorganized smallholders and small and medium enterprises in relation to access to markets, information, technology and credit.

I. OVERVIEW OF THE PROJECT[10]

61. The project objective is to increase the degree of agricultural commercialization in the region by promoting the development of a network of well-functioning value chains that are competitive and innovative. Appendix 4 presents the Logical Framework for the project.

1. Goal and Purpose

62. The goal of the project is to sustainably increase the level of commercialization of agriculture in the Eastern Development Region. The purpose of the project is to establish a network of competitive and innovative agricultural Value Chains.

63. The project recognizes the key role of networks in the development of value chains. The CADP facilitates the emergence of a network of well-functioning agricultural value chains. It provides institutional mechanisms through which the key stakeholders and their service providers can effectively link to each other by forming partnerships and alliances. Stakeholders participate in a commercial agriculture network when they recognize that participation in the network increases their opportunity to establish mutually beneficial partnerships and alliances.

64. The project proposes methods for sharing information. Sharing information, however, is not going to be translated into higher incomes and more effective services unless complemented by other mechanisms that give stakeholders the means to make investment decisions needed to move to higher levels of commercialization. Demand-driven investments will improve the efficiency of allocation of scarce public resources. The formulation, approval and implementation of demand-driven investments will also contribute to the development of alliances and partnerships between stakeholders and service providers.

65. Constraints related to limited access to information and capital are addressed through improved marketing information services and institutional mechanisms that allow sharing risk of different parties.

66. The project builds and strengthens existing capacity of service providers to facilitate the development of commercial agriculture. Improved capacity of service providers facilitates

[10] See Chapter 3 (The Proposed Project).

the development of commercial agriculture in two ways: by directly providing better services to currently well-organized commercial stakeholders (the members of the CAA) and by mobilizing and organizing currently loosely-organized farmer groups operating at a low-level of commercialization.

67. In order to achieve the overall objective of moving to a higher level of commercial agriculture in the EDR, the project is organized into six inter-linked components:

(i) The **Commercial Agriculture Network** (CAN) facilitates exchange of information between key stakeholders (producers, traders and processors) and service providers.

(ii) The **Commercial Agriculture Alliance** (CAA) with its **Board** and the **Commercial Agriculture Fund** (CAF) provides a mechanism for different types of key stakeholders (producers, traders and processors) to work together by formulating and selecting investments that move commercialization to a higher level.

(iii) The **Agriculture Market Information Service** (AMIS) component provides a strongly needed service to stakeholders involved in commercial agriculture.

(iv) The **Commercial Agriculture Credit Guarantee Scheme** (CACGS) reduces the risk faced by actors involved in credit transactions by sharing risk between borrowers and lenders.

(v) The **Social Mobilization for Agricultural Commercialization** (SMAC) component keeps the process of commercial agriculture continuously moving upwards, by facilitating the transformation of loosely-organized farmer groups already involved in low-level commercialization into better-organized and larger farmer groups operating at a higher-level of commercialization.

(vi) The **Institutional Capacity Development for Commercial Agriculture** (ICDCA) component strengthens existing capacity and builds new capacity of service providers to adequately understand and respond to the needs of commercial agriculture.

68. Different components of the CADP address market failures related to the formation of commercial organizations, provision of information, risk sharing and investment in new technology and infrastructure. The CAN, the CAA and the SMAC components address the failure of diverse commercial stakeholders to organize themselves into larger units and to establish mutually beneficial relationships; the CACGS addresses the failure of different parties (borrowers and lenders) to reduce risk involved in credit transactions; the AMIS addresses the failure of supplying and disseminating information to improve production and marketing. The CAF and its managing Board address the failure of investing in new technologies and infrastructure providing public good benefits.

69. The various components of the project are interlinked and reinforce each other. The CAN members will benefit from association with other Network members by developing joint investment proposal for approval by the CAA Board. The institutional capacity development activities will strengthen the capacity of institutions to provide services to CAA members, farmer groups and small and medium agro-enterprises. The investments approved by the CAA Board will complement investments made possible by the increased credit disbursed to commercial agriculture made possible by the credit guarantee scheme and the improved information and knowledge disseminated by the AMIS.

J. COMPONENTS OF THE PROJECT[11]

1. Commercial Agriculture Network (CAN)

70. Under this component, it is proposed a mechanism to facilitate communication, information sharing and formation of partnerships among and between commercial stakeholders and service providers.

71. The rationale for this component is the weakness of existing coordination committees at the district and regional levels and the lack of networking mechanisms between commercial stakeholders (farmers, traders and processors) and service providers (e.g. research and extension organizations, NGOs, financial institutions, line agencies) in the region.

72. The outputs of this component include a database on network members, bi-monthly bulletins distributed to all network members, women agro-entrepreneurship news, semi-annual workshops, a website of the CAN and the formation of partnerships among members of the network.

73. The institutional framework for this component envisages a network manager whose main responsibility is to coordinate and promote the flow of information between commercial stakeholders and service providers. The network component is closely linked to all the other components of the project.

2. Commercial Agriculture Alliance[12] (CAA)

74. Under this component (the CAA), it is proposed a mechanism to facilitate the formation of effective value chains and the provision of demand-driven services and investments. The members of the CAA consist of EDR-based commercial farmers, traders, processors and their organizations. The CAA will elect a Board of Directors responsible for approval of investment proposals submitted by CAA members. These investments will be co-financed by the CAA members and by a CAF provided by the CADP and managed by the CAA Board. The proposals will be related to technology, infrastructure, marketing, information and capacity development.

75. The rationale which defines the activity of the proposed private-sector based mechanism of an EDR CAA, operating a CAF, is the weakness of public sector provision to meet the needs of commercial agriculture stakeholders.

76. Commercial agriculture actors in the EDR often operate as ineffective agricultural value chains. Most farmers are not organized into entities larger than small groups (of 10-20 farmers); as a result, smallholder farmers, even though engaged in some form of commercial agriculture are unable to achieve the scale economies facilitating technology innovation, and improved access to markets, finance and information. Similar difficulty of organization exists for traders and processors. There is a paucity of service provision by the existing institutions to the main commercial actors. Only relatively weak service and trading linkages exist between these actors themselves.

77. The purpose of setting up the CAA/CAF is to enable farmer, trader and processor members of CAA to secure effective, market-oriented services or investments of their own choosing. The chosen investments will help them to increase their income, profitability and productivity by strengthening their linkages with each other and with other private and public value chain stakeholders.

[11] See Chapter 3 (The Proposed Project) and Appendix 5 (Proposed Investment Measures).
[12] See also Appendix 7 (The Commercial Agriculture Alliance).

78. While strengthening the linkages among the key commercial actors, the CAA will accelerate the movement from the current low level of agricultural commercialization to a higher level characterized by increased competitiveness and innovation. The success of the CAA will be a major contributing factor in the growth of regional income and employment and in meeting the challenges and opportunities of increasing urbanization and integration with international markets.

79. The outputs of this component include demand-driven investment related to infrastructure, technology, marketing and information, and capacity development. Table 1 presents some examples of each category, for illustrative purposes only.

Table 1: Example of Proposals Suitable for Submission to the Board

Category of Proposal	Example of Proposals
Technology	• Development and testing of a farm-level cool storage unit for vegetables • Development and testing of early maturing varieties of green peas • Production of disease-free potato seed • Control of common cardamom diseases • Development and testing of new packaging material • Provision of expertise to upgrade processing practices and processed-product quality for fruits and vegetables
Infrastructure	• Specification and construction of a produce collection center for farmers • Specification, construction and training to use small irrigation system including channels and drip/sprinkler irrigation • Specification and construction of agricultural road connecting main producing area to main road
Marketing and Information	• Advisory and design services assisting the establishment of a brand for Nepal orthodox tea • Feasibility study for investment in palm oil • Development of facilities and know how for testing and grading various agricultural products, e.g. animal feed ingredients
Capacity and Training	• Advisory and training services to strengthen the capacity of a traders' association to specify grading standards for purchasing produce and to arrange services testing such standards • Extension and training programs for farmers in farm management • Training in quality assurance systems • Trip to fairs and exhibitions for food technologies in other countries

80. Qualifying services or investment programs would not normally be financed by a bank, even to borrowers with substantial collateral, good credit ratings and proven commercial track records. These investments in services or infrastructure would either (a) benefit more than one party by their direct implementation; or (b) being risky and innovative in nature, will if successful, probably stimulate imitation by other parties, thus helping to move the commercialization of the agricultural sector in the EDR upwards to a higher general level. They are ‘promotional’ or ‘developmental’ investments or programs, and the CAF co-financing of them will accordingly be in grant form.

81. The institutional framework for this component envisages the creation of the CAA as a legal entity under the Companies Act – a foundation with its governing Board of Directors and Articles of Associations. The CAA will have a full-time paid CAA Secretariat (hereinafter referred to simply as the Secretariat) consisting of a General Manager and a small number of skilled professional staff, plus a small additional number of supporting staff. The Secretariat will ensure that proposals by CAA members are well formulated and programs are well executed. It will perform professional functions related to briefing the Board of Directors and operating the CAF as a co-financing mechanism. The Board will select the Secretariat staff from among candidates responding to public advertisement.

82. Several criteria for membership in the CAA, management of the CAF, review and appraisal of proposals, monitoring and evaluation and auditing system, etc. have been proposed to provide effective governance and transparency of the Board.

3. Agriculture Market Information Service (AMIS)

83. Under this component, it is proposed a mechanism to improve access of farmers, traders, processors and service providers to information related to commercial agriculture in the region.

84. The rationale for this component is the dearth of relevant and organized agricultural market information in the region. Without such information decisions about production, marketing and investment are more difficult and it will be difficult to gain competitive advantage in international or regional markets.

85. The outputs of this component include radio broadcast of marketing information, database of price, trade and production data that can be accessed via Internet, and enhanced capacity to collect and interpret data.

86. The institutional framework for this component envisages a service that will work closely with the Agro-Enterprise Center (AEC), the Agricultural Statistics and Agribusiness Promotion Division of the Ministry of Agriculture and Cooperatives (MOAC), the Economic Analysis Directorate at the Department of Agriculture (DOA), the owners of markets in the region, the radio stations (Radio Nepal and FM Radio in Biratnagar and Birtamod), the Chambers of Commerce and Industry in the region and the Central Bureau of Statistics.

4. Commercial Agriculture Credit Guarantee Scheme (CACGS)

87. Under this component, it is proposed a mechanism to facilitate the flow of credit to commercial agriculture stakeholders by reducing the risk of lending to them. A Commercial Agriculture Credit Guarantee Fund (CACGF) will be established; the Deposit Insurance and Credit Guarantee Corporation (DICGC) will manage the CACGF in order to guarantee loans by financial institutions to commercial agriculture stakeholders in the EDR.

88. The rationale for this component is the limited access to credit of several commercial stakeholders involved in commercial agriculture. The guarantee will reduce the risk faced by banks and other financial institutions in lending to borrowers who lack collateral or because of inherent risks associated with commercial agriculture.

89. The outputs of this component include increase guaranteed loans to commercial agriculture in the EDR and improved capacity of staff to assess risk in commercial agriculture.

90. The institutional framework for this component envisages a CACGS unit established under DICGC. The scheme will operate within the regulatory framework supervised by Nepal Rastra Bank (NRB) and will be supervised by the Project Implementation Unit (PIU) under MOAC.

5. Social Mobilization for Agricultural Commercialization (SMAC)

91. Under this component, it is proposed a mechanism to facilitate the transformation of farmer groups already involved in commercial agriculture into larger organizations at the higher level of commercialization needed to satisfy the criteria for membership of the CAA.

92. The rationale for this component is that farmer groups in Nepal are often small in size, have difficulty in joining with other farmer groups to become larger organizations, and have limited access to markets, information, finance and technology. Some farmer groups have

made the transition from subsistence to some form of low level commercialization, particularly in the case of HVC such as vegetables, potato and fruits.

93. NGOs and line agencies have sometimes targeted farmer groups with a large proportion of women, poor and disadvantaged ethnic groups. In order for these targeted farmer groups already involved in commercialization to be able to meet the more demanding criteria of the CAA they will need to organize themselves into larger groups, such as cooperatives and producer associations. The experience of NGOs such as CEAPRED has proved that social mobilization strategies can be sustainable. Farmer Field School experience in Integrated Pest Management is an important lesson for a modality of farmer-to-farmer effective extension and social mobilization.

94. The outputs of this component include awareness programs, commercial learning activities, study tours, information sharing through the CAN and formation of larger farmer organizations.

95. The institutional framework for this component envisages that in each of the 11 Project Districts about 20 groups of farmers (on average about 20 farmers per group) will be targeted every year (total of 1,100 groups over 5 years). These groups will be selected from those: (a) already involved in commercial agriculture, and (b) with a large component of women, poor and disadvantaged ethnic groups. The coordination with PIU will be ensured by liaison officers working under Local Development Officers (LDOs) of each district. These officers will be the actual liaisons between the CADP and the District Development Committees (DDCs). With technical support from the PIU they will work to facilitate the implementation of the social mobilization activities by NGOs and line agencies in their respective districts. The selection of the NGOs and line agencies implementing the SMAC will be decided by a committee at DDC. The funds will be channeled by Ministry of Finance (MOF) directly to DDC's Local Development Fund.

96. NGOs and line agencies belonging to CAN and who are participating in relevant capacity strengthening activities will implement the social mobilization component under the supervision of the PIU, i.e. facilitating social mobilization of farmer groups will be an institutional strengthening activity whereby the NGO and line agency staff involved will 'learn by doing', and develop needed competence in the process.

97. Involvement in other commercial agriculture programs with the targeted groups will be a criterion for selection of NGOs and line agencies for participation in the SMAC. TORs for NGOs and line agencies implementing the SMAC are provided in Appendix 15.

6. Institutional Capacity Development for Commercial Agriculture (ICDCA)

98. Under this component, it is proposed a mechanism to conduct capacity building and strengthening of institutions involved in providing services to commercial agriculture stakeholders.

99. The rationale for this component is the weak capacity of line agencies, NGOs and private sector institutions to meet the needs of commercial stakeholders. There is a need for service providers to build or strengthen capacity in different thematic areas such as value chain management, agricultural marketing extension, planning and managing market infrastructure, proposal and business plan preparation and female entrepreneurship. However, this component argues that there is little point in building or strengthening capacity of individuals and institutions unless that increased capacity is actually put to use and is evaluated as useful by the very beneficiaries for which it was intended.

100. The outputs of this component include training courses, action research projects and study tours.

101. The institutional framework for this component envisages a component manager planning, supervising and monitoring the capacity development activities using contract-out services of experts in different thematic areas. Linkages with the Regional Agricultural Training Center (RATC), DOA, Nepal Agriculture Research Council (NARC), universities and international organizations will be actively sought. Each trainee will be requested to conduct an action research project together with commercial stakeholders. The action research will provide a practical testing of what has been learned during training and the opportunity of making an actual contribution to the project beneficiaries.

K. PROJECT MANAGEMENT[13]

102. MOAC will be the Executing Agency for the proposed Project and a project coordination unit will be established in MOAC. A project implementation unit will be established at Biratnagar in the EDR, to facilitate and monitor implementation of project activities. The PIU will be responsible for implementation of the activities related to the Network, AMIS and the institutional capacity development components; and for technical support to the social mobilization component implemented by local government and other agencies. The CAA will be established under the Companies Act, and regulated by the relevant statutes. Its management board will be responsible for implementing activities under this component. The DICGC will be responsible for implementing the CACGS. The local governments and other agencies will be involved in implementing the social mobilization component with support from the PIU.

103. Several advisory and coordination committees will be established including a Project Steering Committee to oversee the implementation of the project, an Implementation Coordination Committee to guide the PIU, a Credit Guarantee Scheme Coordination Committee to guide the credit guarantee scheme unit and a Commercial Agriculture Fund Advisory Group to provide advisory services and policy guidance to the CAA Board.

104. Roles and responsibilities of all the components and units involved in the implementation of the project have been defined and will be finalized at project inception. Prior to the inception of the project, and perhaps as a condition of loan agreement, several activities need to be implemented including an awareness campaign about the project in the EDR, the census of commercial agricultural stakeholders in the EDR and the establishment of the CAA under the Companies Act. Moreover, an initial workshop to introduce monitoring and evaluation indicators and methods proposed in the project design will require participatory discussion before inception of the project. Some of these activities will require the recruitment of an international advisor.

1. Monitoring and Evaluation

105. A list of indicators is available in the Logical Framework and a list of means of verification is available for each measure envisaged in the CADP (see Appendix 5). Appendix 13 provides detailed information about M&E.

106. There are general principles that a successful M&E system has to keep in mind. First, the actors involved in M&E should clarify and agree about the content of what has to be monitored. Second, it should be clear on the purpose of the M&E and how decision-makers will use its results. If M&E is regarded mainly as a surveillance system rather than as a learning tool for improvement, chances are that the overall process of M&E will fail. Third, the methods, baseline and indicators used for M&E should be clearly defined and agreed before starting the process. Finally, agreement should be reached as to who will conduct the M&E, so as to ensure that conflicts of interests are minimized and reliable information is obtained.

[13] See Chapter 3 (The Proposed Project).

2. Flow of Funds

107. Project funds are envisaged to flow through four channels as follows:

- Direct allocation from MOF to the CAA in order to establish and replenish the CAF periodically;
- Direct allocation from MOF to the DICGC in order to establish the CACGF;
- Allocation to MOAC for activities of the PIU; and
- Allocation to DDC for implementation of activities related to social mobilization.

108. The four channels correspond to legal entities that are established at the pre-inception stage of the CADP. The CAA is a legal entity constituted under the Companies Act. The DICGC is a public corporation. The PIU will be under direct control of MOAC. The DDC are representative of local government, which can receive allocations directly from MOF according to the Local Self Governance Act (LSGA). The coordination of the funds flow will be the responsibility of the Project Coordination Unit (PCU) of MOAC and will provide the overall linkage between MOF and the various entities involved in the implementation of the CADP.

L. ECONOMIC ANALYSIS[14]

109. The total project cost is estimated at $27.6 million, of which $5.1 million (18.5%) represents the foreign exchange cost and $22.5 million equivalent (81%) represents the local currency cost, including taxes and duties of $2.7 million (see Table 2). The total cost of the project by component and financier is summarized in Table 3. This financing table shows a total amount of $27.6 million with the largest investment in the CAA, followed by the social mobilization program.

Table 2: Financing Plan

(US$)

	Foreign	Local	Total	Percent
The Government	-	5,079,902	5,079,902	18.4
Asian Development Bank	5,122,168	14,955,533	20,077,701	72.6
Local Government	-	-	-	-
Beneficaries	-	2,488,609	2,488,609	9.0
Total	5,122,168	22,524,045	27,646,213	100.0

Table 3: Components by Financiers

(US$)

	The Government		Bank		Beneficaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%
1. Commercial Agricultural Network	69,176.5	29.2	167,505.7	70.8	-	-	236,682.3	0.9
2. Commercial Agricultural Alliance	2,115,147.2	11.1	14,498,539.2	76.2	2,421,772.9	12.7	19,035,459.2	68.9
3. Market Information	301,619.4	34.4	575,405.6	65.6	-	-	877,025.1	3.2
4. Credit	226,249.9	27.5	595,486.5	72.5	-	-	821,736.4	3.0
5. Social Mobilization	1,594,504.1	48.0	1,661,340.4	50.0	66,836.2	2.0	3,322,680.7	12.0
6. Institutional Capacity Building	558,081.4	35.1	1,031,278.8	64.9	-	-	1,589,360.2	5.7
7. Project Management	215,124.0	19.6	880,991.2	80.4	-	-	1,096,115.1	4.0
Total PROJECT COSTS	5,079,902.5	18.8	19,410,547.4	71.9	2,488,609.1	9.2	26,979,059.1	97.6
Interest During Implementation	-	-	667,153.8	100.0	-	-	667,153.8	2.4
Total Disbursement	5,079,902.5	18.4	20,077,701.2	72.6	2,488,609.1	9.0	27,646,212.8	100.0

[14] Refer to Appendix 8 (Cost Estimates) and Appendix 9 (Economic Analysis).

110. In terms of economic benefits the project taken overall has an EIRR of 37.1%. This is calculated on the aggregate sum of all costs of the various components, with the quantifiable benefits from the CAA subprojects, the credit guarantee scheme, the social mobilization program and the capacity building program. The project relies heavily on the economic benefits that accrue to these four components. The benefits arising from the other components were not quantified, however their costs were taken in the calculation of the overall EIRR. Table 4 reports the costs and benefits of all components of the project.

Table 4: Costs and Benefits of the Main Components of the CADP

		Network Cost	Alliance	Information	Credit	Social Mobilization	Capacity Building	Project Management	Total Costs
Cost									
	Year								
	2004	60,720	12,530,061	219,180	567,000	531,918	486,126	360,600	14,755,605
	2005	48,220	18,595,690	152,880	67,000	524,543	370,026	193,400	19,951,759
	2006	28,220	17,196,863	159,380	27,000	523,147	373,457	149,400	18,457,467
	2007	28,220	21,096,270	93,480	27,000	523,147	52,800	109,800	21,930,716
	2008	28,220	24,598,663	93,480	27,000	523,147	52,800	109,800	25,433,109
	2009		31,434,426						31,434,426
	2010		35,767,253						35,767,253
	2011		33,303,253						33,303,253
	2012		33,247,253						33,247,253
	2013		33,247,253						33,247,253
	NPV	**146,689**	**133,866,905**	**543,466**	**611,360**	**1,894,771**	**1,058,359**	**714,565**	**138,836,114**

Benefit							**Total Benefit**
2004	0	202,752	0	0			202,752
2005	6,693,695	918,528	283,654	0			7,895,877
2006	11,490,821	2,657,280	567,309	240,648			14,956,058
2007	16,906,484	5,222,400	850,963	240,648			23,220,496
2008	33,807,836	8,294,400	1,134,617	240,648			43,477,501
2009	45,783,607	10,752,000	1,418,272	240,648			58,194,527
2010	57,759,379	11,274,240	1,418,272	240,648			70,692,539
2011	59,487,379	9,216,000	1,418,272	240,648			70,362,299
2012	61,215,379	6,144,000	1,418,272	240,648			69,018,299
2013	61,215,379	3,072,000	1,418,272	240,648			65,946,299
NPV	**158,576,320**	**28,304,137**	**4,715,541**	**953,008**	**0**	**0**	**192,549,005**

Net Benefit							**Net Total Benefit**
2004	-60,720	-12,530,061	-219,180	-364,248	-531,918	-486,126	-360,600	-14,552,853
2005	-48,220	-11,901,995	-152,880	851,528	-240,889	-370,026	-193,400	-12,055,882
2006	-28,220	-5,706,042	-159,380	2,630,280	44,162	-132,809	-149,400	-3,501,409
2007	-28,220	-4,189,785	-93,480	5,195,400	327,817	187,848	-109,800	1,289,780
2008	-28,220	9,209,173	-93,480	8,267,400	611,471	187,848	-109,800	18,044,392
2009	0	14,349,181	0	10,752,000	1,418,272	240,648	0	26,760,101
2010	0	21,992,126	0	11,274,240	1,418,272	240,648	0	34,925,286
2011	0	26,184,126	0	9,216,000	1,418,272	240,648	0	37,059,046
2012	0	27,968,126	0	6,144,000	1,418,272	240,648	0	35,771,046
2013	0	27,968,126	0	3,072,000	1,418,272	240,648	0	32,699,046
NPV	-146,689	24,709,415	-543,466	27,692,777	2,820,770	-105,351	-714,565	53,712,892
EIRR		**25.3%**		**376.4%**	**51.3%**	**9.1%**		**37.1%**

M. POVERTY REDUCTION[15]

111. Expected impact on poverty in the project is expected to derive through three channels: (i) employment generation, (ii) social mobilization and organization of smallholder farmers into larger groups, and (iii) additional income opportunities in a more dynamic rural economy. Poverty-reduction through employment generation is achieved through increase and diversification of employment opportunities both on the farm and in the post-production system. Increased employment opportunities for the poor derive from increased demand for agricultural products, particularly HVC in labor-intensive activities such as vegetable production and tea gardens. Increased employment opportunities in the post-production system are related to activities such as additional movement of commodities, sorting, grading, packaging, processing and storing.

[15] Refer to Appendix 9 (Economic Analysis) and Appendix 10 (Social and Gender Analysis).

112. Poverty-reduction via social mobilization is achieved through organization of small-size and dispersed farmer groups into larger and closely-linked farmer organizations such as cooperatives, producer associations and federations. The project will adopt social mobilization approaches that motivate the poor to overcome the barriers to organization into larger units able to better cope with risk and improve access to technology, markets, credit and information.

113. One of the main features of the SMAC component is the linking of farmer groups having a large composition of women and poor with the CAN, including members of the CAA. The linkage will provide opportunities for both the farmer groups and the CAA members. The farmer groups will be able to see what other farmers have been able to achieve through improved organization and therefore will be motivated to undertake similar type of arrangements, as deemed suitable to their circumstances. The CAA members might see opportunities for further involving more farmers into their operations, either in production, marketing or processing.

114. The third channel is through linkages within the rural economy. As agriculture and post-production activities are the main sector of the rural economy, it is expected that a more commercialized economy will increase income and growth of agriculture and the rural economy. Agricultural commercialization will then be an engine of growth of the rural economy, and generate demand for a variety of services and goods. Agricultural growth multipliers are estimated of the order of 3 to 4 in other economies with similar structure as Nepal. That implies that for each percentage point of growth in the agricultural sector (both production and post-production), 3-4 additional points of growth will be expected in the non-agricultural sector of the rural economy. This will be realized through demand linkages for services (e.g. transportation, accounting, restaurants, tourism, advertising) and commodities (e.g. equipment, household goods, construction, spare parts).

1. Distribution and Poverty Impact

115. The poverty-reducing impact of a project is traced by evaluating the expected distribution of net economic benefits to different groups. With financial prices determining who controls net economic benefits, the first step is to estimate the present value of financial benefits by participating group. Next, the difference between benefits by group and contribution to capital costs by group is computed to give the distribution of net economic benefits by group. Finally, the net economic benefits accrue to the poor according to the proportion of each group that is poor. A poverty impact ratio expressing the proportion of net economic benefits accruing to the poor can be calculated by comparing net economic benefits to the poor with net economic benefits to the project as a whole.

116. Each of the components of the project has a combination of costs and benefits. For this analysis the non-quantifiable benefits are ignored, this in effect means that some of the components contribute to poverty reduction with overall benefits whilst others are a cost not directly recovered by the intervention.

2. Distribution of Project Costs and Benefits

117. The costs and benefits of the project are shared among different groups. There are several ways in which the distribution of project effects can be analyzed. This project has adopted the approach whereby project effects are allocated among different project participants, commercial groups (meaning farmer groups, traders and processors), workers or individual farmers (classified as labor in our model), and the government representing the rest of the economy. It is usual to expect commercial groups, workers or individual farmers, and the government all to share in the net project effects. Frequently, consumers also share in project effect and therefore are included in the analysis. Project effects can be allocated between the public and the private sectors. This is particularly important for this project where

public sector expenditures are made in support of private sector operations, however the intention is to assume that benefits accruing to commercial groups reflect those effects allocated to the private sector.

N. THE OVERALL PROJECT POVERTY IMPACT ASSESSMENT

118. Each of the component distribution of benefits is aggregated in Table 5 below. The resultant Poverty Impact Ratio for the Project is 53%.

Table 5: Poverty Impact Ratio for the Total Project

		Consumers	Government Economy	Commercial Group	Labor	
SUMMARY OF DISTRIBUTION						
Project Component - Network		0	-193,600	0	0	
Project Component - Alliance		15,857,632	3,025,634	76,997,750	47,572,896	
Project Component - Information		0	-718,400	0	0	
Project Component - Social Mobilization		0	-2,625,900	1,584,422	3,696,984	
Project Component - Capacity Building		0	-1,335,210	597,727	597,727	
Project Component - Project Management		0	-923,000	0	0	
	Gains & Losses	15,857,632	-2,770,476	79,179,898	51,867,607	144,134,661
	Benefits for the Poor	1,868,805	-26,404	37,246,787	37,074,251	76,163,438
	Poverty Impact Ratio	**53%**				

O. SOCIAL AND GENDER DEVELOPMENT IMPACTS[16]

119. The main theme of the project design for the CADP is to ensure the movement of commercial ventures in agriculture from a low level of commercialization to a higher level of commercialization. However, the conceptualization of the project recognizes that the majority of farmers are operating at subsistence level and many are at a very low level of commercialization. Moreover, the analysis of the core problem for commercialization identified vulnerability of rural households as one of the main causes for the absence of a network of functional value chains.

120. Most of the poor and vulnerable groups have few assets (e.g. land, finance, livestock) and little education. As a consequence, their main source of income is low-skill wage labor. However, employment opportunities are limited in rural areas, and the poor and vulnerable often resort to different coping mechanisms (including migration and indebtedness). Their capacity to organize and interact with other stakeholders in the value chains is limited. Their low education and social status usually prevents them from gaining access to markets (for labor), and to credit and programs that might improve their condition. The limited access to social services (health, education, water) aggravates the plight often arising from their exposure to different types of risk (e.g. disease, natural calamities, and accidents).

121. Even though women represent a large share of the labor force in agriculture, there is limited active participation of women in commercial agriculture. Women entrepreneurship in commercial agriculture is quite limited. The involvement of women in trading is quite rare in the EDR. In the interviews of the TA Team, only few women were detected to play a leadership role in activities related to trade, marketing, processing and post-production activities. When involved in these activities, usually women are employed as wage labor (in processing plants, in grading produce and storage operations), rather than as managers or entrepreneurs. This general comment has to be qualified in view of differences among castes and ethnic groups: Burmese Tibetan groups exhibit a greater presence of women involved in commercial agriculture "business" than caste groups.

[16] See Chapter 4 (Costs, Benefits and Impacts), Appendix 10 (Social and Gender Analysis) and Appendix 12 (Gender Action Plan).

122. In order to analyze how the project design addresses the problem of poverty and gender unbalance, it is useful to consider (a) how the project will be able to expand opportunities for the poor and women to engage in commercial activities, (b) reduce vulnerability of disadvantaged groups arising from commercial agriculture, and (c) enhance capabilities of the poor, disadvantaged groups, and women to engage directly or benefit indirectly in commercial agriculture.

1. Improved Opportunity

123. The design of the CADP envisages increased opportunities for income growth and employment generation for the poor, women and disadvantaged groups. The increased opportunities will be the effect of investment projects conducted by the CAA to facilitate the access to technology, markets, infrastructure and information. The investments of the CAA are expected to expand production and marketing of a broad range of agricultural products such as labor-intensive vegetables, tea and sugarcane thus resulting in the promotion of organizations that involve smallholder farmers production and employment of labor both on the farm (production activities) and off-farm (post-production activities). The expansion of credit to commercial agriculture agro-enterprises (including farmer groups, cooperatives, farmer association and agribusiness) is also expected to expand production and employment opportunities for the poor and women. The expanded opportunities are part of the design of the information services (reaching through radio most of the rural population in the EDR) and the CAN. The focus of the social mobilization on targeted groups (women, poor and disadvantaged groups) will also expand opportunities for these groups.

2. Vulnerability Reduction

124. The CADP aims at moving the commercialization from the current low level to a higher level. At the higher level of commercialization, stakeholders are better organized as value chains and therefore better able to cope with challenges and risk arising from natural events and markets. The social mobilization activities highlight the importance for the smallholder farmers and the targeted groups of poor, women and disadvantaged people to form larger organizations able to connect to markets, access technology and make larger investments. Reduction of risk through risk sharing between banks and borrowers is also a way to expand the availability of credit for commercial agriculture, including those groups who have not sufficient collateral. The promotion of higher level of commercialization implies the greater use of contracts between farmer groups and processors, thus reducing the vagaries of markets and weather. The growth of agribusiness and agro-industry will also stimulate the growth of employment, both at the farm level and off-farm, stabilizing the flow of seasonal labor out of rural areas.

3. Capability Development

125. The CADP design recognizes that there is a considerable amount of work to do in order to increase capacity to move commercial agriculture to a higher level. To a large extent, the CADP could be regarded as a project that is building capabilities for stakeholders to form value chains and establish mutually profitable linkages among themselves. Capability development within CADP takes place in all components, but primarily at the level of the institutional capacity development, at the level of the Alliance and at the level of social mobilization. Awareness programs, women leadership programs and organizational skills to benefit targeted groups are part of the various modules proposed both in the social mobilization and in the institutional capacity development components.

126. The previous analysis of effects of various CADP components on poverty and gender suggests that the CADP might in fact play an important role in reducing poverty and redressing gender unbalance. The two objectives will be achieved through an acceleration of agricultural broad-based growth in the region.

127. Broad-based agricultural growth in the region is a necessity. Given the predominance of small-scale farms in the region (according to Agricultural Sample Census 1994/95, 82% of households in the region own less than 2 ha of land and 98% less than 5 ha), it is quite difficult to envisage growth of the sector without a broad based involvement and sharing by smallholders. The commercial producers in the CAA itself will be primarily smallholder farmers, as confirmed by the examples of the various commercial organizations contacted by the CADP. Appendix 3 shows several success cases of commercial agriculture that involve smallholders, including poor farmers. As long as the poor are well organized into larger commercial organizations their chances of getting out of poverty are higher and their chances of precipitating into abject poverty are lower.

128. The design of the CADP is aware that many poor farmers and rural households will be able to benefit directly from growth of commercial agriculture primarily as wage earners, either as laborers on farms or as laborers in the post-production system. In some cases, poor households might be able to get out of poverty through sharecropping or through the starting of micro enterprises and provision of services related to agribusiness. Most of the investments considered in the CAA design are likely to be labor-intensive. In most cases, the capital is relatively small and oriented to improve infrastructure and increase access to knowledge, markets, information and improved skills.

129. The design of the CADP envisages a dynamics of the commercialization process that sees the CAA as one step in a continuum of degrees of commercialization ranging from semi-subsistence to sophisticated commercialization. By providing a mechanism to move the groups already commercialized to a higher level, the project facilitates the dynamics of social change necessary to commercialization. The composition of the CAA will continuously change, enlarging itself over time with the addition of new recruits from less commercialized groups and reducing its membership every time that some of the CAA members mature to a higher degree that will not require the facilitation of the CAA.

P. ENVIRONMENTAL IMPACTS[17]

130. Several components such as those related to institutional capacity development, the Commercial Agriculture Network and the social mobilization may be construed as environmental friendly components and opportunities for different stakeholders to discuss sustainability issues.

131. Environmental analysis of the project indicates that some adverse effects might arise during implementation of the project. These impacts include intensified use of land and water resources, increased use of agro-chemicals (fertilizers and pesticides), and development of infrastructure (agricultural roads and rehabilitation of small irrigation systems). The precise projects that will be implemented by the CAA can be known ex-ante with precision, as they will be mostly driven by the demands of the CAA members. However, compliance with already established environmental guidelines of the Government will be considered during appraisal of the project and during monitoring and evaluation.

132. The intensive use of land resources generally does not cover a large area because of the small landholding pattern in the country, especially in the hills. At best on cumulative basis the intensive cultivation area may cover a large area but due to different types of crops being cultivated, the adverse impacts are at very low level or insignificant. In hilly areas, sloping agriculture land technology practices should be promoted, whereas in the plain rotation of crops, various tillage practices should be introduced.

133. The use of agro-chemicals is low in Nepal as compared to other South Asian countries and the adverse impacts from the use of the chemicals should not be of grave concern at

[17] See Appendix 11 (Initial Environmental Examination).

present. The INPM and IPM programs should be promoted and best practices should be mainstreamed alongside main stakeholders to minimize the adverse effects.

134. As per the Environment Protection Regulation, HMGN (1997) construction of agricultural roads up to a length of 5 km needs IEE and longer than that would need EIA. Generally the agricultural roads constructed in project area are short length roads (under 5 km) linking up with already existing road network. During appraisal of the project proposals of members of the CAA (see Chapter 3), proper attention will be given to additional environmental impacts in the case of roads traversing steep sloping land, irrespective of the length of the proposed road. The construction of the agricultural road is the responsibility of the Department of Local Infrastructure Development and Agriculture Roads (DOLIDAR) under the Ministry of Local Development. The DOLIDAR has developed guidelines for selection, construction and operation of the agricultural road which complies with the existing Environmental Protection Rules and Regulation.

135. The project will support the construction or rehabilitation of only small farmers managed irrigation system. This may require IEE at the most and by following the existing construction related sectoral guidelines all the adverse environmental effects could be avoided or minimized.

136. Based on the above findings, the project will have minimal negative impacts on the environment. All the negative impacts can be mitigated by properly following the existing regulation guidelines and field practices and the recommendation of the environmental management plan as presented in Appendix 11.

137. It is hereby stated that the project does not need a full-scale EIA. The IEE provided in Appendix 11 can be considered the Final Environmental Assessment Report.

Q. ASSUMPTIONS AND RISKS

138. The major assumption of the project is that the ongoing social unrest will be resolved. In the absence of such stability, also lacking will be an environment that is conducive to strong investment in commercial agriculture.

139. It should be noted, however, that the central role given to the CAA in this project might prove to be an important element of stability. Differently from a project supply-pushed by the Government, the CADP is designed to be a project demand-driven by commercial stakeholders including farmers, traders and processors. As such it is likely that it will be perceived to be less of a target for political confrontations.

140. Even though it is difficult to assess the impact of the conflict in the EDR so far and to predict its future development, it seems that the region has proved to be more resilient in coping with the difficulties associated to the conflict than other regions. For example, the EDR has witnessed less instances of violence and extraction of compulsory taxes. Perhaps, this is the result of relatively more developed agriculture and higher human development indicators in rural areas of the EDR than in other regions of Nepal. The involvement of smallholder farmers in commercial agriculture, both in the Terai and in some of the more prosperous Hills areas (for example Ilam and Dhankuta) has provided an outlet to move out of poverty. The proposed CADP is expected to further accelerate economic activities and the generation of employment for the poor in rural areas, thus addressing the problem of poverty, which is central to the dynamics of the conflict.

141. The major risk of the project is the capacity of institutions and individuals to adapt to the new approach of the project. By putting the commercial stakeholders in the driving seat of decisions regarding investment on commercial agriculture, the project proposes a demand-driven approach. The new approach requires an almost radical change in the way service

providers operate. This is true for both public service providers and for NGOs. Rather than implementing programs decided by the government or donors, the service providers will have to respond to the demands of the key stakeholders who have the control of the resources needed to implement investment proposals. The new approach requires a change of attitude that will take time. In order to facilitate this change of attitude the project will support through institutional capacity development, a functioning network, and technical assistance.

142. Despite the risks, the potential benefits of a well implemented project are so great that they justify the approach and the project design.

I. INTRODUCTION

A. TA OBJECTIVES AND SCOPE

1. The objective of the TA is to assist the Government in designing an investment project that enhances income and employment opportunities through increased and sustainable commercialization of agriculture. The project will promote production, processing and marketing of high-value crops (HVC), and capacity building of all stakeholders in order to support and sustain the process of commercialization. It focuses on the Eastern Development Region (EDR) because of its relatively more developed infrastructure and suitable agro-ecological environment.

2. The main beneficiaries of the Project will be the farmers (including sharecroppers and women farmers) growing or interested in growing HVC such as vegetables, fruits and spices, and entrepreneurs located in the identified high potential areas of the Terai and the Hill districts of the EDR. Since women constitute about 45% of the agricultural labor force in the EDR, the TA will identify means of facilitating their full participation and ensuring commensurate benefits to them. The potential districts have been identified because of their agro-climatic suitability for HVC production and the availability of irrigation and road infrastructure created through previous government and external investments. The design of the project incorporates the lessons learned from past projects and builds synergies with past and upcoming investments in the sector, indicated in the Tenth Plan.

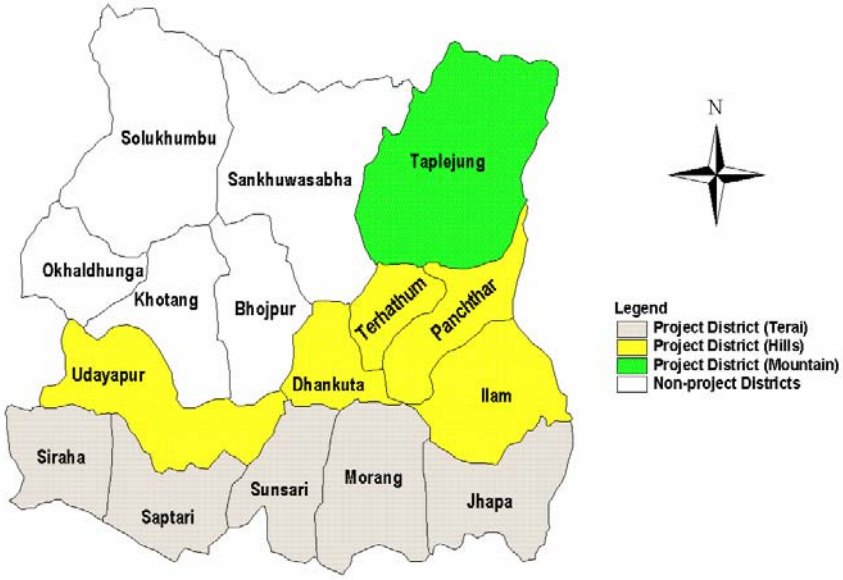
3. The type of interventions envisaged by the Project include: (i) capacity strengthening for farmers, enterprises, public sector and NGOs; (ii) institutional building and strengthening related to farmer groups and organizations, linkages between farmers and enterprises, markets, agro-enterprise resource services, financial services to promote agricultural commercialization; and (iii) market development including management of markets, information and infrastructure.

4. Criteria for site selection of the project include the following: (i) agro-ecological potential and comparative advantage; (ii) infrastructure development; (iii) linkages with existing value chains; (iv) synergies with existing programs; (v) poverty and gender impact; (vi) commitment of the local organizations (farmers, enterprises, NGOs and public sector); and (vii) capacity of the local organizations (farmers, enterprises, NGOs and public sector).

5. The TA was implemented using an effective participatory methodology to deal with the complexities and interdependencies inherent in the agricultural production sector and to ensure the full involvement and commitment of potential beneficiaries and other stakeholders in developing the project design. The TA followed a holistic approach including consideration of issues of security, decentralization of government authority, environmental concerns, gender and social aspects and competitiveness with external markets.

6. There are 11 potential districts (see Figure 1.1) for implementation of interventions designed by the TA in the EDR including: the five Hill districts of Dhankuta, Ilam, Panchthar, Terhathum and Udayapur; all five districts of the Terai: Jhapa, Morang, Saptari, Siraha and Sunsari; and Taplejung in the Mountains. The TA Team has considered all 16 districts in the EDR and concluded that the final selection at implementation stage should depend on economic arguments indicating likelihood of success of the proposed interventions. If, for example, new roads over the period of the CADP make previously remote areas suitable for commercial agriculture, then those areas and districts should also be included in project implementation.

Figure 1.1: Eastern Development Region and Project Districts



1. Objectives and Organization of the Final Report

7. The objectives of the Final Report are:

- To review the agricultural crops sub-sector in the EDR.
- To identify the core problem for the commercialization of agriculture in the EDR.
- To present the design of the commercialization project in the region.
- To present the analysis of costs, benefits, expected impacts and risks of the project.

8. The report is organized into four chapters and seventeen appendixes. Chapter I - the Introduction, provides a background of the TA and the objectives and organization of the Final Report, discusses the policy context and explains the Methodology and Approach of the TA Team. Chapter II summarizes the sector performance and identifies the core problems for commercialization in the EDR. Chapter III presents the features of the proposed project. Chapter IV provides the evaluation of costs, benefits, impacts and risks of the proposed project. The appendixes are as follows:

Appendix 1	gives details of the sector analysis
Appendix 2	reviews the impact of previous projects in the region
Appendix 3	presents examples of successful commercialization in the EDR
Appendix 4	provides the Logical Framework of the project
Appendix 5	gives details of the proposed investment measures
Appendix 6	contains details on the consulting services needed
Appendix 7	contains a detailed discussion of the Commercial Agriculture Alliance
Appendix 8	presents the cost estimates and the financing plan for the project
Appendix 9	provides the financial and economic analysis of the project
Appendix 10	provides the social and gender analysis of proposed interventions
Appendix 11	provides the environmental analysis of proposed interventions
Appendix 12	gives the gender action plan
Appendix 13	presents a discussion of monitoring and evaluation
Appendix 14	reports the findings of the survey on linkages and partnerships
Appendix 15	provides the TOR for organizations implementing social mobilization
Appendix 16	provides the implementation schedule of the project
Appendix 17	Procurement

B. BACKGROUND

1. The Economy

9. Nepal is an agrarian society, with agriculture representing the major share of GDP (40%) and the majority of the population (88%) living in rural areas and depending mostly on agriculture for their livelihood. Agricultural productivity is very low by international standards (at $140 per agricultural worker). Even though land productivity is higher (at $649 per hectare of agricultural land), the small land holding size (about 0.9 ha) implies that average household income is also low. Since the majority of the population depends on agriculture for their livelihood and most of this population is composed of smallholders with less than one hectare of land, it is not surprising that ***poverty is widespread*** in the country (38% of the population) and concentrated in rural areas.

10. Increasing agricultural productivity is therefore critical to the overall growth of the Nepali economy and to the reduction of poverty. His Majesty's the Government of Nepal (HMGN) has been well cognizant of these facts for a long time. Since the mid-1990s it has adopted a strategy and plan, called the *Agriculture Perspective Plan* (APP) that considers agricultural growth as the key sector to poverty reduction in Nepal. The APP has been the basis for the formulation of the Ninth Plan (1996-2001) and Tenth Plan (2002-2007). Besides the APP, other important changes have occurred over the Ninth Plan period including (i) market reforms; (ii) decentralization; and (iii) support for participatory approach. In October 2001, HMGN signed a Partnership Agreement with ADB aiming to reduce the incidence of poverty to less than 10% by year 2017.

2. Nepal's Agricultural Sector

11. Since the mid-1990s, HMGN has embarked on a set of reforms moving the economy towards a ***more market-oriented system***. Within agriculture, the main reforms have affected the fertilizer and the irrigation sector. In the case of fertilizer, subsidies have been eliminated and the private sector has been allowed to participate in the distribution system. While in the past the state-owned Agricultural Input Corporation controlled most of the fertilizer distribution, currently most of the distribution system is controlled by the private sector. According to the Agriculture Sector Performance Review[28] (ASPR) findings, as well as the findings of a more recent DfiD study on fertilizer use, the majority of the distribution system is in the hands of the private sector. In the case of the irrigation sector the main reforms have included the elimination of subsidies on shallow tube well and the continued support to Irrigation User Groups. Even though the impact of these reforms on the irrigation sector is not altogether clear up to the present, there are indications that over the period of the Ninth Plan, access of farmers to technology and income per capita has improved. Trade liberalization has also been promoted during this period, starting in 1996 with the signing of the Trade Treaty with India. Currently, Nepal is in an advanced and final stage in the process of gaining access to the World Trade Organization (WTO).

12. The second major change that has affected the agricultural system over the course of the 1990s has been a move towards ***decentralization***. The Local Self Governance Act of 1999 (LSGA 1999) has embodied the principle of devolving increasing power to the local level. The joint Government-donor review[29] has reported the need of further actions to facilitate the decentralization process and a government-sponsored Public Expenditure Review Commission (PERC) in March 2001 made recommendations for improvement of coordination between central level and local level bodies. The Budget Speech of 2001/2002 confirmed that the recommendations of the PERC would be implemented over time. The implication for

[28] See ANZDEC 2002.
[29] See HMGN 2001.

agriculture is that responsibility for agricultural planning, extension and animal health will be progressively transferred from the central to the district level.

13. The third major change has been an increased emphasis on ***participation and partnerships*** between the public sector and other providers of services, including the private sector and NGOs. In the agricultural sector new efforts at partnerships between the public sector and other providers (such as NGOs and private sector) have been embodied in the formulation of projects such as the Agriculture Research and Extension Project (AREP) and the Third Livestock Development Project. Moreover, user groups (in irrigation and in community forestry) have become increasingly popular and supported by Government policy.

14. As a result of the impetus given by the APP and the changes in policy (market reforms, decentralization and participation) growth in the agricultural sector has accelerated over the course of the 1990s. Even though the growth is still short of the APP target of 2% growth per capita, the improved performance is a welcome reversal of a downward trend that was characterizing the previous periods. Moreover, positive changes have also occurred in agricultural trade. The trade deficit with India has narrowed, as the result of increased exports and improved share of high value products in total agricultural exports. Again, even though trade is still a small percentage of total agricultural GDP (about 17% in 1999/2000), the changes in performance are positive indications of the overall appropriateness of the basic policy thrust of the APP, market reforms, decentralization and participation.

15. In order for poverty to be reduced in the future, growth of the agricultural sector has to accelerate from the low level of the most recent past (about 3% on average over the period 1996/1997 to 2000/2001) to achieve at least a level of 2% in per capita terms. Moreover, growth will have to be sustainable, and not just the result of climatic positive shocks. In order to do so, diversification and commercialization of agriculture will be critical to exploit the comparative advantage of Nepal agriculture.

C. POLICY CONTEXT

16. Over the years, agriculture development in Nepal has been directed by a series of studies and development plans usually, but not always, proposed by one or more donors in consultation with the government of Nepal. Examples of these were the Perspective Study of Agricultural Development for Nepal (1970-1990); a Ten-Year Agricultural Development Plan (1975-1985) prepared by the government itself in 1973 and implemented as part of the Fifth Five-Year Plan in 1975; the Nepal Agriculture Sector Strategy Study prepared in 1982; Perspective Plans for Land Use, Agriculture and Food commissioned by the National Planning Commission (NPC) in 1985; the Basic Needs Program of the government in 1986; and a number of Master Plans for development prepared for key sectors (forestry, irrigation, horticulture, dairy and livestock), only some of which were implemented. In addition, the government's own succession of Five-Year Plans the first of which was initiated in 1956, have treated agriculture development as the key priority of the economy.

17. In spite of the intensive planning effort, few of these proposals either received official endorsement from the government of the day, or were ever effectively implemented. The result has been that although Nepal's agricultural production until the end of the 1980s had kept pace with population growth, this had been achieved through expansion of production area, mainly on the Terai, while in fact, agricultural productivity stagnated. After the 1991 National Census, it became apparent that population growth was about to outstrip food production growth. Unless productivity could be stimulated and increased, Nepal would move from being a net exporter of food grains, to becoming a regular net importer.

18. The causes identified for the lack of productivity increase were an inadequate supply of agricultural inputs and services, lack of an assured price to farmers and the absence of legal

provision for land reform. More specifically, policies with respect to subsidies and monopoly of supply were held to be keeping growth in fertilizer use below its full potential, irrigation investment overlooked the possibility of utilizing small-scale "on-farm" water supplies, lack of transport infrastructure restricted high productivity agriculture to small pockets of the country, and because of these constraints, the technology generation and dissemination services appeared worse than they in actual fact were, though they were far from prepared for the technological needs demanded by high value commercial agricultural enterprises asked for by farmers for income generation.

1. The Agriculture Perspective Plan (APP)

19. The key issue underlying this negative assessment of Nepal's agricultural performance compared to progress made in neighboring countries over the same timeframe, was the lack of a clear strategy for agricultural development. In response therefore, over the period 1993 to 1995, a 20 years' strategy, the Agriculture Perspective Plan[30] (APP), was developed. This adopted and built upon the main themes of most of the earlier plans. The Terai was still viewed as the region to promote intensive production of cereal grain and other food crops, but with commodity/cash crops being produced in some specific areas. The mid-hills would exploit the natural advantage for fruit and high value vegetable crop production, while the mountain districts had a natural advantage for production of livestock and high value livestock products.

20. Where other proposals had been vague both in design and objective, the APP focused on four priority input issues: irrigation, fertilizer, infrastructure (roads and power) and technology – the lack of which was considered to be constraining the realization of rapid improvement to agricultural productivity. The sustained application of these inputs through a system of *Prioritized Productivity Packages*[31] would be the means of increasing the growth of crop and livestock production. Agriculture would become the "engine of growth" for the wider economy through farming households having purchasing power from the increased income realized, and an attendant increase in non-agricultural employment to support the demand for consumer goods. To measure the impact of these proposed policies, a Growth Accounting Framework [32]was devised as a component of the Plan.

21. This approach was considered not to be too complex, the concept of doing a few things well would drive the overall strategy. The success or otherwise of the Plan's implementation was considered to hinge upon the four main priorities being applied as a "block" or "packaged" approach, and of this method being strictly observed. This tactic has since been criticized as being too simplistic and rigid, and not allowing of flexibility or change of direction in the light of experience gained or problems encountered during Plan implementation. It was stated at the time of formulation that each of the four main priorities would subsume other priorities, but no allowance appeared to be made to take account of this.

22. The APP was legitimized in 1995 by the Government of the day, and has subsequently been endorsed by all other elected governments since that time. In spite of its shortcomings, its strength lies in the fact that it does represent a policy document which all shades of political society have subscribed to, and as such has offered a policy continuum through all the political tribulation that has occurred since its formulation.

23. In 1997, following only limited action in the implementation of the APP, an interim APP was developed for the period 1997 to 2002, which translated the APP into operational provisions for the year-by-year investment needed during the five-year period covered. It also linked the APP to the Government's own Ninth Plan. The APP growth objectives and growth

[30] See APROSC/JMA 1995a,b; APROSC/JMA 1997; and APROSC/JMA 1998.
[31] Sometimes this is also known as Prioritized Pocket Program.
[32] See Hardaker 1998.

strategy were reiterated, the means by which growth could be accounted for was restated, the priority inputs were reaffirmed and the priority outputs were identified. The means by which performance under the Interim Plan would be monitored was described, and the necessary investment for the five-year period was estimated and detailed.

2. The Ninth Five-Year Development Plan

24. The Government's Ninth Plan[33] also saw the start of the 20-year APP. Though the theme of the Ninth Plan was Poverty Alleviation, the development of the agriculture sector was seen as the means to accomplish the targets set. In addition to the four main priority themes, the APP also stressed the need to diversify agricultural production on the basis of geographical location and commercialization of agro-products.

25. In spite of the intent, there were difficulties in effectively implementing the packet programs as designed by APP. Mid-way through the Ninth Plan five-year period, a survey by the Hill Agriculture Research Project of the extent of awareness of the APP principles and implementation of its priority programs among agricultural research and extension staff in the districts revealed many had no knowledge of APP itself, and even more were unaware what was meant by the concept of "prioritized package programs".

26. The private sector did enter the production of dairy products, and small farmers did invest in milk production. In spite of this there were problems of matching the supply to the demand. There is a need to further encourage private sector participation in the agriculture sector, whose contribution to the GDP under the Ninth Plan was only 34%.

27. The major focus of the Plan's poverty reduction strategy is itself an excellent example of the Plan's mixed performance. There were significant improvements within the sector. Output growth was satisfactory in the middle three years of the Plan, a noticeable shift to cash crops took place, and progress was made to involve the private sector in input distribution.

28. However, there were major shortcomings: (i) the agriculture sector was severely under-funded; (ii) key inputs central to the APP strategies were not effectively provided. For example, the groundwater (shallow tube well) development program was poorly implemented and development of the agricultural roads network lagged behind schedules. The prioritized pocket program approach to extension and research (considered essential for developing high value horticultural products in suitable locations in the Hills) was poorly implemented; and (iii) the fragmentation of responsibilities for APP implementation among a number of ministries and departments, and the lack of coordination among them.

29. On the positive side, policy changes were introduced to promote private sector participation in input supply and investment. Private sector participation in fertilizer and seed distribution increased significantly, but there were still problems to be overcome, such as ensuring consistent quality of private supplies, in order to effectively implement this policy and increase fertilizer and improve seed usage.

30. By the end of the Ninth Plan, although farmers were beginning to take up production of cash crops like fruits and vegetables, especially in accessible areas along road corridors, and the demand for horticulture produce had increased, there had actually been little structural change in the agriculture sector and production of food crops still dominated.

[33] NPC 1998 a,b.

3. Decentralization: the Local Self-Governance Act

31. Following the restoration of multi-party democracy in 1990, a new constitution was adopted which stated "*decentralization should be the means for ensuring optimum participation of people in governance and hence enjoy the benefits of democracy*". The Ninth Plan (1997-2002) established decentralized governance as a policy priority. The promulgation of the LSGA 1999 and Rules (2000) built on and improved the existing legislative framework for decentralization.

32. A joint Government-donor review[34] has reported on the need for further action to facilitate the decentralization process and a government-sponsored PERC also presented a report in March 2001 which made recommendations for improvements in the relationships between the Government and Local Bodies. The Budget Speech for FY2001/2002 confirmed that various recommendations of the PERC would be implemented over time and declared that a Decentralization Implementation Plan will be prepared in the current year. Local Government will be "enabled" to manage directly basic services such as primary education, primary health, postal services, agriculture extension and animal health by progressively transferring responsibility.

33. A recently started DfiD-funded project is supporting the implementation of the APP at the district level. The implementation design will empower District Development Committees (DDCs) to develop and approve agriculture programs for the districts. It is expected that this bottom to top implementation approach will be the key for the success of achieving the objectives of the APP by encouraging the grassroots level to participate in the entire agriculture development program of the country.

34. Nepal's central government controls almost 90% of public expenditure in the country. Little goes to locally elected bodies. According to the Nepal Human Development Report 2001, this erodes both ownership and accountability at the local level. Decentralized governance implies moving authority as well as responsibility downwards. Governance enables people to monitor and influence local government activities in their own best interests (UNDP 2001). Local governments have a comparative advantage for tackling poverty at the local level. Often, their familiarity with local conditions reduced the overall cost to poverty reduction efforts.

35. Since the end of 2001/02, there is no representative body at the DDCs, as the result of civil disturbances and the inability of the government to hold new local elections. The DDCs are currently under the administration of Local Development Officers (LDOs) who are appointed by the Ministry of Local Development.

4. The Agriculture Sector Performance Review

36. In 2001, an Agricultural Sector Performance Review was commissioned by the Ministry of Agriculture and Cooperatives (MOAC) and the ADB. The review was comprehensive and viewed the agriculture sector holistically, analyzing the situation from all major enterprises of the agriculture perspective. The report was presented in March 2002, which coincided with the end of the Interim APP period. The aims of the review were to analytically review the situation of the performance of the agriculture sector as it stood in 2001/2002; to assess the progress and impact of the Government's reform measures launched under the APP and the Second Agriculture Program; to identify critical issues and constraints to APP implementation and to overall agricultural development; and to assist the Government to prepare specific medium term action plans for agricultural development in line with the APP.

[34] Joint HMGN-Donor Review, Decentralization in Nepal: Prospects and Challenges, March 2001.

37. The review drew three main conclusions which were: (i) that the performance of the agricultural sector had improved relative to the past; (ii) that the APP required reformulation in view of the new policy and institutional environment pertaining in Nepal; (iii) but, that although the impact of policy reforms and programs had been positive, it was still only modest and its sustainability was fragile.

38. During the latter half of the 1990s, performance indicators showed a small but nevertheless significant upward trend as the national policy reforms made shifted agriculture toward a market-oriented system. However, even as this occurred, it posed a challenge to the rigid packaged approach pronounced within the APP. The major divergence was the implementation of policies of decentralization of governance, which ran counter to the APP's centralized target oriented systems of implementation and accountability. The Plan is therefore in need of reformulation. This does not imply abandoning its original principles or targets, but rather endeavoring to establish favorable conditions for farmers to achieve increased productivity, through use of the prescribed inputs acquired through better access to the market, rather than through government interventions. This will lead to more stakeholders and establishments associated with private enterprise being involved in input supply and in marketing of agricultural produce, which in turn will lead to development and the establishment of commercialization within Nepal's diverse agricultural systems.

5. The Tenth Five-Year Development Plan

39. The Tenth Plan has recently been prepared and published. Its main objective remains that of reducing poverty, but now by means of empowerment, human development, security and *targeted* programs. The policy of the Tenth Plan is for the efficient mobilization of resources with economic opportunities and employment, and expansion in joint participation of government, local bodies, private sector and civil society.

40. The strategy of the Tenth Plan is to establish self-employment creating, income earning and protective programs which directly benefit the economically, geographically and socially backward groups, castes, disabled and helpless people and people living below the poverty line. To increase rural employment and income generation, the agriculture sector will be commercialized. The role of the public sector will be as a facilitator and referee in those sectors where private sector is interested but a strong and direct role of government will be established in the backward and remote areas, oppressed caste groups, and areas where private investment is not attractive, i.e. in areas and issues that relate to "the public good".

41. The major focus of the Tenth Plan in agriculture is to achieve high and sustainable economic growth and poverty alleviation, and improve the food and nutrition status of the people by increasing agriculture productivity through integrated packages of agricultural inputs and services as outlined in the APP. Major strategies for expediting these focuses are to generate and disseminate agricultural technology, to increase access by farmers to agricultural inputs and credit, and to commercialize and diversify agriculture.

42. The major policies will be to mobilize the private sector and NGO service providers in partnership and on a contract basis; to promote cooperative and contractual farming; to devolve local agricultural programs to local bodies; to strengthen agriculture farms/stations as resource centers to ensure the supply of quality "mother stock" seeds, saplings and breeds for their subsequent multiplication to meet local needs from local multipliers; and to provide technical back-stopping.

6. Poverty Reduction Strategy Paper (PRSP/Tenth Plan)

43. While economic growth and macro economic stability are necessary conditions for poverty reduction, the PRSP recognizes the multi-dimensional nature of poverty. Economic growth must be not only high but also broad-based; and quality of life of the poor has to be enhanced by providing basic health and education services. Similarly, disadvantaged, isolated and marginalized people should be given special attention with an objective of bringing them above the poverty line. Implementation of programs and strategies can have desired outcome only if accountability and transparency of public actions are enhanced and service delivery to the poor is made effective.

44. The PRSP recognizes that most of the poor in Nepal are located in the rural areas and derive their livelihood from agriculture. A broad-based growth approach to poverty reduction is therefore necessarily based on acceleration of agricultural growth, a basic assumption of the APP. Agricultural growth is expected to contribute directly to poverty reduction through improved food security, increased income and employment at the farm level, and induced employment in the rural economy.

45. The proposed implementation strategy for poverty reduction consists of three main pillars: improved public expenditure management and Medium Term Expenditure Framework (MTEF), strategic planning and monitoring mechanisms. Measures to improve public expenditure management were already proposed in the PERC and included prioritization of projects and regular expenditures, strengthening financial discipline, rationalizing expenditures by public enterprises and local authorities and reorganization and rationalization of government offices at the central, regional and district levels.

46. In order to improve the effectiveness of the budget and governance of budget management, the government has initiated the MTEF. The framework has been prepared in order to link inputs, outputs and outcomes in a framework, which ensures consistency of sectoral expenditure levels with the overall resource constraints, in order to ensure macro economic stability and to maximize the efficiency of public expenditure in attaining predetermined outcomes. The MTEF, by identifying sector strategies and by prioritizing programs, will help in achieving the objective of poverty alleviation. In the meantime, spending will be within an affordable financial envelope. The MTEF also provides guidance to all expenditures including the use of resources committed by donors. Donors are encouraged to contribute to a common pool of resources used to achieve the sectoral objectives. Details about the MTEF have been produced separately.

47. Strategic planning within the PRSP stresses the need to improve security and the targeted programs for poverty reduction, some of which will be implemented through the Poverty Alleviation Fund. Poverty assessment and monitoring mechanisms will be enhanced through strengthening current structures within the NPC Monitoring Unit and coordination with relevant agencies, including the Central Bureau of Statistics (i.e. completion of the National Living Standard Survey in 2002).

D. METHODOLOGY AND APPROACH

48. The TA Team followed a methodology based on the combination of two approaches: the **Value Chain Approach** and the **Participatory Learning System Approach**.

1. The Value Chain Approach

49. A ***value chain*** is defined as “the full range of activities which are required to bring a product or service from conception, through the intermediary phases of production, delivery to final consumers and final disposal after use”. A value chain approach focuses on the

interaction of actors along each step of the production system (from raw producers to consumers) as well as the linkages within each set of actors. Such an approach thus considers trade relations as being part of a series of networks of producers, exporters, importers, processors and retailers, whereby knowledge and relationships are developed to gain access to markets and suppliers. The success of stakeholders in adding value to their production lies in their ability to access these networks. The role of ***governance*** is central to the understanding of value chains; that is, who controls the power relationships within the chain. Such governance issues are of increasing importance in agriculture, given the greater emphasis on product differentiation, food safety, and product standards required in the competitive market environment. Such issues place a premium on strong linkages within the value chain between agents within the chain.

50. Two additional issues are also critical to the understanding of agricultural value chains. First, ***upgrading/innovation*** is an important concept, given that competitiveness is a dynamic and continuously evolving process. In the context of value chain analysis, upgrading takes the form of either developing new, higher-value market niches or expanding the range of activities employed. Governance structures are important to understand how such upgrading by suppliers occurs and the role played by government and other institutions. The second issue concerns the means by which benefits are ***distributed*** within the chain. This refers to the amount of benefit obtained by various actors in the chain as well as ways actors try to improve their position within the chain, through the differentiation of services and roles.

51. The final concept key to the overall Value Chain Approach is the concept of Network. Rather than a linear model in which relations from farmers to consumers are considered in a sequential manner (see Figure 1.2), in a network model (see Figure 1.3) all actors can establish relations with each other in order to gain from the value chain. That implies a multiplicity of partnerships that can be formed not only between different groups and organizations belonging to the private sector, but also between public and private organizations.

Figure 1.2: The Linear Model of a Value Chain

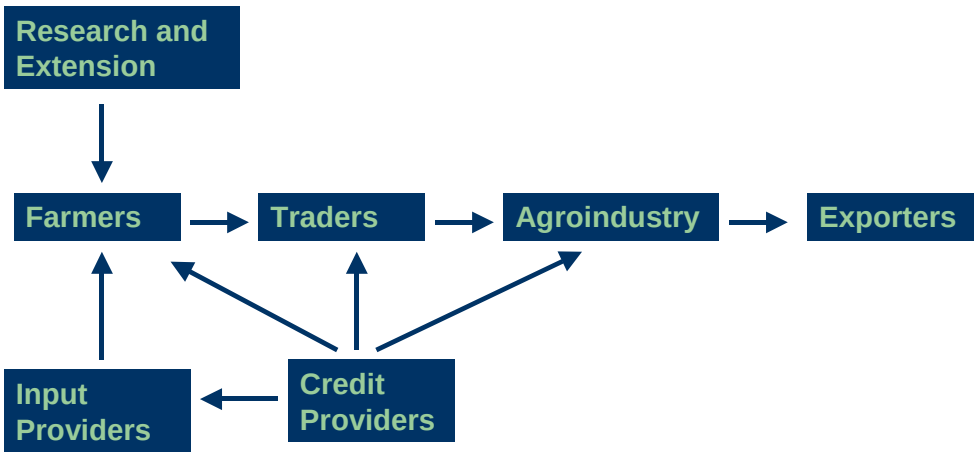
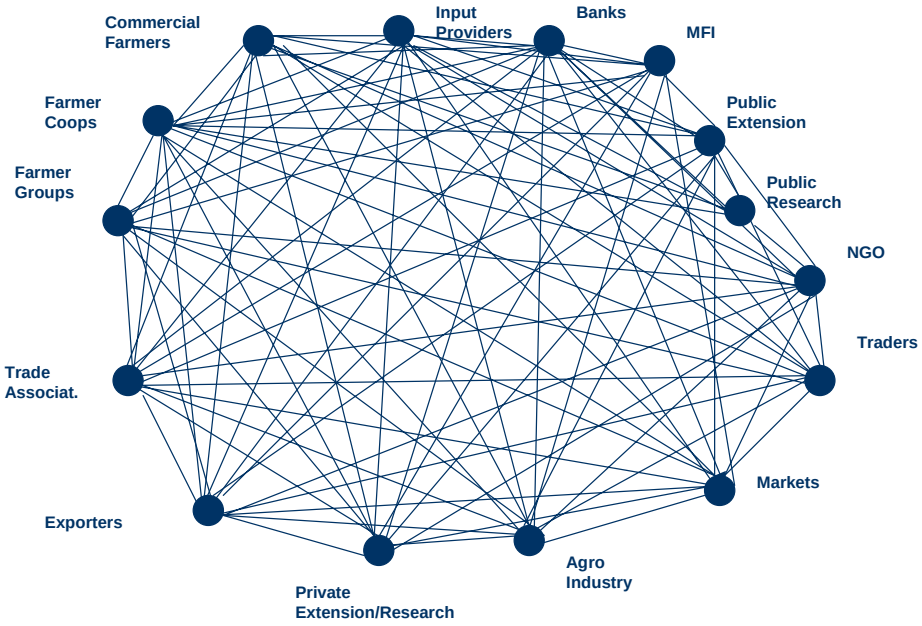


Figure 1.3: The Network Model of a Value Chain

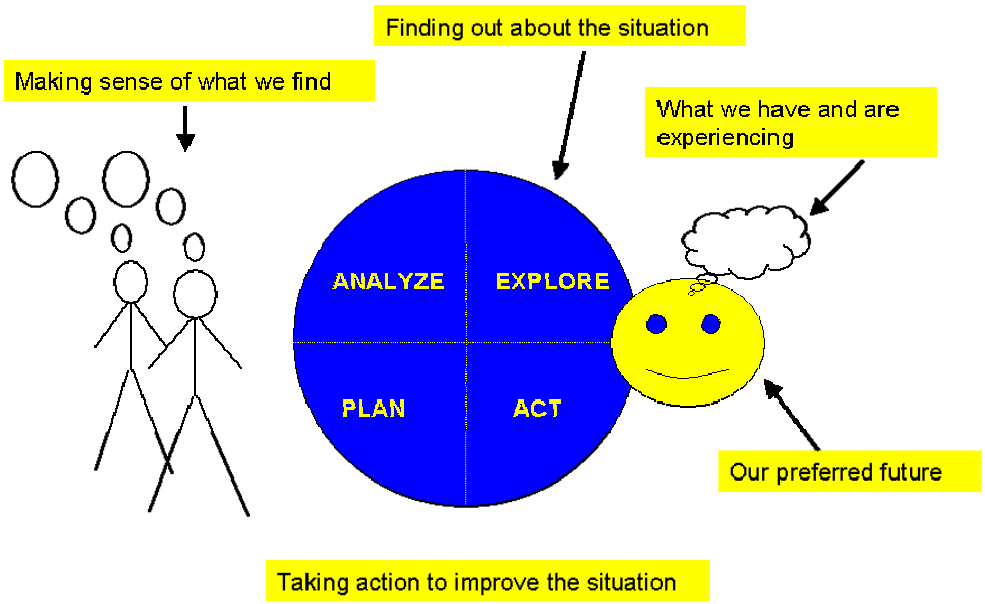


2. Participatory Learning System Approach

52. A strong team and sound analytical tools are necessary but not sufficient conditions for the success of the TA. Unless the TA Team is able to exchange views with stakeholders effectively, the recommendations and the strategy prepared by the team might lead to misunderstanding and to fruitless conflict. The team has kept an open line of communication with a variety of stakeholders, including an advisory group chaired by the Director General (DG) of the Department of Agriculture (DOA), and through well-structured and periodic meetings, workshops, seminars and briefings. Opinions, knowledge and ideas of stakeholders were well circulated and understood by all team members and through continuous effort to translate these ideas into clear statements. While this exchange of information could guarantee a convergence of ideas, the exchange facilitated the understanding of alternative points of view and promoted a process of conflict resolution and solution finding. Central to this exchange was the Participatory Learning System Approach.

53. The approach is based on the concept of collaborative, experiential learning. Learning is viewed as an iterative process of finding out about the situation to be improved, making sense of this and taking appropriate action. This is represented in Figure 1.4. An underlying assumption is that the way we see the world largely determines the way we act in it, with the corollary that we must change the way we ‘see’ if we are to change the way we ‘act’. It follows that we need a process for enabling this to occur and collaborative learning is the key to this. Collaboration is important because we must usually act together to improve a situation.

Figure 1.4: The Experiential Learning Cycle



54. We can consciously guide this process if we understand it. We have learned how to learn (double-loop or meta-learning). To do this we must become reflective and critical. It is reflection that transforms experience into knowledge. Becoming critical means developing our capacity to appreciate the significance of the assumptions we, and others, bring to a situation, and to generate alternatives. The workshops conducted by the TA Team were designed to enable this to occur.

55. There is usually a lag between developing a new way of seeing the world, and behaving consistently with this. A workshop will therefore have limited medium to long-term impact unless the environment is conducive to an ongoing process of trying new ways of doing things, reflecting and re-conceptualizing. This ongoing process of learning was started by the TA Team since the beginning of the TA, starting with the First Stakeholder Workshop in April and continued until the last Stakeholder Workshop in August.

E. SOURCES OF INFORMATION

1. Field Visits

56. The TA Team has undertaken extensive field visits since inception of the TA. The TA Team has visited all the 11 districts in the project area and has interacted with stakeholders using a variety of methods, including focus group discussions, rapid rural appraisals and key informant interviews. The field visits were based on field work documents that helped the consultants to plan the visits and the approach and methodology of each field visit (including checklists and questionnaires wherever relevant). The background reports of the individual consultants are based on these field visits.

2. Social Field Work

57. During April and May, a local NGO (Users Centre – NGO) under the guidance of the TA Team undertook a social survey of five districts in the EDR, including one district in the Mountains (Taplejung), two districts in the Hills (Ilam and Dhankuta) and two districts in the Terai (Morang and Saptari). The objectives of the study were to explore village level stakeholders' perceptions, beliefs, experiences and skills on existing agricultural pattern and to

identify the scope of work and activities to be undertaken for market-led agricultural development in the context of commercialization and HVC. Various Participatory Rural Appraisal (PRA) tools used included social/resource maps, transect walks, wellbeing ranking, preference ranking, Venn diagrams, task analysis, time lines, time trend analysis, seasonal calendars and focus group discussions (see Photos 1.1-1.3). The Social Survey Team worked with almost 2,000 households from 26 sites of the five districts. The findings of the social field work are available in a background report[35] and summarized in Appendix 1 and Appendix 10.

3. Stakeholders Participatory Workshops

58. Three Stakeholder Workshops were held between April and August 2003. The following paragraphs summarize the objectives and findings of each workshop. The summary of each workshop is reported in background reports.

59. The First Stakeholder Workshop took place in Biratnagar on 8-9 April 2003. A report on the workshop including a summary of findings and detailed outputs of participants has been produced[36]. The objective of the workshop was to engage stakeholders in the design of the Commercial Agriculture Development Project (CADP). The outcomes of the workshop were (a) heightened awareness of the Project among stakeholders and appreciation of its potential to improve their situation; (b) heightened awareness of and appreciation of stakeholder perspectives and pre-dispositions among the TA Team; (c) an improved environment for continuing stakeholder/consultant collaboration in the project design process; and (d) an appreciation of the development potential of incorporating collaborative, experiential learning into the project design (see Photos 1.4-1.6).

60. A second set of Stakeholder Workshops took place in Biratnagar between 9 and 13 July 2003[37]. The purpose of these consultations was to share the findings of the TA Team up to date, and to elicit feedback on the report before moving to the next stage of the design of the project interventions. Four mini-workshops with different groups (farmers, NGOs, private sector and line agencies) held during 9-12 July 2003 were followed by a Plenary Workshop (with the four groups) on 13 July 2003 (see Photos 1.7-1.9). The consultative meetings had a high level of participation of stakeholders. The main conclusion of the working groups is a broad agreement about the main findings and the conceptual framework and approach proposed by the TA Team in the Interim Report.

61. According to stakeholders, the project should help the process of moving from the current low level of commercialization to a higher level, should follow the demand-driven approach incorporated in the mechanism of the Commercial Agriculture Alliance (CAA) for investment proposals, and should focus on the stakeholders who are already commercialized. A Network of commercial agriculture should include both the key stakeholders actively engaged in commercial agriculture and various service providers. Market failures related to risk and information should be addressed and institutional capacity for supporting commercial agriculture should be strengthened and further developed.

62. The stakeholders pointed out several aspects that require further consideration and analysis by the TA Team. Among these issues are the need of having a majority of farmers in the CAA, the advisability of having quotas for women in the CAA, the sustainability of the

[35] ANZDEC/ACI/CMS 2003 Social Analysis/Survey of Sampled Production Pockets of Taplejung, Ilam, Dhankuta, Morang and Saptari.
[36] ANZDEC/ACI/CMS 2003, Proceedings and Main Findings First Stakeholders Workshop, Biratnagar, 8-9 April 2003.
[37] ANZDEC/ACI/CMS 2003, Proceedings and Main Findings Second Stakeholders Workshop, Biratnagar, 9-13 July 2003.

Commercial Agriculture Fund (CAF), the need of crop insurance, and social problems that may impede the effective functioning of the Commercial Agriculture Network (CAN) and the CAA.

63. A Third Stakeholder Workshop[38] was held in Biratnagar during 21-22 August 2003 (see photos 1.10-1.11). The aim of the workshop was to engage in a final consultative process the representative cross-section of Eastern Region stakeholders who participated in the First Stakeholder Workshop (8-9 April 2003) and/or the Stakeholder Consultations (9-13 July 2003). Their April input played a significant role in the initial formulation of the CADP and in its subsequent development. In the July consultations they confirmed the basic approach of the Project and its constituent elements. The intention in the Third Workshop was to present to the stakeholders the draft design of the CADP and seek feedback on it, with a particular emphasis on its implementation.

64. The outputs of the workshop provided a lot of confirmation of the CADP components. The participants showed a good understanding of each of the components and an enthusiastic acceptance of the need for the project and the way the CADP is responding to it. This understanding was however constrained by the dominance of a "supply-driven" perspective among many participants. A deep-seated belief apparent in the outcomes and subsequent discussion is that the provision of inputs will result in desired outcomes. The CADP TA Team challenges this belief and this was the basis of some lively discussion between participants and the Team. This discussion was a value aspect of the workshop and made a significant contribution to furthering and deepening the understanding of the 'commercial' nature of the project.

65. Two themes emerged that were of particular significance to CADP design preparation: (i) the need for transparency in the workings of the CAA, and (ii) institutional constraints associated with the participation of line agency staff in the institutional capacity development component (as trainers for example). Both of these issues are addressed in this Report.

4. Other Stakeholders Consultations

66. Other stakeholders consultations included the advisory group meetings held on 3 April, 17 July and 26 August 2003; the steering committee meetings held on 21 April, 18 July and 29 August 2003; the tripartite meetings held on 21 April, 20 July and 22 October 2003; the participatory discussion held in Biratnagar on 19 April 2003 with a group representative of farmers, agro-enterprises, NGOs, line agencies, ADB and TA Team; the donor coordination meeting held on 26 August 2003; and the meeting at the Agro-Enterprise Center (AEC) with the private sector held on 27 August 2003.

5. Background Reports

67. Individual consultants prepared various background reports. Their main findings are incorporated in this Final Report.

6. District Profile and Regional Database

68. The TA Team has compiled a database with information about the different districts of the EDR. This information is partly obtained from the Nepal Agriculture Database prepared under the Agriculture Sector Performance Review (TA 3536-NEP) funded by the ADB and implemented by MOAC. Additional information has been collected since the beginning of March from a variety of sources including different ministries, departments and other

[38] ANZDEC/ACI/CMS 2003, Proceedings and Main Findings Third Stakeholders Workshop, Biratnagar, 21-22 August 2003.

government and non-government institutions. Information available only in hardcopy were translated, organized and digitized. A CD of the database is available with the TA Team.

Photo 1.1: Women Focus Group Discussion

Photo 1.2: Social Maps

Photo 1.3: Preparing Resource Map

Photo 1.4: First Biratnagar Workshop

Photo 1.5: Working Group Discussion

Photo 1.6: Presentation of Findings

Photo 1.7: Second Biratnagar Workshop

Photo 1.8: Discussing the Commercial Agriculture Network

Photo 1.9: The Commercial Agriculture Alliance, Board and Fund

Photo 1.10: Third Workshop Presentation of Findings

Photo 1.11: Components of the CADP

II. SECTOR PERFORMANCE AND KEY ISSUES

A. INTRODUCTION

69. The objective of this chapter is to discuss the crop agriculture sector performance and key issues related to commercialization of HVC in the EDR. The main findings are based on sector analysis detailed in Appendix 1 and the TA Team background reports. The findings are interpreted using the Value Chain Approach conceptual framework described in Chapter 1. This chapter is organized into nine sections; this Introduction is Section A. Section B summarizes the key features of crop agriculture in the EDR and its past performance, and presents an analysis of strengths, weaknesses, opportunities and threats. Section C presents alternative concepts of agricultural commercialization and discusses indicators of commercialization. Section D highlights the key factors affecting commercialization and their current status in the EDR. Section E reports the finding of the study on partnerships and linkages among commercial stakeholders in the EDR. Section F gives the conclusions and implications for the project of the social survey. Section G discusses the factors of success in the commercialization of the EDR. Section H identifies the core problem for commercialization in the EDR and Section I draws the main conclusions of the chapter.

B. SECTOR PERFORMANCE

70. The EDR has a wealth of micro-climates and agro-ecological conditions that are suitable to the production of a broad variety of high-value products including tropical and temperate climate fruits, vegetables and vegetable seeds, potatoes, tea, coffee, spices, medicinal plants, mushrooms, essential herbs, oilseeds and pulses. Moreover, in the case of traditional crops such as rice, maize, wheat and sugar cane, considerable improvements in yield are within the reach of farmers, if appropriate technologies and marketing infrastructure are accessible.

71. The comparative advantage of EDR in high-value products has been tapped to only a limited extent as a result of structural deficiencies such as weak infrastructure, incomplete markets for credit and risk, lack of information, small scale of production, and more recently an unstable political situation. There are however encouraging signs in several districts of the Terai and the Hills of farmer organizations and NGOs currently involved in the production and marketing of high-value products. In the Hill districts of Ilam and Dhankuta, for example, farmer organizations and women groups have successfully shifted to the production of off-season vegetables and are exporting to the Indian markets of Darjeeling, Calcutta and Siliguri. In the Terai districts of Jhapa, betel nuts, tea, and tomatoes are already commercialized and in Sunsari and Saptari districts, banana production and potato seed are starting to be commercialized.

72. Commercialization of high-value products requires coordination among farmers, integration with marketers and processors and the development of the post-production system. Smallholder farmers and women have already shown a strong response, when adequately supported by effective institutions and encouraged in the formation of groups where participatory planning is the preferred mode of development.

73. The EDR has conditions that make it a good candidate to promote commercial agriculture. A relatively improved infrastructure (e.g. road connection through the East-West Highway and North-South corridor, improved irrigation systems in the Terai areas, incipient market infrastructure in the form of cold storage facilities and collection centers), a favorable location close to large markets (India, Bangladesh), ongoing experience with farmer organizations, and the agro-climatic suitability for HVC (e.g. fruits and vegetables, tea, cardamom, medicinal plants, ginger, mulberries) make it a good choice for promoting a

commercialization and diversification strategy that could lead to higher, sustainable and broad-based growth. The region is also endowed with a dynamic entrepreneurial base, particularly around the major cities of the Terai.

74. In addition to good opportunities for HVC development, the hills of the EDR offer a potential for the development of tourism and dairy industry, and a suitable environment for breeding improvement (new breeds of dairy cows are already produced and exported to other regions of Nepal and also to India). The region is endowed with several research and extension centers including a Regional Agricultural Research Station at Tarahara in the Terai and an Agricultural Research Station at Pakhribas in the Hills. There are also important facilities such as the Regional Seed Testing Laboratory, the Regional Soil Test Laboratory, the Regional Food Testing Laboratory, the Regional Plant Protection Laboratory, and the Regional Agricultural Training Center (RATC).

1. Project Area

75. The EDR comprises 16 districts (see Figure 1.1), of which 5 are in the Terai (Siraha, Saptari, Sunsari, Morang and Jhapa), 8 are in the Hills (Okhaldhunga, Khotang, Udayapur, Bhojpur, Dhankuta, Terhathum, Panchthar and Ilam) and 3 are in the Mountains (Solukhumbu, Sankhuwasabha and Taplejung). The districts differ considerably in terms of area, population, infrastructure level and agricultural development. Table 2.1 shows some key features of the districts.

Table 2.1: Main Features of EDR Districts

No.	District/ Group	Area (Sq. Km)	Population (2001)	Density Population per Sq. Km	Area under Different Crops in 2001	Value of Production 2001	Road (2000)	Road density (Km/SqKm)	Population (>= 6 Years)	Literate Population (>= 6 Years)	Adult Literacy (2001) %
1	Taplejung	3,646	134,698	37	32,841	723	37	0.01	113,782	59,403	52
2	Sankhuwasab	3,480	159,203	46	39,829	997	40	0.01	135,964	73,093	54
3	Solukhumbu	3,312	107,686	33	24,172	609	-	-	92,138	42,208	46
4	Panchthar	1,241	202,056	163	43,146	1,053	158	0.13	171,193	94,683	55
5	Ilam	1,703	282,806	166	56,223	1,423	361	0.21	245,778	162,775	66
6	Terhathum	679	113,111	167	34,337	613	45	0.07	97,445	57,515	59
7	Dhankuta	891	166,479	187	49,041	1,045	193	0.22	143,342	91,709	64
8	Bhojpur	1,507	203,018	135	53,182	1,452	3	0.00	174,643	95,216	55
9	Khotang	1,591	231,385	145	58,406	1,227	-	-	194,397	96,951	50
10	Okhaldhunga	1,074	156,702	146	32,799	697	17	0.02	132,320	64,995	49
11	Udayapur	2,063	287,689	139	42,866	907	199	0.10	242,103	129,069	53
12	Jhapa	1,606	688,109	428	142,059	5,818	601	0.37	553,891	370,728	67
13	Morang	1,855	843,220	455	155,504	4,495	690	0.37	728,436	413,279	57
14	Sunsari	1,257	625,633	498	107,398	3,011	471	0.37	533,757	322,306	60
15	Saptari	1,363	570,282	418	111,800	3,097	295	0.22	478,023	235,548	49
16	Siraha	1,188	572,399	482	104,484	2,419	300	0.25	473,828	191,006	40
	EDR (11)	17,492	4,486,482	256	879,700	24,605	3,350	0.19	3,781,578	2,128,021	56
	EDR (5)	10,964	857,994	78	208,389	4,983	60	0.01	729,462	372,463	51
	EDR (16)	28,456	5,344,476	188	1,088,088	29,588	3,410	0.12	4,511,040	2,500,484	55

Note:

EDR (11) includes the 11 districts of the Final Report
EDR (5) includes the 5 districts not part of the project, namely Solukhumbu, Sankhuwasabha, Okhaldunga, Khotan and Bhojpur
EDR (16) includes all the 15 districts of the EDR

76. In principle, the "project area" could include any district in the region where commercial agriculture takes place. However, out of 16 districts in the EDR, the five districts of Solukhumbu, Sankhuwasabha, Okhaldhunga, Khotang and Bhojpur are more isolated and have much less potential for agricultural commercialization than the remaining 11 districts; therefore those five districts are not included in the remaining discussion of the project area. The project area includes the five districts in the Terai and the six districts in the Hills/Mountain area including Udayapur, Dhankuta, Terhathum, Panchthar, Ilam and Taplejung.

2. Land Use

77. The total cultivated area in 2000/2001 was 872,123 ha, of which 70% was in the Terai and the rest in the Mountain/Hill districts (see Figure 2.1a). The project area is heavily focused on cereal production which occupies 83% of the cultivated area (Figure 2.1b). After cereals, the second main crop category is cash crops, including potato and sugar cane, and occupying 7.7% of the remaining area. The remaining 9% of the area is distributed among pulses (4.4%), vegetables (3.9%) and fruits (1%). The distribution of different crop categories does not change much among the project districts in the Terai and in the Mountain/Hills (see Figures 2.1c-d).

Figure 2.1a: Area Under All Crops in EDR by Agro-ecological Zone

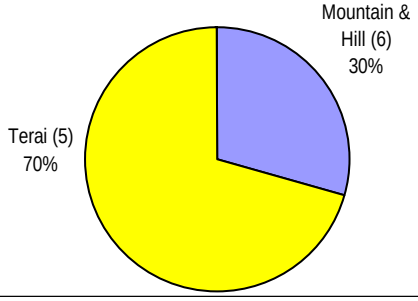


Figure 2.1b: Distribution Area under All Crops in EDR by Crop Type

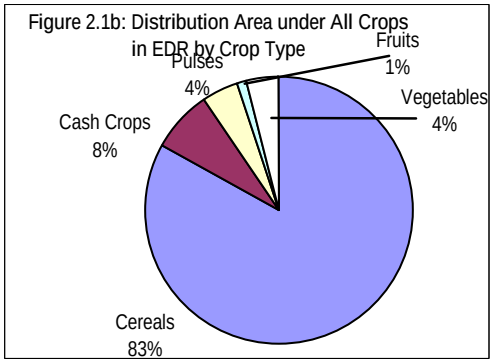


Figure 2.1c: Distribution Area Under All Crops in Mountain & Hill of Project Districts

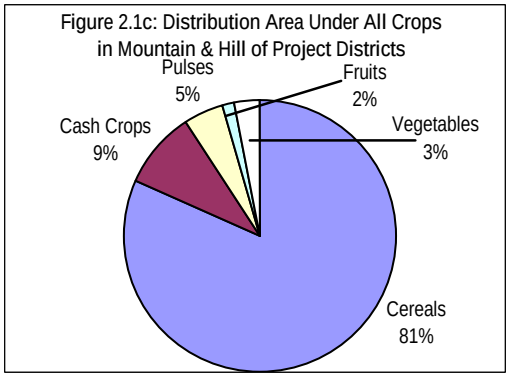
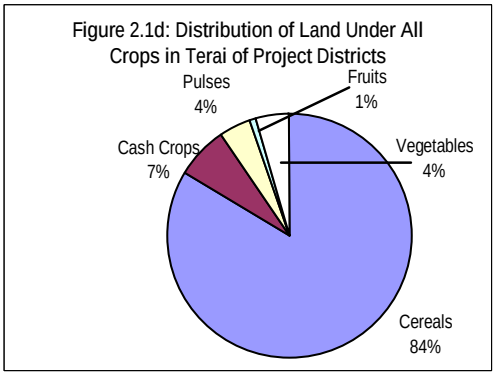
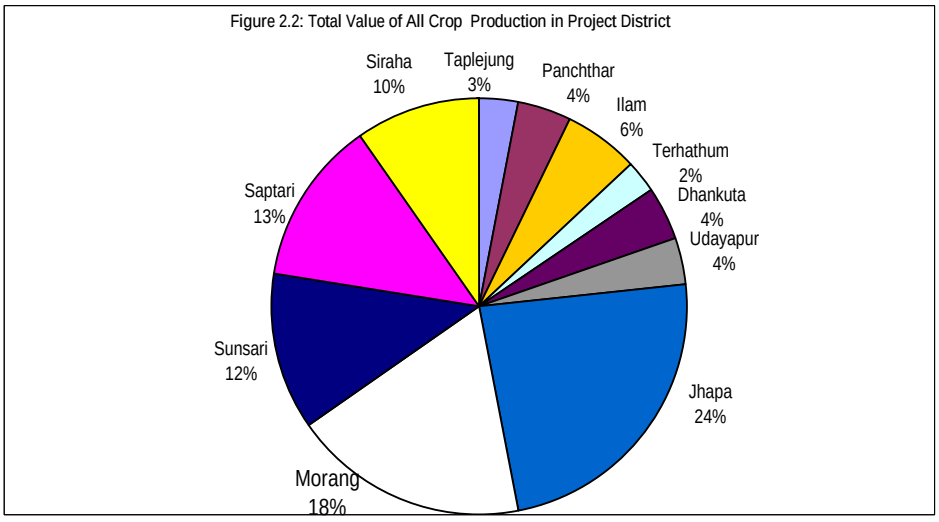


Figure 2.1d: Distribution of Land Under All Crops in Terai of Project Districts



Source: Based on ADB TA 3949-NEP Database

Figure 2.2: Total Value of All Crop Production in Project District



Source: Based on ADB TA 3949 Database

3. Value of Crop Production

78. Table 2.2 and Figure 2.3 show that even though cereal covers 83% of cultivated area in the project districts, their gross value of production is much less at 60% of the total. Vegetables on the other hand, take about 4% of total cultivated land, but contribute 13% to total value of production. Some of the highest value crops produced in the region (cardamom and tea) contribute about 8% to total gross value, but occupy less than 0.2% of total cultivated area.

79. Total value of production was estimated[39] to be Rs.24,604 million in 2001/2002. The Terai districts have the largest share of this value, with Jhapa leading at 24%, followed by Morang (18%) and Saptari (13%). The largest share in the Hill districts is Ilam with 6% (see Figure 2.2). In most of the Terai districts, paddy share is more than 60% of total district value added (see Figure 2.4), the only exception being Jhapa, where a more diversified agriculture includes tea and other products.

4. Value of Exports

80. Information about agricultural exports from the Eastern Region is not readily available. Statistics are unreliable even for the main regional export (e.g. cardamom, tea). According to the Nepal Rastra Bank (NRB), Rs.26 million of tea was exported (presumably this figure does not include exports to India) in 2000/2001, but according to the Trade Promotion Center, Rs.69 million was exported, while the AEC estimates exports to India at Rs.287 million.

81. For cardamom there are similar data inconsistencies, but the latest figures from NRB for 2000/2001 put export value at Rs.320 million. Other exports from the region include ginger, vegetable ghee (for which most of the raw materials are imported), pulses and vegetables. According to statistics from the Trade Development Center, the EDR share of total overseas exports has increased dramatically during the 1990s from about 1% at the beginning of the decade to 17% in 1999/2000 (see Table 2.3). If these estimates are correct total exports from the EDR in 1999/2000 could be estimated to be Rs.4.7 billion. However, it is not known how much of these exports are agricultural exports.

82. The dearth of statistics related to agricultural exports in general and for the region in particular is symptomatic of an institutional weakness that has negative effects for commercialization. In the absence of reliable baselines and an analysis of trends for exports of different products, it is difficult to make precise assessments about demand and supply prospects in the region. Trade policy and trade negotiations with major partners are often based only on very patchy information, and this is a major concern in light of the imminent access of Nepal into the WTO.

[39] These estimates are based on production figures and unit values of farm prices derived from the Farm Survey of ASPR in 2001 (see Goletti F. et al 2001). Value of Tea and Cardamom production have been attributed to Jhapa.

Table 2.2: Value of Crop Production in Project Districts by Crop Type

Unit: Million Rupees

S. No	Crop	Districts/ Agro-ecological Regions													
		Taplejung	Panchthar	Ilam	Terhathum	Dhankuta	Udayapur	Mountain & Hill (6)	Jhapa	Morang	Sunsari	Saptari	Siraha	Terai (5)	EDR (11)
23	Cereal	378.6	600.1	738.2	368.1	624.6	548.2	3,257.8	3,052.0	2,974.5	1,915.8	1,916.3	1,685.1	11,543.7	14,801.5
24	Cash Crops	234.4	304.3	344.3	101.7	144.0	82.9	1,211.6	450.1	647.3	348.5	420.6	173.7	2,040.2	3,251.8
25	Pulses	24.7	15.5	36.1	11.7	21.2	27.0	136.3	36.6	66.2	87.1	107.4	68.0	365.3	501.5
26	Fruits	27.8	56.4	56.4	57.2	84.5	69.1	351.4	99.1	86.5	112.9	88.9	125.1	512.5	863.9
27	Vegetables	57.9	62.6	155.3	72.6	169.1	179.6	696.9	401.1	622.4	524.3	562.2	366.4	2,476.4	3,173.3
	EDR Crops	-	13.7	92.9	1.8	1.8	0.4	110.6	1,779.6	97.8	22.8	1.2	0.9	1,902.2	2,012.7
	Total	723.4	1,052.6	1,423.1	613.1	1,045.2	907.2	5,764.6	5,818.5	4,494.6	3,011.2	3,096.7	2,419.1	18,840.2	24,604.7

Figure 2.3 : Total Value of Crop Production in Project District

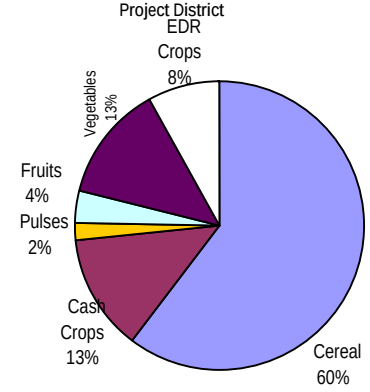
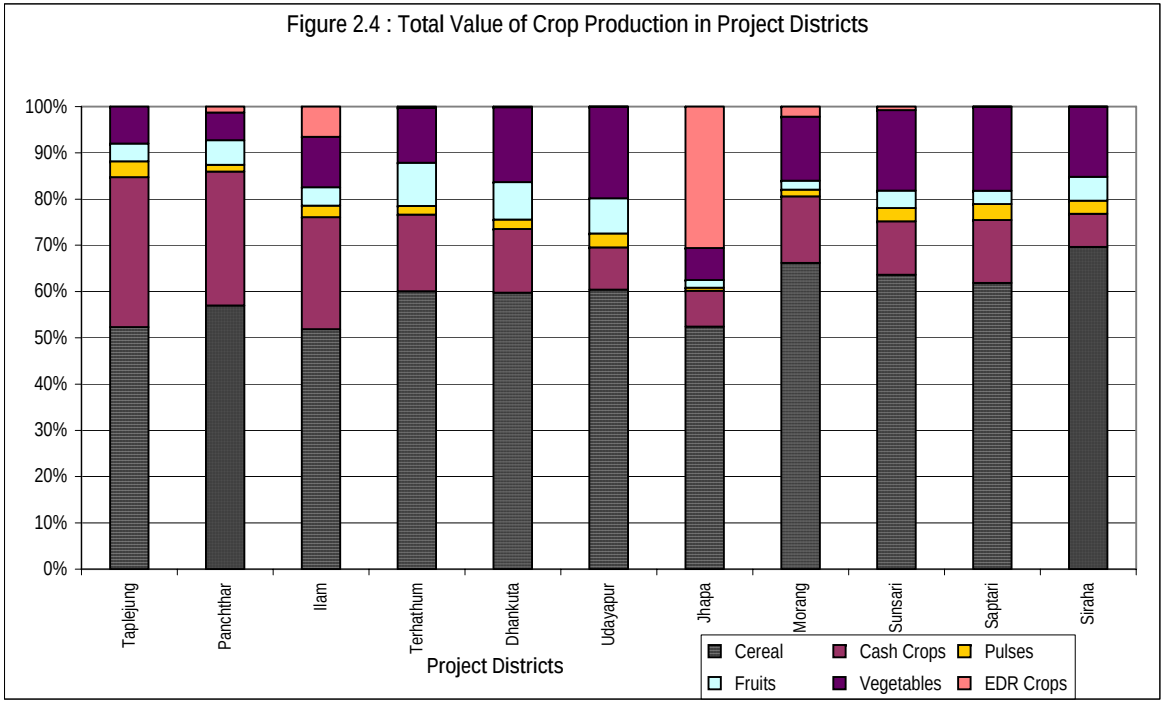


Figure 2.4 : Total Value of Crop Production in Project Districts



Source: Based on ADB TA 3949-NEP Database

Table 2.3: Share of Development Regions in the Total Overseas Exports, 1990/91 to 1999/00

Development Regions	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	Growth Rate (%)
Eastern Dev. Reg.	1.0	0.5	0.7	0.9	4.0	12.4	16.5	24.4	24.1	17.2	62.7
Central Dev. Reg.	98.2	97.6	97.5	98.9	96.0	87.1	83.3	75.6	75.9	82.8	-3.1
Western Dev. Reg.		0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-93.6
Mid-western Dev. Reg.	0.8	1.7	1.4	0.1	0.0	0.5	0.2				-98.0
Far-western Dev. Reg.		0.1	0.2	0.0		0.0					-88.9
Nepal	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Total Value (Million Rupees)	**5,671.0**	**12,184.8**	**15,494.0**	**16,494.7**	**14,288.3**	**15,526.5**	**17,011.1**	**17,987.2**	**22,180.9**	**27,827.9**	**12.5**

Source: Based on ADB TA 3949 Database

83. A considerable amount of trade is unrecorded because of the porous border with India. Plant quarantine controls are virtually impossible to enforce, and when they are (particularly on the Indian side) they become forms of non-tariff barriers rather than legitimate concerns to control the quality of traded commodities and the spread of diseases[40]. A huge amount of unofficial fertilizer trade across the border has been documented by fertilizer studies[41]. With the exception of a few cases (e.g. the agro-industry output and trade of vegetable ghee), the information on agricultural trade is seriously lacking. Production figures, adjusted with estimate of domestic demand, are commonly used to estimate trade of major agricultural commodities, a method fraught with all kinds of estimation problems.

5. Export of HVC Products

84. Within the EDR there are only two border checkpoints that have plant quarantine offices. Plant quarantine records of exports are provided below in Tables 2.4 and 2.5. However it is important to note that besides these two checkpoints there are many other border crossing points, and while some of them have customs checkpoints (and some do not), none have plant quarantine offices, so officially plant products should not be passing via these other border crossings. However, it is well known that the border between Nepal and India is very porous.

Table 2.4: Exports of HVC Products via Biratnagar (Morang) Plant Quarantine Checkpoint

(mid-June 2001 to mid-June 2002)

Product	Destination	Volume (tons)
Lentil	Bangladesh	5,436
Fresh Vegetables	India	1,028
Ginger	India	575
Fresh Fruits	India	494

Source: Plant Quarantine Checkpoint, Biratnagar

[40] Recently, truckloads of vegetables from Nepal have been stopped at the border with India on the basis that there was no adequate food testing certificates. The perishable cargo had to wait for food testing to be conducted in Calcutta; supposedly, the results of the test took more than 2 weeks to be known. The time lag had catastrophic consequences for that specific cargo of vegetables. In general, these types of control only seem to encourage illegal exports over a largely uncontrolled border as well as corruption of officials on both sides of the border. Given the free movement of persons across the Nepal-India border, the soundest recommendation for both India and Nepal would be to abolish plant quarantine controls as suggested in the Background Report of the Crop Specialist of the TA Team.

[41] See ACI 2003 Fertilizer Use Baseline Study.

Table 2.5: Exports of HVC Products via Khakarbhitta (Jhapa) Plant Quarantine Checkpoint

(17 July 2002 – 29 March 2003 – i.e. only 8.5 months)

Product	Destination	Volume (tons)
Ginger	India	11,899
Pulses	India	11,719
Chunni Vhuru	India	4,906
Tori Pina	India	4,155
Cardamom	India, Pakistan, UAE	3,715
Cabbage	India	3,036
Amliso	India	2,412
Tea	India	2,239
Oil Seed	India	1,027
Herbs	India	676
Buckwheat	India	655
Aankadi	India	503

Source: Plant Quarantine Checkpoint, Khakarbhitta

Photo 2.1: Nepal-India border checkpoint at Biratnagar

85. The data from plant quarantine suggest that pulses, ginger, cardamom and vegetables are the main export products from the Eastern Region. Note that exports of vegetables, including cabbage, amounted to about 4,000 tons, yet the Sidhuwa/Koshi Co-op reported that it exported about 70% of the 14,500 tons of vegetables that it sold last year, that amounts to about 10,000 tons. There is a large difference between 4,000 and 10,000 tons. This may be due to the above records for Khakarbhitta only covering 8.5 months or (more likely) because the information is not reliable.

86. The Marketing Development Directorate (MDD) made some projections for exports to urban markets in the neighboring areas of India that indicated exports of high value agricultural crops increasing from 12,700 tons in 2001 to 26,100 tons in 2010 and 65,100 tons in 2020. This growth is based on increases in urban populations and incomes. However, it is not clear how MDD defines “high value agricultural products” because if ginger and pulses were included, then the exports shown above would already exceed the data used by MDD.

87. It is interesting to note that one of Nepal's leading agricultural exports is lentils/pulses. The marketing study (1999) of the PPTA for the Crop Diversification Project reported that out of the production of over 113,000 tons of lentils in 1997/98, Nepal exported about 43,393 tons (38%) of which nearly 13,000 tons went to India and 30,500 tons to other countries. The study reported that India was the world's largest importer of pulses at 600,000 tons in 1996/97. The main pulses imported by India (at that time) were peas (154,000 tons), chickpeas, pigeon peas (tur) and lentils. Main suppliers are Myanmar, Australia, Canada, Turkey, Iran and Syria. Clearly the Indian market represents a huge opportunity, yet Nepal's exports to India are relatively negligible.

6. Comparative and Competitive Advantage of EDR Agriculture

88. One of the major issues confronting agricultural commercialization in the EDR is in understanding their competitiveness relative to regional suppliers. Nepal is reputed to have a significant comparative advantage in different HVCs including vegetables, spices, tea and pulses.

89. In order to measure the relative competitiveness and degree of comparative advantage for EDR agriculture, nominal protection coefficients (NPCs) and domestic resource costs (DRCs) can be computed. NPCs relate prices in the domestic market to a reference border, or world price (Tsakok 1990) to examine the level of price distortion in the economy. An NPC that is greater than 1 means that positive protection is afforded to producers and, consequently, consumers are taxed. An NPC that is less than 1 implies that producers are taxed at the expense of consumers. An NPC exactly equal to 1 means that price policy is neutral and does not adversely impact producers or consumers.

90. The border price is typically calculated at the official exchange rate, although when this is not at equilibrium, a shadow exchange rate should be used to capture the effects of an overvalued or undervalued exchange rate on the production present in an economy (Sadoulet and de Janvry 1995). The border price is also adjusted to take into account whether the product of interest is an import or export. If the product is an import, the c.i.f. import price should be adjusted by adding handling and transport costs from the border to market and subtracting marketing margins and transport costs from the farm level to the market (Tsakok 1990). If the product is an export, the f.o.b. export price should be adjusted by subtracting handling costs, marketing margins and transportation costs from the port to the farm (Tsakok 1990).

91. In Nepal, the official exchange rate is nominally a floating exchange rate and is generally free of policy distortions. Thus, the exchange rate is not a source of protection on agricultural production.

92. Calculations for NPC and DRC are presented in Table 2.6 for selected commodities. The border price considered in the table is calculated based on an average of prices at border markets with India. The table shows that NPCs are mostly greater than 1 suggesting that Nepal products are not competitive with Indian products. At the same time, DRCs are always less than 1, suggesting that Nepal has a comparative advantage in the production of these products vis à vis India.

93. The situation can be summarized as follows. EDR has a comparative advantage in the production of a wide range of agricultural commodities including fruits, vegetables and cereals. However the comparative advantage in production is eroded by an underdeveloped marketing system. This is reflected in high transaction costs related to marketing, transportation, storage, taxes, grading and packing (see section M on post-harvest operations, section N on information and section O on road and market infrastructure in Appendix 1). All these transaction costs imply that the domestic prices are much higher than costs of production and

are also higher than border prices with India. The competitiveness of Nepali products is then largely lost between production and consumption. That suggests a need for improving the organization of the post-production system, a task that is better performed by the organization of value chains.

Table 2.6: NPC and DRC for Selected Commodities

Commodity	Domestic price, US$/ton /a	Border price (BP), US$/ton /b	Cost of production	Domestic cost, US$/ton /c	Traded resource cost (TRC), US$/ton /d	NPC	BP - TRC	DRC
CROPS								
Banana	225.7	145.0	2.7	2.7		1.6	145.0	0.02
Cabbage	165.0	105.0	47.4	44.7	2.7	1.6	102.3	0.44
Cauliflower	308.5	320.4	22.7	21.1	1.6	1.0	318.8	0.07
Chilly (Green)	456.7	238.9	117.1	116.4	0.7	1.9	238.2	0.49
Garlic Dry	562.0	288.7	102.0	98.0	4.0	1.9	284.7	0.34
Lentil Broken	562.3	466.0	107.1	104.3	2.8	1.2	463.2	0.23
Mango	496.6	455.0	10.4	10.4		1.1	455.0	0.02
Orange	319.1	592.0	1.8	1.8		0.5	592.0	0.00
Pointed Guard	304.0	221.7	31.9	31.9		1.4	221.7	0.14
Potato (Red)	153.8	97.2	62.1	60.6	1.6	1.6	95.6	0.63
Potato (White)	146.7	75.3	62.1	60.6	1.6	1.9	73.7	0.82
Rice Coarse	237.3	183.0	64.5	59.5	5.0	1.3	178.0	0.33
Rice Medium	276.2	231.3	64.5	59.5	5.0	1.2	226.4	0.26
Tomato (Big)	314.6	264.4	32.0	31.4	0.5	1.2	263.9	0.12
Tomato (Small)	343.4	186.7	32.0	31.4	0.5	1.8	186.1	0.17

Source: Based on cost of production from ASPR Farmer Survey (2001) and prices from NAD (2002)

7. Crop Production Trends

94. The analysis of crop production trends[42] in the EDR indicates four main conclusions:

- HVC in the project districts have shown a strong performance over the past 5 years. In terms of production growth, potato, sugar cane, vegetables, citrus and tea have been major performers. Average growth rates of production for these crops range from 4.5% for vegetables to 16.5% for sugar cane.

- Some diversification has taken place away from wheat and pulses. Most of the HVC cultivated area is growing faster than cereal cultivated area. However, since HVC share in total cultivated area is a small fraction (13%), the process of diversification away from major cereals is still at its beginning.

- Yields are still low, but their importance in explaining growth is increasing in the case of paddy, potato and vegetables. However, productivity increases in maize, sugar cane, fruits and spices appear stagnant.

- The success stories are vegetables, tea and potato. In the case of tea and potato, some storage and processing investment has started to take place and the value chains for these two commodities have strengthened. In all these success stories, it was the initiative of the private sector rather than the public sector that took the lead – the extension and research system lagged behind.

8. Cost of Production, Income and Crop Potential

95. When discussing commercial crop production, it is important to stress that yield is not the only important parameter. If high yields are achieved through high cost of production, the

[42] See Appendix 1.

resulting income might be a low return on investment. Farmers have to consider many different factors when deciding which crops to cultivate – including what technology (i.e. inputs and crop management) to apply, where and when to sell the produce, and the expected income and cost of production. The decision to embark on HVC production is further complicated by the presence of risk related to adoption of new technology (e.g. hybrid seeds, drip irrigation), pests and diseases, price variability, and timely access to market.

96. Table 2.7 shows the average cultivated land, costs of production, income and yield of major cereals and some HVC. The average farmers in the EDR are compared with the potential represented by the performance of the 10% of most productive farmers in Nepal. The analysis is based on data obtained from field household surveys conducted in 2001 during the ASPR[43]. The following sections provide several insights emerging from the comparison of the average farmers in the EDR with the most productive farmers in Nepal.

97. *The gains in yield are considerable.* In the case of cereals they vary between 46% for wheat to 110% for maize. On average, the yield improvement for cereal farmers is over 71%. In the case of the annual HVC considered in the table, the improvements in yield vary from 20% for oilseeds to almost 300% for sugar cane. On average the improvement in yields for this sample of HVC was of the order of 93%.

98. *The gains in income are even higher than the gains in yields.* In the case of cereals they vary from Rs.8,557/ha for paddy to Rs.30,438, with an average increase in income of 234% for major cereals. In the case of HVC, the average increase in income is of the same order of magnitude (247%), even though within HVCs there are considerable variations from a low of 85% for lentils to a high of 765% for ginger.

99. *The most productive farmers usually cultivate small areas.* Highest productivity is not a function of size. Farmers cultivating small areas can still achieve considerable results, both for cereals and HVC. In the case of cereals the average cultivated area of more productive farmers is 27% lower than for average farmers (0.56 ha versus 0.80 ha). In the case of HVC, the cultivated area of more productive farmers is about 19% lower than average farmers (0.17 ha versus 0.39 ha).

100. *Cultivated areas for HVC are smaller than for cereals.* The average cultivated area for cereals is 0.80 ha whereas for HVC is 0.20 ha. Moreover, there is great variation in cultivated area for HVC, from 0.07 ha for onion to 0.51 ha for lentils.

101. *The cost of production for HVC is higher than for cereals.* For the average EDR farmer, cost of production for cereals is Rs.9,072/ha, whereas for the sampled HVC the average cost of production is 125% higher at Rs.20,444/ha.

102. *HVC provide a much higher income than cereal crops.* High value crops income is on average 5.7 times higher than income from cereals for the average farmer in the EDR (Rs.32,836/ha versus Rs.5,711/ha). A similar relation holds for the most productive farmers whose average income from HVC is 4.8 times higher than for cereals (Rs.91,097 versus Rs.19,005).

[43] The methodology of the survey is reported in Goletti, F. et al. (2001) Farmer Field Survey: Design and Methodology of Analysis, ASPR TA 3536-NEP.

Table 2.7: Cost of Production and Income Potential

Crop	Average Farmer in EDR				Highest 10% Income				Percentage Changes			
	Cultivated Land (ha)	Cost of production/ha (Rs/ha)	Income/ha (Rs/ha)	Yield (Kg/Ha)	Cultivated Land (ha)	Cost of production/ha (Rs/ha)	Income/ha (Rs/ha)	Yield (Kg/Ha)	Cultivated Land (%)	Cost of production/ha (%)	Income/ha (%)	Yield (%)
Paddy	1.26	12,786	8,557	2865	0.80	12,843	30,438	4466	-36.6	0.4	255.7	55.9
Wheat	0.70	9,746	5,214	1880	0.71	9,860	14,196	2749	1.7	1.2	172.2	46.2
Maize	0.88	8,121	5,419	1427	0.46	7,587	16,824	2994	-47.3	-6.6	210.5	109.7
Millet	0.36	5,633	3,655	1061	0.27	5,947	14,562	1839	-24.1	5.6	298.5	73.3
Average Cereals	0.80	9,072	5,711	1,808	0.56	9,059	19,005	3,012	-26.6	0.2	234.2	71.3
Oilcrops	0.21	9,822	5,422	625	0.23	6,510	12,040	749	7.0	-33.7	122.1	19.9
Potato	0.15	40,980	16,834	9021	0.12	36,770	85,296	15692	-19.3	-10.3	406.7	73.9
Tobacco	0.13	12,928	11,806	777	0.05	13,993	59,687	1228	-60.8	8.2	405.6	58.1
Sugarcane	0.31	10,748	26,252	14800	0.44	19,759	66,527	59100	44.3	83.8	153.4	299.3
Lentil	0.51	5,890	8,173	753	0.36	4,661	15,116	1064	-29.2	-20.9	84.9	41.3
Cauliflower	0.11	14,487	85,742	9150	0.14	13,745	193,029	16247	23.0	-5.1	125.1	77.6
Cabbage	0.08	30,479	13,250	9083	0.03	11,160	36,040	11800	-57.1	-63.4	172.0	29.9
Beans	0.18	14,858	16,017	5174	0.10	13,956	62,698	9830	-42.8	-6.1	291.5	90.0
Radish	0.24	13,804	27,613	5074	0.25	14,825	56,477	9472	2.2	7.4	104.5	86.7
Onion	0.07	17,608	130,042	11810	0.07	24,143	241,657	17720	0.0	37.1	85.8	50.0
Ginger	0.25	53,286	20,046	5558	0.07	32,764	173,496	16501	-73.0	-38.5	765.5	196.9
Average HVC annual	0.20	20,444	32,836	6,530	0.17	17,481	91,097	14,491	-18.7	-3.8	247.0	93.1
Average annual	0.39	16,890	24,360	5,054	0.29	14,849	68,568	10,904	-21.2	-2.5	243.0	86.3

Source: Analysis based on data from farmer survey, ASPR

9. Constraints to HVC Production

103. If HVC provide a higher income per unit of land than cereals and can be cultivated on small plots, why do smallholders not cultivate more of these crops? Several reasons explaining this apparent puzzle include an appropriate agro-ecological environment; access to technology, market and credit; and risk.

104. *Agro-ecology.* Crops can be cultivated only under certain favorable climatic, soil and water conditions. In the case of EDR, these conditions vary considerably from district to district and within each district. Large land areas suitable for commercial cultivation of HVC might sometimes not be available.

105. *Technology.* Smallholder farmers might not be familiar with crop management, the use of inputs and the integrated plant, pest and water management required for effective cultivation of HVC.

106. *Market.* Poor access to market for HVC is one of the main reasons for the reluctance of farmers to increase cultivated areas. In the case of perishables such as vegetables and potatoes, and in the absence of easily available storage and market outlets, increased production could result in increased losses.

107. *Credit.* The cash requirements to face higher cost of production of HVC represent a considerable challenge for many smallholder farmers. Without access to credit, many of these farmers cannot buy the inputs required to carry out HVC production. This credit constraint is even more binding in the case of perennials (fruit trees, tea, cardamom, etc) where initial investment cost might be simply prohibitive for the majority of smallholder farmers.

108. *Food security.* Unless farmers perceive that HVC is a relatively safe strategy to ensure food security for their households, there is little chance they will embark on the production of HVC on a large scale. For most households in Nepal, food security means paddy or cereals production. The land devoted to cereals in the EDR is almost 85% of total cultivated area.

109. *Risk.* Because of lack of storability of many HVC (e.g. vegetables, fruits), more difficult management of pests and plant diseases and thinner markets, the risk involved in HVC is higher than in the case of cereals. Risk is also reflected in greater price variability of HVC than in the case of cereals. Tables 2.8-2.9 show that the coefficient of variation of prices for different commodities in some main markets in the EDR (e.g. rice 0.08; lentil 0.09; garlic 0.27; ginger 0.26; potato 0.29; radish 0.46; cabbage 0.49; orange 0.31; mango 0.18; banana 0.16). The price variability of potato for example is 3.6 times the price variability of rice; for cabbage the variability is 6.1 greater than for rice.

Table 2.8: Variability of Prices of Commodities Over Time by Locations

Commodity	Ilam	Dhankuta	Bhojpur	Jhapa	Morang	Average
Rice	0.11	0.08	0.09	0.08	0.05	0.08
Maize	0.14	0.13	0.13	0.19	0.09	0.14
Wheat	0.25	0.08	0.21	0.19	0.14	0.17
Lentil	0.14	0.07	0.09	0.05	0.08	0.09
Garlic	0.26	0.31	0.19	0.26	0.31	0.27
Ginger	0.24	0.20	0.33	0.26	0.27	0.26
Onion	0.37	0.40	0.26	0.40	0.45	0.38
Mutton	0.09	0.04	0.05	0.05	0.04	0.05
Potato	0.28	0.21	0.31	0.33	0.32	0.29
Tomato	0.42	0.23	0.40	0.44	0.60	0.42

Source: Analysis based on data from MDD/DoA

Table 2.9: Variability of Prices of Fruits and Vegetables Over Time by Locations

Commodity	Jhapa	Morang	Sunsari	Average
Banana	0.17	0.16	0.16	0.16
Mango	0.20	0.19	0.16	0.18
Orange	0.48	0.17	0.27	0.31
Cabbage	0.49	0.44	0.53	0.49
Radish	0.35	0.56	0.46	0.46

Source: Analysis based on data from farmer survey, ASPR

10. Preferences of HVC by Farmers

110. Both the social survey implemented by the NGO and the fieldwork conducted by the TA Team asked farmers to identify their preferences for HVC commercialization. The lists of commodities indicated by farmers are quite similar in both cases. Table 2.10 shows that vegetables and potato are preferred by the great majority of the socio-economic groups, both in the Terai and the Hills. Spices and tea are typical of the Hills, whereas aromatic rice, mango, sugar cane and fish (aquaculture) are typical in the Terai. Not surprisingly, farmers' preferences reflect the current land use. When asked to prioritize, vegetable production is seen as the top priority enterprise for which commercial principles should be strengthened and developed. Farmers have also indicated that food crops should have priority above fruits in the pursuit of commercialization. This is not an unexpected finding and demonstrates the farmers' risk avoidance strategy, because if their expectations in a particular season were not to be realized, the crops grown could still be eaten, or fed to livestock as a last resort.

Table 2.10: Major HVCs Preferred by Wellbeing Group in PRA Districts

Groups	Mountain/Hills	Terai
Well off	Cardamom, Ginger, Off-season Vegetable, Broom Grass and Tea	Mango, Fish, Off-seasonal Vegetable, Potato, Lentil, Aromatic rice
Medium	Cardamom, Ginger, Off-season Vegetable, Broom Grass	Off-season Vegetable, Potato, Tomato, Lentil, Aromatic Rice
Poor/Vulnerable	Off-season Vegetable, Potato, Ginger, Cardamom, Qound Red Chilly, Leafy Vegetables	Green Vegetable, Leafy Vegetable, Chilly, Sugarcane
Women	Off-season Vegetable, Leafy Vegetable, Tomato, Chilly, Cardamom, Ginger, Turmeric	Vegetable, Tomato, Chilly, Tobacco, Lentil

Source: Social Survey, TA 3949-NEP

11. SWOT Analysis for Commercialization

111. The sector analysis presented in Appendix 1 points to various strengths, weaknesses, opportunities and threats to the development of commercialization in the EDR.

a. Strengths

112. *A diverse agro-climatic environment suitable for the production of HVC*. The review of agro-ecological areas, climate and soils reveal that both the Terai and the Hill districts can grow a variety of tropical, sub-tropical and temperate crops. Off-season vegetables fetch high prices both in Nepal and in neighboring India and Bangladesh. Spices and tea have enormous potential that has been only modestly exploited until now.

113. *Labor force and women more educated than in other parts of Nepal.* Even though there is enormous progress to be made both in education and in women development, indicators such as mean years of schooling, literacy rate, educational attainment index and

gender development index (GDI) compiled by HDR present a situation for the EDR better than the average for Nepal. For example, the mean years of schooling are 2.7 years in the EDR and 2.3 in Nepal; GDI is 0.30 in the EDR and 0.27 in Nepal.

114. *An entrepreneurial basis in commercial agriculture particularly in the Terai.* Several agro-processing and agribusiness units are based in the EDR, particularly in the Morang-Sunsari area including sugar cane processing, fruits and vegetable processing, jute milling, cold storage and vegetable ghee processing in addition to rice mills, dhal factories, beer and liquor factories, tanning and leather processing and paper industries. The situation in the Hills is less developed as a result of poor infrastructure and limited access to electricity. However, even in the Hills several agro-entrepreneurial skills have developed in more recent years particularly in the field of vegetable and fruit production and marketing, spices and tea (Orthodox).

115. *Examples of farm and women organizations successful in commercial agriculture.* Fieldwork conducted by the TA Team identified several organizations that are involved in commercial agriculture[44]. Farmer groups engaged in commercial agriculture have been visited in most of the 11 districts of the project areas; the most dynamic ones however are in only seven districts, namely the five districts of the Terai and the Hill districts of Ilam and Dhankuta. Cooperatives like the Koshi Multipurpose Cooperative in Dhankuta have been able to export to India; the Betel Nut Producer Association in Jhapa is quite active in exports and promoting the interest of its members; and the Chamber of Industry in Morang includes some of the main agro-industrialists in the region.

116. *Road corridors along the east-west and south-north axes*. A main road runs along the east-west axis in the Terai and two main roads run along the two south-north corridors leading to Dhankuta and Ilam, respectively. The relation between road infrastructure and development of commercial agriculture is strikingly close. As mentioned above, the most dynamic farmer groups and commercial agro-enterprises are to be found along the road corridors in the region.

b. Weaknesses

117. *Weak and supply-pushed research and extension services to commercial agriculture.* The weakness of the research and extension system to provide effective services to commercial agriculture stakeholders is particularly acute in the case of HVC and in the post-production functions including marketing and processing. Commercial farmers and agro-enterprises interviewed by the TA Team indicate little linkage with research and extension organizations; moreover, commercial stakeholders do not seem to receive research or extension services that respond to their needs. Most of the research and extension efforts are "supply pushed" by public research institutes, District Agriculture Development Offices (DADOs), NGOs and universities. Research and extension are not demand-driven. Sometimes, the main commercial actors (usually farmer groups) cooperate with research projects proposed to them by the service providers. By themselves, the commercial stakeholders rarely commission or pay significantly for research and extension.

118. *Poor infrastructure connecting producing areas to main roads*. Even though there exist some relatively acceptable main road connections in the region, the secondary connections to the main roads are few and often in a dismal condition. This is particularly the case for agricultural roads connecting producing areas to markets. When roads are constructed, the input of communities is not adequately taken into consideration. As a result, road construction is expensive and quality is low. Maintenance of roads that are not owned by communities is virtually absent, a situation that often results in agricultural road construction not lasting much more than one season after completion of the construction.

[44] See Appendix 3.

119. *No clear strategies to promote commercialization.* Even though there is much talk about commercialization and even the APP mentions commercialization, it is not clear to commercial stakeholders in the EDR what strategies are currently in place to promote commercialization. The strategy of the APP is basically a supply-driven strategy consisting of a package of priority inputs (roads, irrigation, fertilizer and technology). The underlying assumption is that the provision of these inputs will result in high agricultural growth. However, high growth may be achieved with different strategies and different combination of inputs than those rigidly specified in the APP. For example, some of the most dynamic changes in commercial agriculture of the EDR, namely those related to Orthodox tea, sugar cane, potato and hybrid vegetables have occurred largely because of the initiative of commercial stakeholders and not because of the APP. The agricultural strategies and programs pursued so far seem to have only a superficial view of commercialization and have not moved beyond the simple idea that commercialization imply increasing the production sold to the market.

120. *Limited access to markets for quality inputs (e.g. seed and fertilizer).* Farmers in the EDR have experienced and still are experiencing difficulty in getting access to high quality seed and planting material especially disease-free potato seed and disease-free fruit seedlings. In the case of fertilizer, in spite of greater availability, there is a widely held perception that quality has deteriorated. Farmers rightly demand higher quality for input. However, it is also often the case that farmers at low level of commercialization are not ready to pay the higher costs associated with higher quality. It will take some time before most farmers realize the need of covering the full cost (including research and development) of seeds, fertilizer and other inputs. More commercialized farmers do recognize that higher quality inputs cost more.

121. *Limited access to credit and finance.* Excessive emphasis is often given to interest rates as explanatory factors for the limited credit available to producers, traders and processors. In fact, even at high interest rates, smallholder farmers have a demand for credit. Apart from high interest rates, it is the presence of poorly understood and sometimes complex procedures to access credit, the lack of knowledge of proper procedures and the absence of adequate collateral that prevents commercial stakeholders from getting additional credit. On one hand, competition among banks and financial institutions to a large extent ensures that market forces determine interest rates. On the other hand, the risk associated with lack of collateral presents a problem in the credit market that cannot be easily solved unless adequate insurance markets are established. The problem of lack of collateral is aggravated by the perception that commercial and HVC production and prices are highly variable.

122. *Weak coordination among institutions involved in agriculture.* In spite of a number of coordination committees (such as the Regional Agriculture Development Coordination Committee, the District Agriculture Development Coordination Committee and the Regional Technical Working Groups on Agriculture), there is little effective coordination among line agencies involved in agriculture (e.g. among agricultural extension, irrigation and livestock extension), and also within the same sector (e.g. between research, extension, producers, traders and processors or crop commodities).

123. *Poorly developed post-production system.* Appendix 1 gives several specific examples of the rudimentary status of post-production technology in the EDR, including: (i) lack of cool and other appropriate storage and poor quality facilities at the farm or collection center level for perishable fruits and vegetables, leading to sales almost exclusively at low "glut" prices at harvest time; (ii) weaknesses in packaging and transport of perishable produce, leading to high losses and in some cases to unattractive presentation of the produce in eventual urban wholesale or consumer markets; (iii) inadequate technical know-how of the commercial refrigerated cold stores, apart from storing potatoes; and (iv) limited marketing and branding capabilities in export markets, even in sectors such as orthodox (highland) tea where Nepali processed products are of full international competitive quality.

c. Opportunities

124. *Comparative advantage in a variety of crops.* It is widely accepted that the Hills have a comparative advantage in off-season vegetables, seed production, citrus and spices. However, the Terai can also achieve considerable success in the commercialization of a variety of crops, including vegetables and tropical fruits, oilseed, CTC tea, betel nuts and cereals. To a large extent any of the crops produced in the region can be developed to a commercial level if effective value chains are organized.

125. *Proximity to huge markets (India and Bangladesh) for agricultural products.* The EDR's east and southern borders with India and the proximity to Bangladesh provide an important opportunity for commercial agriculture. Traditionally, many agricultural innovations have come from India to Nepal via the EDR. Currently, major markets in India, including Siliguri, Calcutta and New Delhi are outlets for Nepali agricultural products.

126. *Growth of agriculture and rural economies with poverty reduction effects.* Growth of commercial agriculture in the EDR will induce growth of rural employment and increased linkages between agriculture and other sectors in the rural economy. The APP emphasizes the key role of growth of agriculture as perhaps the single most important factor in poverty reduction, for the simple reason that most of the poor depend on agriculture for their livelihood. Commercial agriculture development is expected to benefit the poor directly through employment creation on the farm sector and indirectly through the creation of opportunities in the non-farm sector.

127. *Advancement of women status.* Women are a major share of labor force in agriculture (45% in the EDR) and also represent a considerable share of the labor force in the post-production sector. Commercialization of agriculture is expected to increase the income going to women and to stimulate female entrepreneurship in activities such as trade and processing, traditionally controlled by men.

128. *Success in the region could be replicated elsewhere in Nepal.* Even though the conditions of the EDR are relatively more favorable for commercialization than in other regions, successful commercialization in the EDR might stimulate replication in other regions. The underlying hypothesis is that, in spite of different conditions from region to region, there are strong similarities as well, including the topographic gradient from south to north, the proximity to India, the social stratification along the dimensions of caste ethnicity and gender, the weak linkages between stakeholders, and limited access to technology, finance and markets.

d. Threats

129. *Competitive world and regional markets after access into WTO.* In principle, a largely subsistence agriculture could insulate itself from the vagaries of international markets. However, as commercialization increases, the exposure to international markets becomes both an opportunity for more business and a threat to existing business. Unless agro-enterprises and farmers are able to compete successfully and to maintain their comparative advantage, the gains of commercialization might be short-lived. The current level of commercialization today in the EDR is insufficient to compete internationally or regionally.

130. *Natural calamities and lack of insurance mechanisms.* The agrarian and rural society structure of Nepal, and the EDR in particular, is characterized by a great multitude of smallholder farmers with little assets. When farm households with little land and limited access to other sources of income face natural calamities (such as flood, drought, pests and diseases), they can easily precipitate into poverty and aggravate their already vulnerable situation. When many households in the region are in this situation, the scope for risk taking and innovation necessary for commercial agriculture are greatly reduced.

131. *Food insecurity.* A large number of smallholder farmers are hesitant in shifting to commercial production of HVC because of the concern for food security. Price and production of HVC are more variable than cereals, as the result of inherent characteristics of the products (e.g. perishability) or thin markets (e.g. fruits and vegetables).

132. *Political instability and social unrest.* This is the situation that has persisted over the years and been aggravated recently. There is still considerable uncertainty and an environment not very conducive to investment in rural areas and agricultural commercialization.

133. *Extreme social stratification impeding or retarding the process of commercialization.* The EDR is perhaps the most socially diverse region in Nepal. It counts more than 100 groups (caste, ethnic and sub-ethnic groups); and more than 28 languages are spoken in the region. This extreme social stratification contributes to difficulties in establishing trust relations or business relations. Social customs and prohibition have perhaps retarded commercialization in the past (for example, the prohibition for Brahmin to plough the land or the habit of not selling fruit) and the full participation of women in commercial activities (even though this is much less the case for Burmese-Tibetan groups).

134. *Intensification leading to unsustainable practices, pests and diseases.* Farmers complain about the increasing presence of pests and diseases when they intensify production; sometimes loss of soil fertility also has been denounced as a side effect of intensified commercial activity. In fact, these effects are the results of unsustainable practices. Integrated plant, soil, water and nutrient management techniques are today very much part of good commercialization practices. Commercialization is not necessarily bad for the environment; however, the way commercialization is conducted could be either beneficial or detrimental to the environment.

12. Lessons from Previous Projects

135. Most of the agricultural projects implemented in Nepal and in the EDR have paid relatively little attention to the link between production and marketing (see Appendix 2). Table 2.11 below summarizes the main lessons from a review of projects related to commercial agriculture in the EDR (reviewed in more detail in Appendix 2). Their emphasis has been on transfer of production technology rather than on developing commercial skills and linking farmers to markets. There are however some key lessons that are relevant to the design of the current project.

- ***The need of including stakeholders in the design and planning of the project***. It is increasingly realized that without participation of the key actors, it will be very difficult to have ownership and enthusiastic support for the proposed changes on the part of the beneficiaries of the project. This is particularly the case for commercial stakeholders who will not accept a design imposed on them and without their full involvement.

- ***The need of involving stakeholders other than line agencies in the implementation of the project***. Given the nature of commercialization and the context of a market-oriented system, the beneficiaries of a commercialization project will necessarily be stakeholders already involved in some degree of commercial agriculture. Unless these beneficiaries are actively involved in the implementation of the project, it will be difficult for the project to successfully develop commercial agriculture. Other projects show that when producers, marketers and processors are actively involved in implementation there is a stronger response from beneficiaries and higher benefits in project activities.

- ***Provide adequate institutional assessment of the various actors involved***. Too often, projects are implemented through line agencies and other organizations that not necessarily are in the position of successfully implementing the project. In the case of a commercialization project, there are several challenges that are likely to be faced by agencies (e.g. the DOA) who traditionally have focused on production without sufficient consideration for marketing, processing and trade, or without the institutional capacity to look at inter-sector linkages between agriculture, industry and services. This inadequate institutional assessment is true not only for government agencies, but also for non-government agencies, such as NGOs, farmer groups and associations, and private sector[45].

- ***Make explicit the inter-sector linkages between agriculture, industry, and services.*** To regard agriculture only from the perspective of production does not allow moving much further on the road to commercialization.

136. These lessons have been incorporated into the design of the CADP. Stakeholders including farmers, traders, processors, NGOs and line agencies were part of the initial design and planning workshops, as it was explained in chapter 1 and reported in the proceedings of the three Stakeholder Workshops held in April, July and August 2003. The design of the CADP has also made explicit that stakeholders other than line agencies will be directly involved in the implementation of the project. In fact, the design of the CADP is innovative in putting stakeholders other than line agencies in the driving seat of decision-making related to investment decisions for promoting agricultural commercialization. This is the result of the inadequate or weak institutional capacity of line agencies to provide support for agricultural commercialization, as it is recognized in the sector analysis of Appendix 1 and in the analysis of linkages of Appendix 14. The linkages between agriculture, industry and services are clearly embedded in the conception and design of the CAN and the design of activities of the CAA (see chapter 3, Appendix 4 and Appendix 7).

[45] The analysis of linkages in Appendix 14 provides a detailed analysis of various institutions.

Table 2.11: Summary of Lessons Learned from Projects related to Commercial Agriculture in the EDR

Project Name	Donor	Period	Amount	Lessons Learned
Rural Development Program	GTZ	Since 2000	N/A	• Long periods necessary for social mobilization: to start individual farmer groups at the village level, and organize them into larger entities, such as organizations of farmer groups at the VDC level and cooperatives at the District level (about 7 years). • In mixed group, higher caste Brahmin, Chhetri and Newar communities were found to dominate groups. • Simple budget analysis reveals that HVC (for example vegetables and spices) have a much higher income potential than the traditional food crops. However, they also require a much greater outlay by the farmer, which only the more prosperous households would be able to afford. • Commercialization will be a slow process unless it can integrate and take advantage of community groups that have already been formed. This is particularly true in more remote hill districts where there are no market outlets. In those areas only very high-value crops production is attractive to small farmers, particularly in the form of storable and not-bulky commodities (such as cardamom and seed). • Most of the target groups are not willing to forego cultivation of their traditional crops (cereals), but are only willing to assign a small portion of their land to vegetable or cash crop production – usually one ropani or less. Most are willing to cultivate winter season vegetables, but did not wish to cultivate them during the potentially more lucrative off-season production period, as this would have conflicted with the summer rice crop production.
Koshi Hills Projects	ODA/DfiD	1980-85 and 1987-92	N/A	• Large programs involving a number of line agencies in the implementation process lead to numerous administrative and implementation problems caused by rivalries and disagreements between the various agencies involved.
Koshi Hills Seed and Vegetable Project	ODA/DfiD	1993-97	N/A	• The involvement of the private sector in development was considered to facilitate and contribute to the success of the project. • The fewer the line agencies with which the project has to deal, the more likely the success. • To maximize impact of a project, local NGOs should be involved.
Seed Sector Support Project	ODA/DfiD	1995-2002	£3.25 million	• Seed production can make a significant impact on overall income at the village level. • However, seed production has not developed on a significant scale. Fresh vegetable production has effectively spread throughout the communities, as it is better proposition for poor farmers.
Pakhribas and Lumle Agricultural Centers Research Impact Study	ODA/DfiD	1994-95	N/A	• Adoption of new technologies is more likely among wealthier groups. Ethnicity is also an important factor, with non-occupational caste households displaying higher levels of adoption. Non-adopters were characterized by occupational caste households, those with low food sufficiency and female headed households. Brahmin/Chhetri groups, mostly living in the low hills, where access is also better, displayed high adoption levels. Gurung/Magar people, living mainly in the high altitude zones, showed intermediate adoption levels.

Project Name	Donor	Period	Amount	Lessons Learned
				• In the EDR (around Pakribas Center), the most profitable technologies were pig breeding, cauliflower, cabbage and pea cultivation, and fodder trees.
Mechi Hills Development Program	SNV	1985-2002	N/A	• Need to distinguish between programs to be implemented by line agencies and programs to be implemented by communities. Also, when line agencies implement programs, they should do so in response to demands coming from communities. • Too many changes in strategy from phase to phase of the project is likely to reduce effectiveness of the project, and have negative impact on ownership and sustainability of the project.
Hill Fruit Development Project	ADB	1988-95	$11.8 million	• Future project involving tree crop development should ensure that proven varieties are readily available in the country before undertaking the project. • Avoid project areas without good connection to infrastructure, especially in the hills. • Avoid inclusion of large number of districts and areas with varying terrain and agroclimatic zones. • Assess the institutional capacity of the EA and prioritize training needs • Appoint full-time consultant to assist EA's implementation; contract staff, consultants and NGOs to assist the project office in timely implementation. • Appoint key project staff from outside of civil service such as private auditing firm and monitoring and evaluation unit. • Start monitoring activities early in the project. • Include relevant clauses such as halting of disbursements should be included in the loan agreement. • DADO should encourage increased participation by farmer groups in planning and decision-making. • Formation of district level fruit growers committees. • Representatives of fruit growers committees should participate in DDC meetings
Secondary Crops Development Project	ADB	1989-98	$35.5 million	• The identification of a key person with enough managerial authority is critical to success. • Assess institutional capacity to implement the project. • Demarcate functional and institutional responsibilities and lines of command as a pre-requisite for project implementation. • Use consultants in the areas of institutional capacity analysis, institutional change management and training needs assessment. • Determine the parts of the project that could be more effectively left to the private sector or NGOs. • Involve stakeholders in project preparation and use intensive consultation process. • Use farmer groups as a mode for extension activities. • Monitoring of volumes and prices at major markets. • Project design needs to take into account weaknesses of civil services. • Develop a chart to show which decisions are made at what level and by whom.

Project Name	Donor	Period	Amount	Lessons Learned
				• Take into account the roles that men and women will play in the project. • Involve private sector in planning and implementation.
Agricultural Research and Extension Project	World Bank	1996-2002	$30.5 million	• Major institutional reform and the adoption of new management systems require long-term support and are only possible when there is widespread commitment to, and ownership of, the proposed changes. • The project preparation team must have good knowledge and empathy with the institutions of the country. • Frequent senior staff changes by both implementing agencies should be allowed for in project design. • The creation of a Project Coordination Unit and Project Coordinator to support implementation should be discouraged. • Project funds should be cancelled as late as possible. • Estimates of Economic Internal Rates of Return are not relevant for support service projects. • Technical assistance must be hired as early as possible in the life of a project and should be grant financed. • Staff training (short and long term) should be undertaken as early as possible in the life of a project.
Market Access for Rural Development	USAID	1997-2002	$3.6 million	• Extensive and scattered demonstration sites and pockets are difficult to manage for effective technology diffusion. • Qualified and competent motivators are essential for field production and extension activities. Farmers quickly identify incompetent motivators and complain accordingly. • Hybrid technology outperform OP technology, but OP technology is often preferred by farmers because of cheaper input costs. • Field level training programs, tours and on-farm demonstrations are absolutely essential steps in convincing farmers about high-production technologies. • Prioritize off-season crops and late and early production crops because of higher sales value.

C. CONCEPTS OF COMMERCIALIZATION

137. Commercialization means different things to different people. The First Stakeholder Workshop conducted in Biratnagar on 8-9 April 2003 provided a variety of interpretations of commercialization[46]. Some stakeholders have in mind an increase in production above subsistence level and resulting sales of marketable surplus. Other stakeholders stress the management of markets, including the stable procurement of raw materials and the capacity to access regional and foreign markets. Others point out the greater role of modern technology in production, or the integration of farmers with agricultural processors, or the emergence of strong farmer and agribusiness organizations.

138. These various concepts of agricultural commercialization have relevance in the design of the project, its expected impact and its likelihood of success. The various concepts could be perhaps understood as different degrees of development of a value chain. At one extreme, the process of commercialization is very rudimentary. Farm production is essentially for subsistence purposes and any surplus is sold to the market. At the other extreme, farmers produce only for the market and are integrated in value chains that give them access to dynamic urban and international markets. In the latter case, farming is a profession rather than a way of living, production is specialized and based on modern technology, and income stabilization rather than food security is a major concern of farmers.

139. Commercialization is a complex process involving different dimensions. In the movement from subsistence to higher degrees of commercialization, these dimensions take different values. Even though a precise measurement of commercialization is perhaps impossible, it is however possible to suggest a simple taxonomy of commercialization that is relevant for the design of the CADP. Table 2.12 illustrates different degrees of commercialization.

Table 2.12: Different Degrees of Agricultural Commercialization

Dimension	Low	Medium	High	Advanced
Farmers	• Large number of subsistence farmers • Farming as a way of living • Mostly involved in cereals; little specialization in HVC • Few people have qualifications	• Small number of subsistence farmers • Emerging professionalism of farming • Greater specialization in HVC	• Professional farmers • Specialized production • Corporatization of farming	• Industrialization of agriculture
Technology	• Rudimentary post-harvest operations • Little agro-processing • Labor intensive	• Increased use of post-harvest operations • More agro-processing • Intensification and increased use of modern technology • More capital intensive	• High importance of post-production activities • Highly capital intensive	• Precision agriculture • Biotechnology • Organic farming • Highly capital intensive
Market and Marketing	• Small marketable surplus	• Larger marketable surplus • Emergence of large agricultural markets and horizontal integration	• Emergence of vertical integration • Futures markets • Increasing concentration of production and marketing • Branding	• Global integration of Value Chains • Intensification of vertical integration • High concentration in marketing and distribution
Finance	• Mostly cash transactions • Little private investment in agriculture	• Greater use of credit • Greater investment by private sector	• Variety of credit and insurance mechanisms	• Futures, options, and derivative markets

[46] See First Stakeholders Workshop Proceedings and Main Findings, TA 3949-NEP.

Dimension	Low	Medium	High	Advanced
Institutions	• Virtual absence of formalization of processes of production, marketing, processing and grading • Little information systems available to farmers and traders • Weak linkages between research and extension and farmers, marketers and entrepreneurs • Few, small and mostly ineffective farmer organizations and trade associations	• Emerging formalization of production and post-production activities • Emerging formal information systems • Greater role of public and private research and extension to farmers, marketers and entrepreneurs • Emergence of larger and more effective farmer organizations and trade associations • Emerging domestic standards	• Agricultural information services provided by a variety of private sector firms • Highly formalized systems of production and post-production • Research and extension highly professional and funded by corporations • Strong farmer lobbies and trade associations • International quality standards	• Information technology and management systems supporting agriculture • Powerful lobbying of producers and trade associations • International quality standards and certification procedures
Infrastructure	• Poor road infrastructure and other transportation infrastructure • Few stakeholders using modern means of communication • Almost no rural electrification • Rudimentary structures of market places • Some public storage facilities but little private storage facilities • Mostly rain-fed irrigation	• Road infrastructure increasingly used, but still difficult to access many production areas • Use of telephone becoming more common, particularly in trading and processing • Rural electrification in rural towns and surroundings • Concrete structure for wholesale markets and some rural markets • Few private storage facilities • Irrigation schemes and rainfed agriculture	• Easy access of farmers by road, water and air • Telephone available to all farmers • Rural electrification available to all farmers • Silos and cold storage widely available • Year-round irrigation	• Intermodal transport infrastructure (railway, truck, ship, containers) • Internet business-to-business transactions • Full electrification and alternative use of energy • Irrigation pipeline systems and water resource management system applied • Computerized storage systems
Consumers	• Little awareness of quality • Virtual absence of consultation of consumers preferences	• Increased awareness of consumers about quality • Consumers preferences start to be taken into account by marketers and producers	• Consumer lobbying • Consumer market demand studies	• Strong consumers lobbying • In-depth consumer behavior studies

Source: TA Team

140. At the low level of commercialization, there is a large number of subsistence farmers. The marketable surplus is generally small, with the exception of a few HVC. Farming is more a way of living, rather than a profession or a business-oriented activity. Formal training for farming and formal procedures for production, marketing and processing are virtually absent. Information about new technologies and market opportunities is disseminated slowly, mostly by word of mouth. There are few large markets, most market transactions are local and take place in cash. Research and extension systems are usually public, poorly functioning and reaching just a few of the producers, and almost none of the post-production actors. Farmer organizations are few and often ineffective. Trade associations are in a similar situation. Few financial instruments are available. A large part of credit is informal. Most credit, including formal sources, is for the very short term (3-6 months), and little private investment in agriculture is taking place. Production is not intensive and farmers or post-production actors use little modern technology.

141. As the degree of commercialization increases, several dimensions acquire different significance and a movement towards higher use of technology, formalized processes, integration, information and finance sophistication takes place. In the EDR some farmers are already commercialized, in the sense that significant volumes of marketed output pass through

organized, mostly private sector, channels including traders and sometimes processors. Moreover, the marketed output is (a) generally produced deliberately for commercial sale and is not merely surplus over farmers' production for their own subsistence consumption of the crop in question, and (b) sometimes travels considerable distances to the final markets, including occasionally export markets. However, there is little doubt that overall in the region agricultural commercialization is still at a low level. Commercial activities affect a considerable number of smallholder farmers engaged in the production of fruits and vegetable, spices, potato, onion and garlic, tea, sugar cane and jute. In the case of medium and largeholding farmers, cereal production is also largely commercialized.

142. What is important to decide is what should be the target level of commercialization and what the CADP can do in order to move from the current level to a higher level. Even though the CADP in its short life (about 5 years) will not be able to jump dramatically from one stage to the next, it is nevertheless possible and desirable that the CADP initiate the process of change and accelerate the movement towards a higher level of commercialization in a way that provides benefits in aggregate income, broad-based growth, poverty reduction and promotion of women's role in agriculture happen.

143. Any process of change involves some winners and losers. The process of commercialization is no different. It is important to realize who will gain and who will lose, and mitigate the negative impact if necessary and possible. Commercialization might increase the pressure on a fragile eco-system; it might lead to concentration of assets; it will lead to a demise of traditional farming systems and a more intensive use of technology and formal processes that will be reflected in different power relations within the households, the village, and society; it might lead to loss of biodiversity and pollution; it might be promoting cultural attitudes that go against social norms and restrictions; it might promote new roles for women that are not accepted by society. These are examples of negative effects or conflicts that commercialization might cause. Conversely, there are examples of positive effects, such as higher income, more employment for the poor, greater consumer satisfaction, and recognition of women's role in agriculture and improvement of their access to assets, information and decision-making.

144. Whatever the specific design the CADP adopts, there are two key features to be taken into account for project success:

- **Commercialization will have to involve smallholder farmers**, since they are the vast majority of the farming population, and are already engaged in some commercialization of agriculture. Some among them happen to be the most productive farmers in the region.

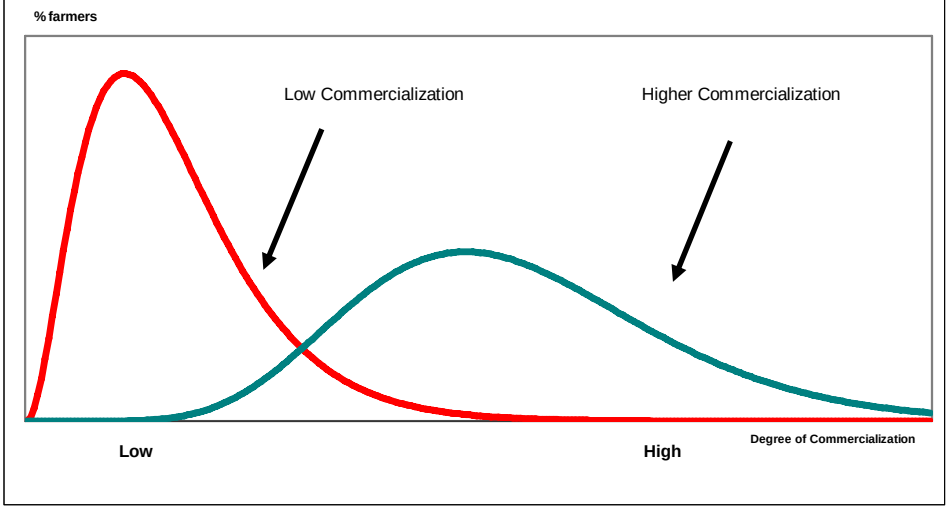
- The project will have to consider **mechanisms to involve a larger number of women** and promote their role in commercial agriculture since they are a main component of the labor force in agriculture.

- Third, the proposed activities will have to consider any negative environmental impact and **promote sustainable practices**.

D. FACTORS DRIVING COMMERCIALIZATION AND THEIR CURRENT STATUS

145. The drive towards a higher level of commercialization (see Figure 2.5) consistent with broad-based growth depends on several factors, including (i) effective institutions; (ii) improved infrastructure; (iii) knowledge management; (iv) adequate incentives; (v) stakeholders' initiative; and (vi) a conducive environment. The following sections discuss these factors and the current situation of the EDR in relation to each of them.

Figure 2.5 Increasing Degrees of Commercialization



Source: TA Team
Note: The dimensions of the figure do not represent actual percentages of farmers in the EDR. The picture is for illustrative purposes only.

1. Institutions

146. Institutions facilitating commercialization are mechanisms to reduce transaction costs arising from activities such as exchange of goods and financial assets; enforcement of contracts; risk reduction; formation of organizations; and search for and dissemination of information. The institutions reviewed in this section include (i) markets; (ii) contracts; (iii) farmer organizations and trade associations; (iv) standards; (v) formal methods; (vi) monitoring and evaluation; (vii) research and extension; and (viii) credit and insurance.

147. *Markets.* Well functioning markets and collection centers are institutions essential to commercialization. Markets are more than the physical places where exchange of commodities occur. Markets are mechanisms that make possible the voluntary exchange of commodities, information, and financial instruments and the determination of prices. For this exchange to occur in an orderly manner there is a need for a governance structure based on accepted rules. Markets function well when market regulations are generally accepted, and management is in the hands of representative market participants (such as traders, farmers and entrepreneurs) while government bodies provide regulatory functions (such as utility regulation, traffic control, health standards, phytosanitary controls and information services). If regulation is excessive or if market management is perceived as a collusion of a few interest groups, the functioning of the market will suffer. If well designed and managed, markets will generate increasing numbers of transactions and revenue (based on rents of market facilities and fees) that can then be invested in the improvement of market infrastructure and promotional activities.

148. *Current situation of markets in the EDR.* Most farmers sell directly to traders, either at the farmgate or at the local *haat bazaar* (weekly market). Transactions are based on cash. Occasionally farmers sell the harvest in advance. In that case, the traders organize the harvest. There are no well-organized wholesale markets. The one in Biratnagar is congested. The market in Dharan works a little better but there is room for great improvement (for example a lot of unutilized space). Market management usually rests with the municipality. In most cases, farmers do not sell directly to agro-processors, but do so through traders. Commission agents are present in a variety of value chains. There is no clear cooperation between the public and private sectors in the organization of markets. Rather than providing a useful regulatory service, the public sector is perceived as extracting rents from traders.

149. *Contracts.* Contracts are alternative exchange mechanisms to markets. In a market setting, prices are determined by the interaction of demand and supply decisions of many participants; in a contract, the price is determined by a formal agreement between farmers (individuals or groups) and enterprises (either trading or agro-processing enterprises). Increasingly for commercial agriculture around the world, contracts are becoming more and more important as exchange mechanisms. Contracts rather than markets are the preferred mode of exchange in more developed value chains. Often one of the main reasons to be part of a value chain is to gain access to contracts within the chain.

150. *Current situation of contract in the EDR.* Contracts between farmers and marketers or processors are not very common. When they occur, they generally fail through lack of enforcement procedures. Smallholder farmers often renege on the contract any time the spot price is above the negotiated price. There is no public awareness of contract as a risk sharing mechanism and as a step toward long-term relationships within the value chains.

151. *Farmer organizations and trade associations.* Farmer organizations including farmer groups, cooperatives and farmer clubs are different ways to gain bargaining power in the value chain and a mechanism to improve access to information, capital and relevant contacts. Many farmers in the EDR are small farmers with less than one hectare of cultivated land. One of the main difficulties for small farmers is how to gain power in a value chain vis à vis those actors perceived as more powerful such as traders, agro-enterprises and exporters. Many farmers in Nepal are women. One of the main difficulties for women in Nepalese agriculture is how to gain power in a value chain vis à vis those actors perceived as more powerful such as the traditionally male dominated roles of traders, agro-enterprise managers and exporters. Other forms of organizations relate either to producers associations or trade associations involving marketers and enterprises. Each of these organizations has its internal rules of conduct. The test of the effectiveness of an organization is to understand to what extent the rules of conduct and the activities of the organization are perceived as benefiting the business of its members.

152. *Current situation of farmer organizations and trade associations in the EDR.* Farmer organizations in the EDR (as elsewhere in Nepal) tend to be small (e.g. farmer groups of 15-25 farmers). Larger organizations such as cooperatives and producer associations tend to be ineffective, have a bad reputation (as in the case of Saving and Loans Cooperatives), and are rarely engaged in commercial agriculture, except when they are involved in agricultural inputs (e.g. fertilizer and seed). In the case of Water Users' Organization (WUO), the main concern of the group is to manage water in an irrigation system, and not much commercialization of agriculture.

153. There are some successful examples of cooperatives and large farmer associations involved in commercial agriculture (e.g. vegetables in Dhankuta, potato seed in Morang and Sunsari, tomato and areca nuts in Jhapa, tea in Ilam), but these examples are relatively few (see Appendix 3). Farmers in general feel reluctant to engage in larger organizations, partly for lack of knowledge, partly for a negative history of corruption and ineffectiveness of organizations that were imposed from the top, and partly because of the real difficulty of organizing smallholders in an extremely socially stratified society like Nepal (along the dimensions of caste, ethnic group and gender). In the case of trade associations, the situation is slightly better. Enterprises have been able to link to each other, particularly through nation-wide associations (e.g. sugar mill association, cold storage association) and sometimes they have been effective in lobbying the government for advantages to their members (e.g. subsidized electricity rate, improved access to credit). Their effectiveness in other functions has however remained limited.

154. *Standards.* Standards are yardsticks of quality. Effective standards promote commercialization by facilitating the process of price discovery, identification of quality and organization of production, processing and logistics operations. Standards can be established

either by marketers or by government agencies. The critical point for standards is that there are customers able to discern between different qualities and willing to pay price premiums. There is not much point in establishing a standard that is neither easily understood nor cared for. Moreover, if a standard is adopted, there should be a means to enforce adherence to it, either through regulation and effective enforcement authority or through self-regulating market-driven systems (bad reputation, boycott of product, closure of business, prohibition to have a stall in the market, etc.).

155. *Current situation of standards in the EDR.* As shown in the review of Appendix 1, there is little awareness of standards among farmers and traders. Some grading in vegetables and spice takes place and in the case of tea, standards exist for the fresh leaves supplied to factories by growers, with the highest standard being "two leaves and a bud". The Himalayan Orthodox Tea Producers' Association (HOTPA), with technical assistance from GTZ, is currently developing a code of conduct for its members[47] that will include a quality assurance system. HMGN will not be involved in setting or enforcing standards. Cardamom exporters have informal standards that they each apply according to the needs of their customers. For example, the largest cardamom exporter, Mr Shyam Sundar Bansal of Birtamod, supplies his "super quality" grade to UK customers. Eastern Sugar Mills Ltd would like to impose quality standards for the sugar cane that it buys from farmers, using sugar content (CSS) as a measure on which to base payment. However, farmers prefer to sell on weight of cane basis with no concern for quality. Seed potato producers are facing problems because they are competing against lower-priced products that are of lower quality, but the customers cannot discern the difference in quality by looking at the product. Like pesticide residues in fresh produce, the viruses in potato tubers cannot be detected without sophisticated laboratory testing. The system of quality improvement for seed potato introduced by HMGN with assistance from the International Potato Center (CIP) is described in a paper[48] downloadable from the website of CIP. The paper reports that "*traditionally, the quality control in a formal system is regulated by law, often called a "Seed Act*[49]". The law is enforced by a government institution[50]. In an informal system, like the Seed Producers Groups (SPG), the quality control is not supervised by any government official or institution. Quality control is more a part of the educational process of farmers as they learn techniques and recognize the importance of them and they learn how to produce quality seed. The paper states that "*About 20% of national seed demand is being fulfilled by the SPG approach. Nationally, the area being planted with seed produced by SPG is expanding rapidly*."

156. *Formalization.* Commercialization implies not only the selling of products to the market and the emergence of farming as a business activity (not just a way of living). Of equal importance is the emergence of formal procedures accompanying production, marketing and processing. This implies the keeping of records, accounting practices, planning techniques and use of formal methods of management, marketing, crop husbandry, storage and information processing. Obviously, formalization implies that a minimum level of literacy and numeracy should be reached but, contrary to general perception, this is not a practice that only largeholding farmers or large enterprises can do. Smallholders in other countries (e.g. Viet Nam, Cambodia) are keeping notebooks with timing of seeding, fertilizer applications and doses, amounts harvested, etc.

157. *Current situation of formalization in the EDR*. The formalization of processes in production, marketing, processing and other post-harvest activities is extremely limited. At the

[47] HOTPA/Guranse Tea Estate is ISO 9200 certified.
[48] "A Report on Informal High Quality Seed-Potato Production and Marketing in Nepal" by D.N. Ojha, O.A. Hidalgo, and T.L. Lama. CIP Program Report 1999 – 2000.
[49] A revised Seed Act for Nepal awaits promulgation by the Parliament.
[50] There is an international standard seed testing laboratory in Kathmandu (DOA), but the regulation is not enforced effectively.

production level, precise assessments of inputs, outputs and sales are rare. In the few cases where farmers do keep logbooks, the data is rarely used to assess profits, forecast revenues and expenditures and evaluate (formally) alternative investments. Decisions are instead based on limited information and on common practice. When innovations are made, there is no formal way to communicate and evaluate the innovation.

158. Farmers and traders unfortunately often perceive formalization as a way for government agencies to gain control and extract taxes or rents from enterprises. The tendency then is to reduce the number of "books" and information kept by the enterprises (or to keep two sets of books, one set for tax purposes with limited information and one set for internal purposes with more information). As a result the proper assessment of profitability and risk is very difficult. One of the main problems related to credit is the difficulty loan officers have in evaluating the credit worthiness of a client, whether a household, a trader or an enterprise. One reason for this difficulty is the absence of reliable documents showing a balance sheet and the profit/losses of the prospective borrowers. Interestingly, formalization of social mobilization techniques has taken place to a certain extent among NGOs and some DADOs where participatory methods have been introduced.

159. *Monitoring and Evaluation.* Monitoring and evaluation is a requirement of project implementation, but is also a necessity for stakeholders if they are to understand their progress towards goals and take corrective actions. Monitoring and evaluation in commercial agriculture requires introduction of formal methods that utilize both qualitative and quantitative information. Baseline studies have to be conducted, indicators agreed upon and analysis of data carried out competently. In principle, individuals who have a conflict of interests with the Executing Agency should not do monitoring and evaluation. If this is not feasible, effectiveness of monitoring and evaluation largely depends on whether the exercise is regarded as a way to improve project or organizational effectiveness and efficiency rather than a method to catch culprits and assign blame.

160. *Current situation of monitoring and evaluation in the EDR.* The government system of monitoring and evaluation is weak. Programs and projects are often monitored pro-forma. Even when monitoring and evaluation is conducted seriously, there is no clear mechanism to link monitoring and evaluation at the local level with the management information system, often located at the central level. A repository of monitoring and evaluation reports for various projects and programs is not available. Moreover, there is no monitoring and evaluation of the post-production system for commercial agriculture. HVC pocket activities are monitored by DADO and reported to the central level. However, these activities refer usually to production parameters only or input indicators such as number of demonstrations, training courses and trainees. The costs and effectiveness of different types of interventions are rarely monitored and evaluated.

161. *Research and Extension.* The generation and dissemination of new technology is crucial to increased productivity, food security and income. Public research and extension systems have been established in most developing countries following the success of the Green Revolution, with the expectation that long-term investment in this capacity will lead to the adoption of modern technology and a flow-on of benefits to the rural population. Given this background the traditional emphasis of public research and extension systems in most Asian countries, including Nepal, has been production focused on high yielding varieties of cereals such as rice, wheat and maize. This focus on cereals and their production is still largely present today. However, the development of commercialization goes beyond production of cereals. It requires HVC and post-production activities to be taken into account and there is little public research and extension devoted to this, despite the perceived need to move from subsistence level agriculture towards higher income and employment opportunities and a reduction in poverty.

162. *Current situation of research and extension in the EDR.* The review of findings by the TA Team indicates that most farmers have very weak linkages with the research systems but slightly stronger linkages with the extension system, particularly in the APP pocket areas. Farmer groups are often organized with the support of NGOs and DADOs and are the main vehicle for conduct of training in new technology. What this system lacks, however, is a demand-driven and commercialization perspective. The TA Team met with some of the dynamic and commercially oriented organizations (including cooperatives and smallholder farmer associations) and they expressed a demand for information and technology that is not provided by the public extension system. The current system is mostly oriented toward supplying technological packets to farmer groups in pockets. However, the issue of whether or not there is an effective demand for these packets is not addressed. What would happen if all farmer groups in a certain pocket started producing the same vegetables for example? Key issues in marketing, quality and post-production activities are rarely addressed by the research and extension system in the EDR. The rigidity of the system, still largely controlled from the center, does not follow the flexibility to respond directly to the needs of commercial farmers and enterprises.

163. *Credit and Insurance.* The financial institutions required to support commercial agriculture have to take into account short-term financial needs (e.g. input for annual crop production, procurement of raw material, seasonal storage), medium-term needs (e.g. sugar cane production, cardamom, fish ponds, canning factory), long-term needs (e.g. tea, fruit trees) and methods to cope with risk (e.g. droughts, floods, hailstorms, frost, pests, diseases, international prices). With an agrarian structure characterized by smallholder farmers, there are additional problems related to the high cost of delivery of credit and insurance instruments.

164. *Current situation of credit and insurance in the EDR.* Appendix 1 reviewed the main financial institutions involved in agriculture in the EDR. There are no institutions to cope with risk in crop agriculture. The system is one in which only a small fraction of farmers are reached by financial institutions, credit is short-term, amounts are limited and repayment is high for smallholder farmers. Institutions have been affected by political interference, restrictive rules governing the amount of maximum loans, capital requirements and policy rules. Financial institutions are generally more responsive in meeting the needs of commercial agriculture than the general needs of rural households, and would welcome involvement in a project that promotes commercial agriculture in the region.

2. Infrastructure

165. There is little doubt that proper infrastructure is critical to the development of commercialization. This is one of the reasons why CADP was proposed in those districts and areas where there is better access to markets, collection centers, roads, irrigation and power. Improved infrastructure facilitates the movement of commodities, people and information and therefore facilitates the process of finding new commercial opportunities and gaining from price difference over space and over time. Lower transportation and marketing costs contribute to increased demand, larger volumes of production and smaller margins between farmer and consumer prices. The building of new infrastructure and the rehabilitation and proper maintenance of existing ones are both essential.

166. Infrastructure strictly related to commercialization includes agricultural markets and collection centers, irrigation systems, agro-industrial parks, storage facilities and farm-to-market rural roads. Some of the key issues involved are financing, use, maintenance, management and ownership. In principle, unless there is a clear case for the public good nature of infrastructure there is no scope for public investment. For example, cold storage facilities are private goods for which little assistance is required from public treasury. When a case can be made that the infrastructure provides a clear benefit to a large number of stakeholders and has a public good nature, then local participation in the selection of the

project and design should be sought in order to maximize the benefits to local communities. Measures to improve the effectiveness of investment in infrastructure include improving local capacity for planning and implementation, developing transparency in awarding of construction contracts, and ensuring that construction and maintenance are planned at the same time to avoid costly rehabilitation programs a few years after the initial project is completed.

167. *Current situation of infrastructure in the EDR.* In spite of the EDR having a relatively better infrastructure than the other regions in Nepal, the current situation is mediocre. Road infrastructure in the Terai is relatively acceptable, but in the Hills only the main roads to Ilam and to Dhankuta are in an acceptable state. Roads to the hinterland either do not exist, or are poorly maintained. The situation of markets and collection centers has also to be greatly improved. There is a need for a good regional market system with major regional wholesale markets and a well organized network of collection centers. The system of weekly markets seems to be relatively well developed.

168. The irrigation system in the Terai is also relatively better developed than in other regions; perhaps as important as the hardware are software issues related to water management by farmer groups and the integration of on-farm water management with crop management. In the Hills there is considerable scope for expansion of small surface schemes, rehabilitation of existing systems and the adoption of new methods of irrigation such as drip irrigation and micro-sprinkler technology.

3. Data, Information and Knowledge Management

169. There is a conceptual difference between data, information and knowledge. Information is about taking data and putting them into a meaningful pattern. Knowledge is the ability to use that information. Effective commercialization requires information about technology, markets, management, standards, policies and business practices. The agricultural research and extension system and society at large may have data and information needed for effective commercialization, but this knowledge is dispersed. Providers of extension and research services and civil society lack the tools to get the right information to the right people at the right time. Knowledge management is required for an effective dissemination of information. For example, price data for several markets are available in Nepal; but if the prices are not interpreted (say showing price seasonality), or if the prices are not related to the markets where farmers and enterprises have linkages, or if the prices come with a delay, then these data are not usable knowledge.

170. If data and information are to be useful knowledge, then successful experiences in the adoption of new technology or business practices must be disseminated and replicated. However, the type of information people need requires a two-way flow of communication. The traditional approach to extension was often focused on a one-way transfer of techniques or data that might or might not be relevant to the conditions or needs of farmers. The challenges for agricultural commercialization are various and include reducing the production costs, accelerating innovations, improving capacity to respond to competition, identifying new opportunities and improving the flow of information between different stakeholders (farmers, marketers, processors, exporters). Knowledge management is the capacity to harness the information and knowledge assets available in communities and formal repositories (e.g. research organizations, libraries, internet, reports) and helping farmers, marketers and enterprises to succeed in their drive towards increased commercialization.

171. *Current situation about data, information and knowledge management in the EDR*. Within the EDR, it is possible to find a considerable amount of data on prices, production and technologies. The data are however not often organized into databases, and even when they are, they are often not analyzed in such a way that patterns clearly emerge. For example, price data might be available, but the analysis of these price data in terms of trend and seasonality

or margins is not available. Lacking this type of information, it is very difficult for farmers and traders to devise and plan marketing strategies (for example to mobilize for early or late production). It is not possible to use the information and transform it into knowledge. There is also a misconception among extension or research professionals about knowledge management. A good extension professional is not expected to know everything about agricultural technology. The lack of specific data or information should not prevent acquiring the required knowledge from other professionals. In some cases, innovative cooperatives (e.g. Dhankuta vegetables) have proved that they can obtain the needed information from various sources including the Internet. However, this capacity for obtaining and using data and information is relatively scarce.

4. Incentives

172. For commercialization to thrive, there has to be cooperation among different stakeholders (in order to gain from improved access to technology, credit and markets) and the will to innovate (in order to stay abreast of competition from domestic and international markets). However, cooperation and innovation will not occur unless there are appropriate incentives.

173. *Cooperation.* Value Chains are institutions that emerge as the result of the concerted effort of multiple participants. A Value Chain sees the balancing of two forces - competition and cooperation. On one hand there is the competitive self-interest of each individual or group in the chain. On the other hand, there is the realization that without cooperation with other actors in the chain, the value added will remain relatively low and the opportunity for growth will be limited. The cooperative behavior in a value chain implies sharing of information, joint investment and also participation in associations and temporary partnerships. Whereas in a traditional setting, competitors will not join forces, in a Value Chain, competitors might wish to form partnerships in order to increase their profit. As long as smallholder farmers remain isolated or organized in small groups, they will have limited capacity for investment, marketing or adoption of new technology. Limited access to credit and information and their vulnerability to risk will effectively condemn them to remain marginal and poor farmers. Linkages within farmer communities and between farmer groups and other stakeholders are what provide more extensive and dynamic opportunities for adding value.

174. *Current status about cooperation.* Cooperation among farmers or other stakeholders is limited in the EDR. The region is perhaps the most diverse in terms of ethnic groups and castes. As a result, social stratification between the two dimensions of caste and ethnic group makes cooperation quite difficult. There are few cooperatives engaged in commercial agriculture; whenever cooperation involves money, the aggregation of larger groups become more difficult. The few successful cases do point to the fact that cooperation is possible and useful. Unfortunately, the cases are not sufficiently publicized to promote imitation and replication.

175. *Innovation.* Even though productivity increase and comparative advantage are essential to commercialization, value chains go beyond the strategy of increasing productivity and developing comparative advantage. One of the key insights from the Value Chain Approach is that the participants gain from continuously innovating, not just lowering cost of production, but finding improved ways of doing the same things, or by doing new things. Product innovation and process innovation allow participants to enjoy temporary rents (or advantages) over their competitors. However these rents and temporary advantages are soon lost as competitors imitate the innovation. The key issue then is how to keep the process of innovation ongoing.

176. *Current status about innovation.* Most innovations in the EDR related to agricultural production and post-production technology are derived from India (e.g. Ilam tea, dairy cows,

cardamom, vegetable ghee, sugar cane, jute). This is not surprising given the proximity to India and the opportunities that the Indian market presents for agricultural exports from Nepal. Indian agriculture however is less liberalized and more constrained than the Nepal economy and this acts as an incentive for Indian farmers to lobby for subsidies and protection, i.e. is a disincentive to innovate. In the long-term, a more open Nepalese economy will act as an incentive for innovation and will constitute a comparative advantage.

5. Initiative

177. *Entrepreneurship and leadership.* Effective commercialization is not possible unless farmers and enterprises take the initiative and carry out new activities that increase the value added in the chain. Too often, development projects have limited success as a consequence of donors and/or government pushing interventions that do not promote local initiative and capacity. For commercialization to move forward, rural entrepreneurship and leadership have to multiply in the EDR. Obviously no intervention can ensure that entrepreneurship and leadership will emerge. However, forces constraining the emergence of entrepreneurship and leadership will have to be overcome. Participatory learning, study tours, dissemination of success stories, capacity strengthening and public awareness provide a fertile soil for entrepreneurship and leadership to grow.

178. *Current status of entrepreneurship and leadership in the EDR.* Compared to other regions in Nepal, the EDR has some tradition of entrepreneurship in commercial agriculture, particularly in the post-production area. Sugar cane, vegetable ghee, leather processing, jute mills and tea factories are examples of entrepreneurship. Examples of entrepreneurship and leadership are less apparent on the production side, but a new leadership and entrepreneurial class is emerging in the production of vegetables, potato and seeds.

179. *Ownership.* Ownership implies that the main recommendations included in the final Project document will have to be shared not only by the TA Team and their Counterpart, but also by those people who will be directly involved in its implementation, including farmers, women, entrepreneurs, NGOs and civil servants in the public sector. Without ownership, the success of the project will be at great risk. Mechanisms that ensure broad participation and promote initiative on the part of key beneficiaries, including the poor and women, are essential.

180. *Current status of ownership of the project in the EDR.* After the First Stakeholder Workshop in Biratnagar (8-9 April 2003) a broad cross-section of stakeholders became aware of, interested in, and involved in the project's preparation. The TA Team followed up the Workshop with field visits and interactions with stakeholders in the region – including farmer groups and cooperatives, NGOs, line agencies and the private sector. The interaction continued through the life of the TA with subsequent Consultation Meetings in Biratnagar from 9-13 July 2003 and the Second Stakeholder Workshop from 21-22 August 2003. Approximately 70 stakeholders were involved in each of the April, July and August meetings/workshops. This participatory learning system approach is building ownership of the project in the EDR. The design itself includes mechanisms that ensure deeper and wider ownership of the project by stakeholders – particularly farmers, marketers and entrepreneurs.

6. The Environment

181. The overall macro environment is a fundamental factor in facilitating (or hindering) commercialization. Critical aspects for commercialization in the EDR include economic policies, decentralization policy and political stability.

182. *Economic policy.* Government is no longer expected to provide services that can be more effectively and efficiently offered by the private sector or civil-society organizations. The public sector is now focusing on creating a policy and regulatory environment and on improving

those services that only the government can offer. This is clearly established in the Tenth Plan and is the main policy of the HMGN.

183. *Current situation related to economic policy in the EDR.* Economic transactions in the EDR are mostly following market mechanisms. However, line agencies are still playing an important part in the implementation of agricultural programs. Several markets are under the control of government bodies, such as municipalities. Trade policy with India affects the producers of exportable manufactured products such as vegetable ghee. Import or export duties on agricultural products are generally low. Even though policy is not negatively affecting commercial agriculture, there does not appear to be a clear strategy as to what exactly should be the role of the public sector to support commercialization. The APP is the main strategy for agriculture and supports commercialization of agriculture. Its strategy, however, is implemented in a rigid mode that suggests a production technology orientation that does not take adequate consideration of the new liberalized environment, emergence of participatory planning and decentralization (see critique in the ASPR).

184. *Decentralization.* Local authorities and a wider range of community members are gaining a stronger voice in setting priorities for government actions. As a result, government is becoming more accountable. Regional development might then facilitate the commercialization of agriculture.

185. *Current situation related to decentralization in the EDR.* Even though the LSGA clearly promotes devolution of responsibilities from the central level to the district level, the actual situation is still far from what was envisaged. Capacity for planning and implementation at the district level is still weak. For example, an analysis of budgets submitted by DDCs during year 2001/2002 indicates planning capacities ranging from very weak to relatively few very strong cases. For CADP to be successful there is a need for ownership by various stakeholders at the local level and the process of decentralization should facilitate this.

186. *Political stability.* Peace is the fundamental condition for civil society and economic development to flourish. The occurrence of political instability might retard the formation of farmer and enterprise organizations and reduce the incentive for investment by the private sector.

187. *Current situation related to political stability*. There is great uncertainty at this juncture related to the security and conflict situation. The breaking of peace negotiations between the Government and the Maoists in late August does not augur well to a prompt resolution of the conflict situation. Further speculation about political stability is beyond the remit of the TA Team, but it will have to be taken into account in the Risks and Assumptions.

E. PARTNERSHIPS AND LINKAGES IN COMMERCIAL AGRICULTURE

188. In order for a commercialization of smallholder agriculture, institutions, structures and systems need to interact in a substantive way. This means that a number of different organizations, institutions and individuals need to be involved and interact in order for stakeholders in commercial agriculture to succeed. The establishment of partnerships and networks will be crucial to the commercialization process, in order to enhance the cooperation of stakeholders in the pursuit of their common goals. However, cooperation and innovation will not occur unless there are appropriate incentives.

189. In order to understand the nature of linkages among commercial stakeholders in the EDR, the TA Team undertook a study on partnerships and linkages (Appendix 14[51]). The study

[51] See Report by T. Purcell, Study on Partnerships and Linkages for Commercial Agriculture in the Eastern Development Region.

takes the form of a survey of farmers, farmer groups, traders and processors, government agencies, financial institutions and NGOs who are involved in commercial agriculture or provide services to commercial agriculture. The results of the survey into commercial agriculture linkages in the EDR point to several issues.

190. Firstly, the majority of respondents was male and came from higher caste social groupings. This implies that the majority of those involved in the commercial agriculture sector come from the upper strata of Nepali society (but not necessarily from the upper income quintiles). This has implications for gender, ethnicity and poverty alleviation strategies under the CADP, in particular the need of an explicit effort to incorporate other groups in the commercialization process.

191. Secondly, linkages between organizations are concentrated around service provision to farmers and farmer organizations, rather than downstream actors in the supply chain. While farmers appear to have good (=frequent) relations between input suppliers, traders and retailers, there seems to be a lack of contact between farmers and intermediate middlemen such as cold-storage suppliers and processors.

192. Thirdly, in a society that is arguably based on caste and ethnic relationships, it was surprising that the majority of linkages were based on formal business relationships. These relationships appeared to be beneficial to the individual parties, and had a large positive benefit-cost ratio.

193. Fourthly, the most common reasons for not having any linkage with organizations were "They don't come to see me", "I don't go to see them, or "Not our responsibility". Other popular reasons were "I don't know about them" or "not worthwhile".

194. Fifthly, the main reasons given for a lower level of trust were "No linkages with them", "Don't know them", "Cheats in business", "Provides poor quality products", or "Other" reasons. In terms of priorities for increasing trust levels, the majority of respondents indicated that this was a "medium" to "large" priority. Surprisingly, the claim that the opposing party "cheats in business" was not high on the respondents' lists of reasons. In fact, at most, only 20% of farmers mentioned this as a reason for not trusting another business. This is despite farmers in focus groups during CADP stakeholder workshops complaining of bad relationships between different groups; particularly in the case of farmers and traders. For the majority of respondents, a lack of trust was correlated quite highly with the fact that they had no linkages with them or they did not know them, rather than any bad experiences they may have had.

195. In summary, while problems with quality of service and products are an issue, the lack of partnerships and networks in the EDR appear to be due to a lack of linkages, rather than some inherent problems with a lack of trust; implying significant inertia in commercial agriculture in this region. The solutions to this appear rather straightforward; improve the linkages and get people working together in partnerships.

196. However, this solution is somewhat more difficult to implement compared with an investment project in physical infrastructure. It takes a concerted effort in facilitation and network promotion to get stakeholders past the initial hurdle of actually wanting to form partnerships with other stakeholders. This is not an easy task. Significant investment needs to be put into confidence building measures and creating goodwill amongst stakeholders.

F. SUMMARY AND IMPLICATIONS OF SOCIAL SURVEY

197. Social assessment of village level stakeholders' perceptions and experiences related to agricultural commercialization was undertaken in five districts of the EDR using various PRA tools. The five districts covered the three agro-ecological zones of Mountains (Taplejung), Hills

(Ilam and Dhankuta) and Terai (Morang and Saptari). The households in the survey were classified into four major socio-economic categories of well-off, medium, poor and vulnerable according to indicators identified by the people in the communities. Appendix 10 provides a more detailed summary of findings[52].

198. The objective of the Social Survey was to provide information on perceptions, experiences, constraints and needs of rural communities in the EDR in relation to the process of agricultural commercialization. The survey teams conducted PRA work with 26 communities in the EDR, covering five districts, and interacting with about 2,000 households in three agro-ecological areas. Even though the survey could not be representative of the diversity and complexity of the rural areas of the EDR, it provided useful information to the design of the project and complemented the additional field work of the TA Team. The following paragraphs summarize the main conclusions and implications for the project design.

1. Summary Conclusions of the Social Survey

199. The survey teams explored aspects of commercialization in relation to cultivation, marketing and post-production activities of HVC. Households were aware of HVC in their areas and do not seem to indicate much different preferences across socio-economic groups or in terms of gender. The choices of HVC essentially reflect the locally available crops. Both well-off and vulnerable groups might prefer the same crop, for example cardamom in the Mountains and Hills. The key point is that cultivation of the crops should either generate income to the landowner or to the wage laborer. A similar situation occurs for vegetables in the Terai.

200. Households see agricultural commercialization as a matter of getting and using agricultural inputs. For most of the households, commercialization will take place if several inputs are provided (technology, training, credit, irrigation, information, subsidies and land). Agricultural commercialization is essentially seen from a production point of view. Even if they mention market access as one constraint to commercialization, they do not seem to know how to improve market access.

201. The respondents from all groups seem to be relatively isolated from markets. Even when they are physically near markets, they have no access to relevant marketing information. Knowledge and practice of post-harvest operations (storage, drying, processing, grading, packaging, etc.) are quite limited and technologically unsophisticated.

202. The respondents think that the benefits of commercialization will be reflected in higher income leading to a more diversified consumption basket, improved food security, improved ability to send children to school, improved access to health and accumulation of assets.

203. The major impact of commercialization on the poor is seen through the generation of employment, and, in the case of those poor households with some land, through the selling of products such as vegetables. Generally speaking, commercialization is considered favorably. However there are two issues highlighted as possible negative effects of commercialization. First, in some poor households, the availability of more cash to men is associated to increased alcoholism. Second, an increased trend in plant pests and diseases has been detected.

204. The access to service providers such as research and extension, credit and other institutions that might facilitate the commercialization process is generally considered poor and insufficient to meet the needs of farmers for better inputs (seeds, fertilizers, irrigation) and plant protection from pests and diseases.

[52] The overall findings are in ANZDEC/ACI/CMS 2003 Social Analysis/Survey of Sampled Production Pockets of Taplejung, Ilam, Dhankuta, Morang, and Saptari.

205. Women involvement in commercialization is limited to production and some basic post-production activities (storage and food processing). Wage labor for women is related mostly to production (e.g. seed selection, planting, weeding, harvesting) and is generally remunerated less than for men. Involvement of men in marketing is low; for women is even less. Marketing, borrowing, buying and selling assets seem to be activities carried out mainly by men.

206. Absence of group cohesiveness between different ethnic groups and castes is also indicated as a threat to seizing the opportunities for greater commercialization. However, even though this seems to be an important factor, it is not an overwhelming threat to commercialization. Lack of access to “assured” markets and inputs are considered even more serious threats.

2. Implications for the Project

207. There are four main implications of the social assessment in terms of the design of the commercialization project:

- **There is a need to go beyond production focus**. The problems of commercialization are not just related to production aspects, but include markets, institutions and social cohesiveness. The design of the CADP will not be successful in bringing a higher level of commercialization unless these different aspects are taken into account. Past interventions that are production focused has not been able to bring about the expected growth in income and poverty reduction.

- **The project needs to create the conditions for beneficiaries to move beyond “isolation".** By "isolation", it is meant not only the physical distance from roads or markets, but even more the distance from information, ideas, technology, organizations and other groups that are at a higher stage of commercialization and could provide solutions to some of the problems faced by the communities in their pursuit of higher level of commercialization. The respondents do not know where to find the solutions to their problems and are unaware that many of the problems they face are common to other communities, and that there are success stories in the region.

- **In order to reduce poverty and vulnerability, increase employment opportunities**. There is a widely held perception that the major contribution to poverty and vulnerability reduction of commercialization goes through employment generation. A stagnant rural economy is perhaps the single most important factor explaining poverty. If the CADP could contribute to accelerate growth in the region, the resulting employment opportunities will benefit the poor. The reason is that growth of agriculture in the EDR will be pursued through labor-intensive technologies most appropriate and feasible given the current agrarian structure (consisting of quite small landholdings) and the prevailing wage rates (extremely low).

- **In order to reduce gender unbalance, promote awareness and capacity development programs**. In spite of numerous gender-focused programs carried out over the past decade, women status in the region is still low. The contribution of women in agriculture is not adequately recognized; their education level is lower as a consequence of less schooling for girls; and active engagement of women in off-farm activities (such as marketing, buying and selling, entrepreneurships) is rare. Activities that link women groups together and also provide opportunities to increase capacity in commercial agriculture could make an important contribution toward women’s ability to access resources and accumulate assets.

G. FACTORS OF SUCCESS OF COMMERCIALIZATION IN THE EDR

208. The analysis of success stories reported in Appendix 3 points out a more positive outlook than the analysis of aggregate data. In spite of numerous constraints faced by commercial stakeholders, a lack of support from public institutions, and the difficulties arising from the security situation, the stories indicate a willingness to succeed, resilience in the face of adverse circumstances, and ingenuity of many stakeholders.

209. The common factor explaining success of these stakeholders is their capacity to work together towards a common goal of income generation and profit making. All of the success stories show that smallholder farmers, traders and processors can achieve greater results when they join forces than if they work in isolation. Farmer groups, producer associations, cooperatives and trade associations in a variety of commodities (vegetables, areca nuts, tea, potato, seed) in the EDR have been able to go beyond the boundaries that their limited resources, difficult external environment and isolation allowed.

210. While the main factor of success has been the ability of cooperating, there are a number of other subsidiary factors that might explain their relative success.

- Access to improved information (prices, markets, exports, technology, management, laws and regulation, new opportunities, workshops and training).
- Capacity to lobby with the government (in dealing with trade issues, tax issues or technical support).
- Improved identification of constraints (marketing, logistics, technology).
- Improved access to technology (inputs, production management, post-harvest technology).
- Imitation among members of an association (innovations get adopted more rapidly).
- Improved capacity to link to other actors in the value chain (input and output traders, transporters, research and extension providers, credit institutions).
- Improved capacity to develop solutions to production and marketing problems.
- Improved access to domestic and international markets.

211. The study on linkages and partnerships in Appendix 14 points out that there are several constraints to the formation of partnerships, networks and value chains for commercial agriculture in the EDR. In the absence of a concerted outside influence, it will be difficult at best, and possibly even unachievable, to obtain cooperation. This however, does not imply that cooperation should be imposed from the outside or from above, but that a commercialization of agriculture will be severely impeded without some outside assistance and facilitation.

212. The experience of the success stories indicates that in several cases such outside assistance and facilitation in the past was either provided by NGOs, projects or the initiative of single individuals.

213. However, the formation of partnerships, networks and value chains will only be successful if there are private benefits accruing to the stakeholders involved. Those benefits are implicit in the above-mentioned list of subsidiary factors of successful commercialization stories in the EDR. Based on this experience, the purpose of a commercialization agriculture development project could perhaps be seen as one of facilitating the identification of those private benefits and facilitating the formation of networks and partnerships, rather than one of imposing them on an erstwhile unwilling group of people.

H. THE CORE PROBLEM FOR COMMERCIALIZATION OF AGRICULTURE IN THE EDR

214. Agricultural commercialization is affected by several interlinked factors. Even though the CADP cannot address all these factors during implementation, it is important to recognize the context in which commercialization will take place in the EDR and to identify the core problem, its causes and impacts so as to maximize the likelihood of success.

1. The Core Problem and Its Impact

215. The core problem for the development of agricultural commercialization in the EDR is the absence of a network of functional Value Chains. The conclusion emerges from the problem tree analysis of the core problem, its causes and impact on agriculture and the overall EDR. The analysis is illustrated in Figure 2.6.

216. A Value Chain is the full range of activities which are required to bring a product or service from conception, through intermediary phases of production, to delivery to final consumers. Different types of stakeholders are needed to carry out the full range of activities in a Value Chain. Currently, in the EDR, stakeholders have weak relations with each other. A functional Value Chain means that the key stakeholders (farmers, marketers and entrepreneurs) are aware of their mutual linkages, make a deliberate effort to improve them, and organize themselves in such a way that they can benefit from the mutual linkages in the network including other stakeholders such as research and extension providers, banks and micro finance institutions (MFIs), input providers, line agencies and NGOs.

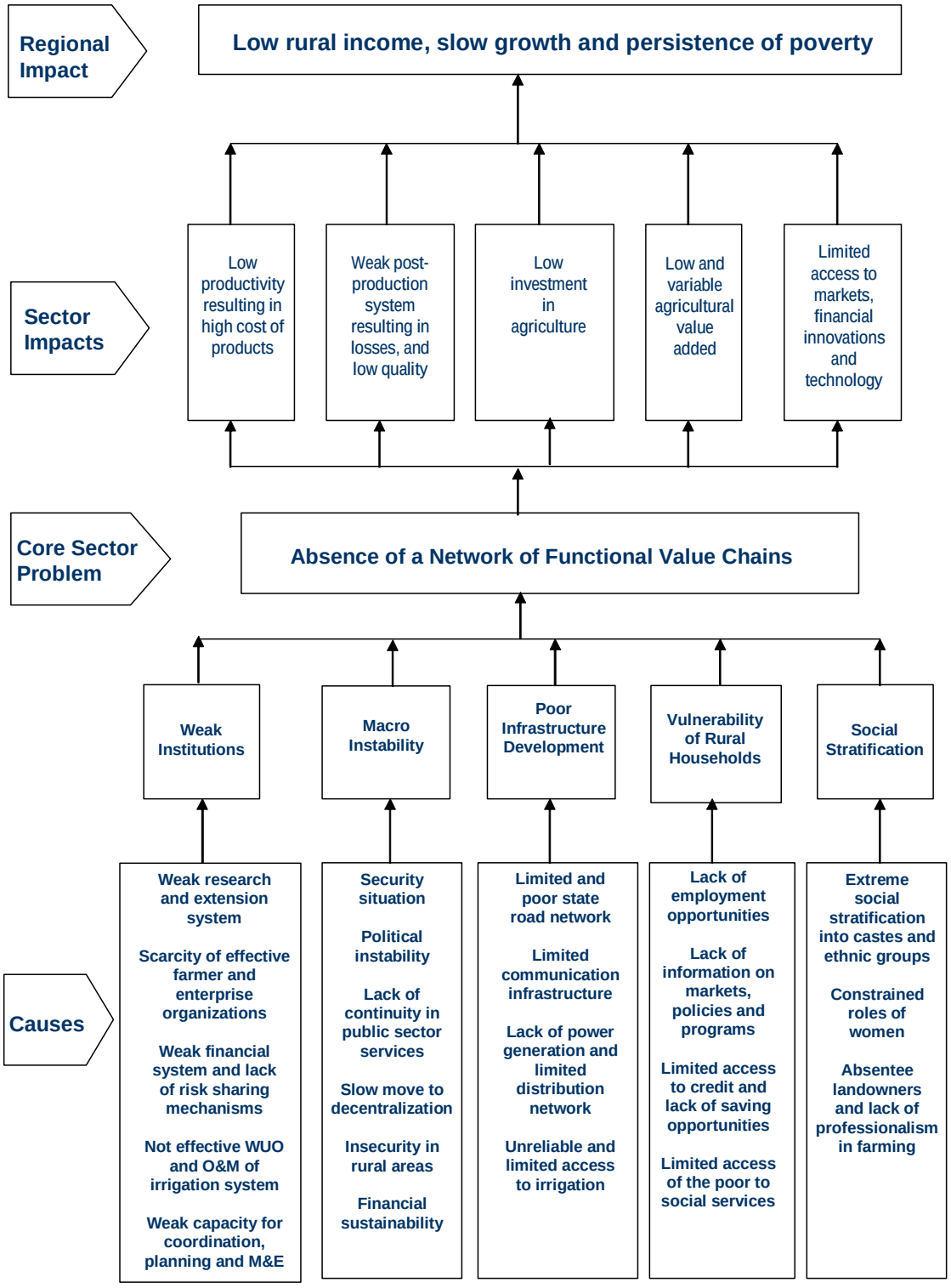
217. The lack of functional Value Chains is responsible for the low state of agricultural commercialization in the region. Smallholder farmers are isolated or organized in small groups and have difficulty in accessing inputs, credit and technology. Their limited knowledge of technology and markets is reflected in low productivity which in turn results in lower than potential income. Enterprises, farmers and marketers are unable to link with each other effectively and are less able to capture opportunities arising from rapidly growing urban, regional or international markets. Because they do not belong to a commercial network, they find it difficult to gain access to these markets, and to the knowledge necessary to improve quality, add value and make innovations. Unless the demand for high value products and quality is recognized and acted upon, there is little incentive for developing post-production systems. Isolated smallholder farmers and agro-enterprises are less able and/or willing to invest in new technology, infrastructure, production and processing assets.

218. The adoption of new technology by smallholder farmers is retarded by the absence of mechanisms that allow risk sharing. Production grows but at a slow rate and employment opportunities for the landless, poor and vulnerable remain limited. Farmers wait passively for markets to come to them, rather than going to the markets. Spot markets rather than contracts are the usual type of financial transaction. The result is high variability of prices and income and a diffuse belief that the traders are exploiting farmers. The overall impact of a low level of agricultural commercialization in the EDR is a situation characterized by low rural income, slow growth of agricultural value added and persistence of poverty.

2. The Core Problem and Its Causes

219. Numerous causes explain the absence of a network of functional Value Chains. Some causes are related to macro and social factors; others are more specific to the agricultural sector.

Figure 2.6: CADP Problem Tree Analysis



3. Weak Institutions

220. *Weak research and extension system.* Even though considerable progress has been made in shifting the approach to research and extension from top-down to more participatory and demand-driven, the implementation of new strategies is still slow. Projects such as the Hill Agriculture Research Project and the Agriculture Research and Extension Project have made an important contribution in this shift of approach, but the sustainability of the efforts appears problematic. The performance of research and extension in the EDR has not been particularly supportive of the commercialization process. Innovative farmers and agro-enterprises have often proceeded without the active support of the line agencies. Whenever commercialization has taken place, it has been at relatively low levels. Problems posed by farmers and enterprises related to pest and nutrient management for HVC, market access and export potential are often beyond the existing capacity of the line agencies. Private sector and NGO sector involvement with research and extension is also very limited. Some NGOs are gaining experience with technologies related to HVC, but their understanding of Value Chain Management is usually lacking.

221. *Scarcity of effective farmer and enterprise organizations.* Most farmers involved in commercial agriculture are organized in small groups, normally of less than 20 farmers. Farmers are rarely part of larger organizations such as cooperatives and producer associations. This is partly the result of an extreme social stratification along the dimensions of caste, ethnic group and gender. Partly, it is the inheritance of a past dominated by a top-down approach that wanted to organize farmers as cooperatives irrespective of the demand of farmers to do so. Fortunately, the movement towards local participation is increasing now through the active work of NGOs and a policy framework that promotes decentralization and participation.

222. *Weak financial system and lack of risk-sharing mechanisms.* Most farmers are not reached by financial institutions (banks and MFIs). Mobilization of savings is low and cost of delivery of credit is high. Agricultural commercialization is perceived as high risk by commercial banks but there are no effective risk sharing mechanisms.

223. *Ineffective WUO and Operations & Maintenance of irrigation systems.* With the exception of farmer managed irrigation systems, the WUO involvement in operations and maintenance and in collection of irrigation service fees is low. On-farm management of water is inefficient and large wastage of water in the distribution of canal water occurs. When farmer groups are trained, it is in water management or crop management, but not in integrated plant and water management.

224. *Weak capacity for coordination, planning, and monitoring and evaluation.* The ASPR identified weak capacity within and between line agencies and other organizations, at both the central and local levels. Presumably, coordination at the local level (say at the regional level) is easier and the TA Team has witnessed cases of inter-agency collaboration and coordination at the district level. However, planning and monitoring and evaluation still need considerable improvement and require the broader participation of local communities and other stakeholders.

4. Macro Instability

225. At the macro level, the main issue is the future of the peace talks and the related political instability. Even though the situation has been improving relative to 2001-2002, the security situation in rural areas is still uncertain. The EDR seems to be more secure than the other regions, but the uncertain political climate has a negative effect on the investment decisions, particularly for agribusiness and agro-enterprises, and for farmers as well. For example, lack of security discourages irrigation at night, when it would be more cost effective.

The political instability is also reflected in greater instability in the public sector, particularly the agencies (research and extension) in charge of the agricultural sector. Lack of continuity in the public sector services affects the implementation of programs related to technological transfer. In such a situation, stakeholders will reduce their efforts at linking, coordinating their activities and making investments. At the local level, the LSGA suggests a greater role for decentralized decision-making. However, capacity is still low and there are also great uncertainties on the short-term effectiveness of the decentralization process, raising the possibility that neither central agency services nor local bodies will provide needed services to rural populations.

5. Poor Infrastructure

226. A poor road, market, electricity, water and communication infrastructure constrains the marketing of agricultural products and thus limits commercialization. It affects the volume of transactions and exchange of information among stakeholders. Isolation of farmers or pockets is not conducive to interaction and networking. The recent introduction of a mobile telephone system in several districts in the EDR will probably improve the limited telephone network coverage in the region. The electric power situation however is still serious. Generation is limited and costly, thus constraining the emergence of agro-industry. Even though the irrigation network is relatively developed in the Terai, access to irrigation water is unreliable.

6. Vulnerability

227. Most of the poor and vulnerable groups have few assets (e.g. land, finance, livestock) and little education. As a consequence, their main source of income is low-skill wage labor. However, employment opportunities are limited in the rural areas, and the poor and vulnerable often resort to different coping mechanisms (including migration and indebtedness). Their capacity to organize and interact with other stakeholders in the value chains is limited. Their low education and social status usually prevents them from gaining access to markets (for labor) and to credit and programs that might improve their condition. The limited access to social services (health, education, water) aggravates the plight often arising from their exposure to different types of risk (e.g. disease, natural calamities and accidents).

7. Social Stratification

228. Social aspects also impinge on the process of commercialization and the formation of Value Chains. Nepal, in general, and the EDR in particular, have a very complex social stratification along the dimensions of caste, ethnic group and gender. The main effect of this stratification is to impede or to retard the formation of alliances and networks that are essential to the success of commercialization. The constrained role of women limits their active participation in the commercialization process either as producers, entrepreneurs or wage laborers. Finally, there are absentee landowners in the EDR whose usual practice is to maintain sharecropping arrangements. Even though sharecropping is not necessarily a negative practice, the practice of absentee landlords does not encourage commercial attitudes or investment in HVC.

I. CONCLUSIONS

229. The Tenth Plan clearly states and stresses the involvement of the private and NGO sectors as partners in the process of achieving the Government's objectives under the Plan. This is a highly significant and fundamental change in government policy. Whereas before, government in Nepal perceived its purpose to be one of implementation of national policies, the principle has now been accepted that its role in agriculture should change to one of facilitation, arbitration and regulation in commercialization. It will in the future confine its development and implementation activities to those areas where the public good demands it,

and will leave to the private sector those activities which are best described as being "commercial" in the widest sense.

230. There is more to commercialization than simply involving private enterprise. Agriculture commercialization can be considered as the sequence of events necessary to produce, market and consume agricultural products and by-products. Out of this scenario, all the actors involved expect to make their livelihood. To successfully design a project to influence/hasten this process rather than awaiting its natural evolution, it is necessary to identify as many stakeholders to the process as possible and analyze and interpret their different roles and linkages, and their ability to influence or control the different steps within the value chain relative to one another. This may be defined as governance and its understanding is central to the theme of recognizing that competition exists within the market place, and that not everyone can be a winner, a principle overlooked to an extent in the Tenth Plan, which gives the impression that all will benefit.

231. The concept of a Commercial Agriculture Development Project (CADP) arises naturally from the transformed policy environment of the Tenth Plan. The aim of the preparation phase of the project is to examine and analyze these issues from as wide a perspective as possible, and to design a project to create the environment within which the various actors can interrelate and conduct their business to the benefit of the majority of the participants.

232. The analysis indicates the following conclusions.

233. ***Agricultural commercialization can provide substantial benefits provided that growth is broad-based.*** HVC can provide much higher income than cereal crops. Smallholder farmers can share the gains in income; in fact, the most productive HVC farmers are not largeholding farmers. Benefits of commercialization can reach both smallholder farmers and the poor and vulnerable groups, provided that employment opportunities are created by increased production of HVC and commercialization at both the production and post-production levels. The benefits to women depend on the complex of relationships within households. Commercialization will increase the cash income of households but whether or not women benefit depends on how decisions are made within the households. Focus group discussions with women suggest a positive outcome of commercialization in terms of greater financial and in-kind assets they can accumulate. Nevertheless, in light of the lower wages obtained by women for the same amount of work done by men the longer work hours induced by commercialization might have negative effects unless they are accompanied by a reduced burden of household chores.

234. ***Numerous factors constrain stakeholders in the process of development of commercialization.*** The constraints affect both smallholder farmers and other stakeholders including private sector (marketers and entrepreneurs), NGOs, line agencies and financial institutions. Technology constraints exist both on production and post-production systems; limited access to markets, credit and information and a poor infrastructure are almost universal. Risk is another key factor constraining commercialization. At the level of smallholder farmers, particularly the poor and vulnerable groups, their low risk-bearing capacity seriously constrains adoption of new technology and specialization; at the level of marketers and entrepreneurs, the lack of contract enforcements and lack of information makes attempts at new ventures within domestic and international markets extremely risky; at the level of financial institutions, there are no risk-sharing mechanisms that can enhance the supply of credit to commercial agriculture.

235. ***Individuals face enormous difficulty in resolving these constraints. They can be successful, however, if they establish linkages and partnerships with others.*** The analysis of linkages among different stakeholders reveals weak linkages. The paucity of effective farmer organizations, producer associations, trade associations and coordination

mechanisms among stakeholders (e.g. between research and extension) is seen as a major obstacle to further commercialization by stakeholders. Success stories, however, do exist. Replication and further strengthening the success stories is one of the main challenges for CADP.

236. ***There are different degrees and concepts of commercialization. The main emphasis of the CADP should not be to convert subsistence farmers into commercial farmers, but to move from the current low level of commercialization to a higher level.*** To move to a higher level of commercialization does not imply that the project will work only with largeholding farmers and enterprises. The fieldwork of the TA Team revealed success stories of commercialization involving farmer organizations (groups, cooperatives, associations) consisting mostly of smallholder farmers. The analysis of HVC production also indicated that smallholder farmers are among the most productive farmers. However, small producers, marketers and enterprises as individuals have difficulty in accessing technology, markets, information and finance required to embark on a sustainable commercialization path.

237. Different factors affecting commercialization have been reviewed and assessed within the context of the EDR – including institutions, infrastructure, knowledge, incentives, initiative and environment. The main implications of a Value Chain Approach are the need for increased integration of stakeholders through groups, cooperatives, other farmer organizations, trade associations and networks; and the development of mechanisms that facilitate the flow of information and the discovery of the need of commercial stakeholders (as perceived by them).

238. Rather than focusing on the issue of which crops should be commercialized, the TA Team suggests that the emphasis of the project should be on who will commercialize (the actors) and how the commercialization process should take place (the institutions).

239. The core problem for the development of agricultural commercialization in the EDR that emerged from the TA Team's analysis of the problem, its causes, and its impacts on agriculture and the EDR is the absence of a network of functional Value Chains.

III. THE PROPOSED PROJECT

A. INTRODUCTION

240. This chapter provides a description of the proposed project and is organized into five sections. Section B discusses the basic assumptions of the project. Section C provides an overview of the project, including its goal and purpose. Section D describes the six components of the project. Section E presents the implementation arrangements for the project, including the management of the project, the flow of funds, consulting services and monitoring and evaluation.

B. BASIC ASSUMPTIONS OF THE PROJECT

241. The design of the project is based on several assumptions. First, it recognizes that agricultural commercialization is a complex dynamic process involving several dimensions related to technology, markets, finance, institutions, infrastructure and social structure. Second, the project focuses on the actors of commercialization (the farmers, the traders and the processors) as the key agents of commercialization. Third, the project emphasizes the need for a demand-driven approach, whereby the commercial actors themselves make investment decisions related to technology, infrastructure, marketing and capacity rather than the investments being supply-driven by the public sector. Fourth, the project recognizes that the stakeholders in the commercialization process are poorly integrated and it attempts to provide institutional mechanisms that will facilitate the emergence of effective networks and value chains. Each of these assumptions will be briefly discussed in the following paragraphs.

1. Multi-dimensional Nature of Commercialization

242. Chapter II has argued that commercialization is a dynamic process involving several dimensions related to technology, markets, finance, institutions, infrastructure and social structure. In the transformation from semi-subsistence to higher degrees of commercialization, these dimensions take different values. Achieving a higher degree of commercialization will require moving along different dimensions. The success of the CADP will depend on the adoption of market-friendly technologies, better marketing, adequate finance and effective institutions. Given the complexity of the process, the project cannot be expected to affect the overall transformation of the agricultural system into a commercialized one. A large number of farmers in the region are still at a subsistence or semi-subsistence level. Rather, the emphasis of the project will be to facilitate the shift of stakeholders currently at a low level of commercialization to a higher level. If successful, however, the project will accelerate the overall process of transformation of the region's agriculture into a commercialized one.

2. Shifting the Emphasis from the Crops to the Actors

243. More important than the issue of which commodities have to be promoted for commercialization is the issue of who (which stakeholders?) will actually commercialize and how (through which institutions?) that will take place.

244. Too much emphasis in past discussions about commercialization in Nepal and the EDR has been given to the question of which crops to commercialize. According to this perspective, once the crops are prioritized, then resources and effort should be spent on these crops and the outcome will be a higher level of commercialization. The TA Team took a different view.

245. Farmers, traders and processors already know the commodity priorities for commercialization. In the various field level activities conducted by the TA Team and the Social Survey Team, farmers and agro-enterprises have already indicated their crop priorities.

They have indicated such priorities in practice, by already investing their time and resources in the enterprise of their choice.

246. It is the experience of the TA Team that participatory discussions, expert consultations, study of APP documents, analysis of comparative advantage and other formal and informal methods of establishing priorities result in the usual lists of suspects[53]. Most of these lists of "priority crops" are no different from one another. They are usually long lists involving dozens of commodities. Diluted effort is usually the result of implementing research and development programs based on such lists.

247. The basic flaw of the commodity focus for promoting commercialization is that choices that are reasonable at one point in time and space are not appropriate at another point in time and space. Markets are dynamic processes and demand and supply conditions create new opportunities and new challenges at different points in time and space. Proposing a package of measures based on commodity choice is not necessarily the best way of promoting commercialization. In most cases, the critical issue is not even what to do. Most of the problems are relatively well known (e.g. weak knowledge of plant and water management, high storage losses, limited information about markets). What is not known is how to solve them and who will do the resolving.

248. The commercialization strategy of choosing a few commodities and promoting them with adequate technical and financial support is sometimes known as "***picking the winners***". According to this view, the project should focus on few high-value crops and try to promote their commercialization with adequate technical, financial and infrastructure support. To a certain extent this is the "pocket approach" of the APP. However, as shown in the ASPR, the pocket approach might not be consistent either with a truly commercial approach (farmers or enterprises might be interested in different commodities) or with a truly decentralized approach, whereby stakeholders plan and make their own decisions (they might be interested in other commodities than what those originally chosen by the project).

3. Shifting from a Supply-driven to a Demand-driven Approach to Commercialization

249. A supply-driven approach, typical of most development projects implemented in Nepal is unlikely to be successful in bringing the necessary linkages and transformation of agriculture required for commercial agriculture. A supply-driven approach implies that the experts, the planners and the public sector know what are the problems and the solutions of commercial agriculture more than the commercial agriculture stakeholders themselves. This approach has proved unsuccessful in the past, as implied by the low growth of agriculture in Nepal over the past decade.

250. A demand-driven approach recognizes that commercial stakeholders need to develop their capacity of making investment decisions in order to learn how best to adapt and innovate in a changing environment. Having commercial stakeholders in the driving seat of the project investment decisions is also consistent with the policy changes that have happened in the latter part of the 1990s, namely the adoption of a more market-oriented approach and the emphasis on participatory planning and decentralization. Even though policy recognizes a greater role for the private sector and the civil sector in the implementation of government programs, in practice participatory planning and the view of the public sector as facilitator of development are still at a beginning stage. The demand-driven approach of the CADP presents an opportunity for the project to be consistent with the overall policy shift.

[53] "Priority" crops for the Hills are tea (Orthodox), citrus, cardamom, ginger, broom grass, off-season vegetables, potato and medicinal plants; and "priority" crops for the Terai are paddy, sugar cane, potato, vegetable, mango, banana, aquaculture and tea (CDC).

251. One approach to commercialization would be to list the constraints to commercialization and then make the investments needed to alleviate those constraints. For example, limited access to modern inputs would imply provision of modern inputs and demonstrations. If successful, this approach might perhaps induce some crop diversification and increase the marketed surplus of some farmers and their income. However, their level of commercialization would not necessarily be different from the one currently in place in the EDR. If the objective is to move one step-further in the path towards higher levels of commercialization, a different approach is needed. Such an approach could be to take the current situation of already commercialized farmers (organized as smallholder farmer groups or cooperatives), trade associations and agro-enterprise associations and facilitate them to move further along the commercialization path. In order to do so, the project will have to provide institutional mechanisms for these organizations to express their needs for technology, information, capacity development and infrastructure that would raise their business from its current level of commercialization to a higher level. Rather than the project telling the stakeholders what they need to do to further commercialize, the stakeholders will tell the project what their effective demands are. The expectation is that this change of approach will build ownership, address demand and facilitate the emergence of effective stakeholder networks.

4. Poorly Integrated Stakeholders

252. Value Chains become strong mechanisms to gain competitive advantage in domestic and international trade if they are able to establish strong alliances and networks within themselves. Brands (for example Himalayan Tea or Mountain Potatoes) require the concerted efforts of producers associations, marketers and agribusiness. Moreover, the success of a Value Chain in adding value depends on the capacity of building networks that include different partners such as banks, research and extension providers, and government agencies. This integration facilitates the linkages with international markets and prepares Nepal farmers and entrepreneurs to the challenges and opportunities of WTO accession. Higher level of commercialization will see growth in the number and intensity of linkages with different organizations.

253. Isolated or poorly organized commercial agriculture stakeholders have enormous difficulty in accessing and adopting new technologies, accessing market information and credit, and overcoming the challenges posed by international integration and access to WTO. A poorly developed infrastructure (even in a region like EDR), an agrarian structure characterized by a multitude of smallholder farmers with very limited assets, and an extremely socially differentiated rural society constrain the emergence of value chains that are able to compete and innovate successfully in an increasingly integrated global agriculture.

254. There are thousands of farmer groups and hundreds of thousands of smallholder farmers in the EDR. However, there are very few cooperatives engaged in commercial production of HVC. As long as the size of farmer organizations does not increase, the scope for commercialization is going to be limited, since production volumes will be small, quality control almost non-existent, bargaining power of farmers weak, and access to markets, inputs, credit and technology also limited. Similarly, traders and agro-enterprises are usually not organized into trade associations. When they are organized into associations, members are often not positive about the effectiveness of the associations.

255. The problems of poor integration highlighted above are compounded in the case of socially excluded groups such as women, vulnerable groups and disadvantaged minorities and ethnic groups. There is a general scarcity of institutional mechanisms to overcome the social stratification and vulnerability.

256. The design of the CADP includes mechanisms such as the Commercial Agriculture Alliance, the Commercial Agriculture Network and the Social Mobilization for Agricultural Commercialization that facilitate the integration of commercial stakeholders and the emergence of larger organizations able to overcome the constraints faced by isolated and disorganized smallholders and small and medium enterprises in relation to access to markets, information, technology and credit. The CADP design provides some institutional mechanisms to integrate women and the poor into commercial agriculture.

C. OVERVIEW OF THE PROJECT

257. The project objective is to increase the degree of agricultural commercialization in the region by promoting the development of a network of well-functioning value chains that are competitive and innovative.

1. Goal

258. The goal of the project is to sustainably increase the level of commercialization of agriculture in the EDR.

2. Purpose

259. The purpose of the project is to establish a network of competitive and innovative agricultural Value Chains.

260. The project recognizes the key role of networks in the development of value chains. The CADP facilitates the emergence of a network of well-functioning agricultural value chains. It provides institutional mechanisms through which the key stakeholders and their service providers can effectively link to each other by forming partnerships and alliances. Stakeholders participate in a commercial agriculture network when they recognize that participation in the network increases their opportunity to establish mutually beneficial partnerships and alliances.

261. The project proposes methods for sharing information. Sharing information, however, is not going to be translated into higher incomes and more effective services unless complemented by other mechanisms that give stakeholders the means to make investment decisions needed to move to higher levels of commercialization. Demand-driven investments will improve the efficiency of allocation of scarce public resources. The formulation, approval and implementation of demand-driven investments will also contribute to the development of alliances and partnerships between stakeholders and service providers.

262. Constraints related to limited access to information and capital are addressed through improved marketing information services and institutional mechanisms that allow risk sharing by different parties.

263. The project builds and strengthens existing capacity of service providers to facilitate the development of commercial agriculture. Improved capacity of service providers facilitates the development of commercial agriculture in two ways: by directly providing better services to currently well-organized commercial stakeholders (the members of the CAA) and by mobilizing and organizing currently loosely-organized farmer groups operating at a low-level of commercialization.

264. In order to achieve the overall objective of moving to a higher level of commercial agriculture in the EDR, the project is organized into six inter-linked components:

(i) The **Commercial Agriculture Network** (CAN) facilitates exchange of information between key stakeholders (producers, traders and processors) and service providers.

(ii) The **Commercial Agriculture Alliance** (CAA) with its **Board** and the **Commercial Agriculture Fund** (CAF) provides a mechanism for different types of key stakeholders (producers, traders and processors) to work together by formulating and selecting investments that move commercialization to a higher level.

(iii) The **Agriculture Market Information Service** (AMIS) component provides a strongly needed service to stakeholders involved in commercial agriculture.

(iv) The **Commercial Agriculture Credit Guarantee Scheme** (CACGS) reduces the risk faced by actors involved in credit transactions by sharing risk between borrowers and lenders.

(v) The **Social Mobilization for Agricultural Commercialization** (SMAC) component keeps the process of commercial agriculture continuously moving upwards, by facilitating the transformation of loosely-organized farmer groups already involved in low-level commercialization into better-organized and larger farmer groups operating at a higher-level of commercialization.

(vi) The **Institutional Capacity Development for Commercial Agriculture** (ICDCA) component strengthens existing capacity and builds new capacity of service providers to adequately understand and respond to the needs of commercial agriculture.

265. Different components of the CADP address market failures related to the formation of commercial organizations, provision of information, risk sharing and investment in new technology and infrastructure. The CAN, the CAA and the SMAC components address the failure of diverse commercial stakeholders to organize themselves into larger units and to establish mutually beneficial relationships; the CACGS component addresses the failure of different parties (borrowers and lenders) to reduce risk involved in credit transactions; the AMIS component addresses the failure of supplying and disseminating information to improve production and marketing. The CAF and its managing Board address the failure of investing in new technologies and infrastructure providing public good benefits.

266. The approach of the CADP of establishing or strengthening linkages among commercial stakeholders can also be interpreted as an effort at promoting **inter-sector linkages**. The development of commercial agriculture implies strengthening the linkages among agriculture, industry and services. The idea of CAN makes these inter-sector linkages quite clear among producers, marketers, processors and service providers. The core problem for agricultural commercialization identified by the TA Team stresses that these linkages are weak and therefore the macro economic benefit of growth in one of the sectors will not be adequately "multiplied" to other sectors. In fact, the analysis of linkages by the TA Team goes beyond the mechanistic view of the *growth linkages* literature according to which each increase in growth in one sector (e.g. agriculture production) will be transmitted to other sectors via a multiplier. That literature does not make clear how the multiplier takes places.

267. The analysis in the report suggests that the multiplier will be low since linkages between stakeholders are weak. Linkages are weak because of the many constraints highlighted in the analysis of the core problem for commercialization. These constraints imply that the formation of partnerships, networks and value chains for commercial agriculture within the EDR will be difficult at best, and possibly even unachievable in the absence of concerted outside influence. This is not to say that partnerships, networks and value chains should be

imposed from outside or from above, but that a commercialization of agriculture will be severely impeded without some outside assistance and facilitation. The formation of partnerships, networks and value chains will only be successful if there are private benefits accruing to the stakeholders involved. The purpose of a commercial agriculture development project would be to facilitate the identification of those private benefits and the facilitation of the formation of networks and partnership, not impose them on an erstwhile unwilling group of people.

268. When they exist, linkages are reported to be beneficial but without an outside intervention are doubtful that these linkages will be strengthened or formed at all. Appendix 14 summarizes the findings of the key study on linkages and partnership by the TA Team.

269. The various components of the project are interlinked and reinforce each other. CAN members will benefit from association with other Network members by developing joint investment proposals for approval by the CAA Board. The institutional capacity development activities will strengthen the capacity of institutions to provide services to CAA members, farmer groups, and small and medium agro-enterprises. The investments approved by the CAA Board will complement investments made possible by the increased credit disbursed to commercial agriculture made possible by the credit guarantee scheme and the improved information and knowledge disseminated by the AMIS.

D. COMPONENTS: RATIONALE, OUTPUTS AND INSTITUTIONAL FRAMEWORK

270. The following paragraphs explain the rationale, outputs and institutional framework of each of the six components of the project. Appendix 4 contains the Logical Framework of the project and Appendix 5 provides additional details about each of the specific measures associated to these components.

1. Component 1: Commercial Agriculture Network

a. Statement

271. Establish a Commercial Agriculture Network (CAN) to facilitate communication, information sharing and formation of partnerships among and between stakeholders directly involved in commercial agriculture and service providers.

b. Rationale

272. The TA fieldwork has reported weak linkages among the stakeholders involved in commercial agriculture in the EDR. Even when stakeholders have linkages, there are no mechanisms for sharing information, communicating with each other and establishing relationships. Informal and formal networks do exist within farmers (e.g. farmer groups, cooperatives and producer associations), traders and processors. However, there are few examples of linkages between different types of commercial stakeholders (e.g. farmers and processors) or between service providers and commercial stakeholders (e.g. traders and extension agents). In general, there are few examples of linkages that facilitate the exchange and communication of knowledge and ideas that result in a reduction of costs and an increase in benefits from pre-production to consumption along the value chain.

273. When networks exist, they are the result of trust relationships based on ethnic groups, caste, gender or family connections. Rarely do the key stakeholders (farmers, traders and processors) meet together to exchange information and communicate concerns and ideas. Unless the key stakeholders interact with each other and form effective value chains, there is little scope for moving from the current level of low commercialization to a higher level. Establishing a strong network of stakeholders involved in commercial agriculture (either

directly or indirectly as service providers) is a critical step in the development of commercial agriculture in the EDR.

274. Membership of the CAN is a stepping stone to membership of CAA. The latter are CAN commercial members who have met the particular criteria for CAA membership.

c. Outputs

275. The CAN will provide six main outputs: (i) a database; (ii) a bi-monthly bulletin; (iii) female entrepreneurship news; (iv) semi-annual workshops; (v) partnerships; and (vi) a website.

(i) **Database** of all the members of the CAN in the EDR including commercial farmers, traders, processors, extension providers, research providers, NGOs involved in commercial agriculture, financial institutions involved in commercial agriculture, universities, consumer groups, farm associations, line agencies, DDC and agricultural input providers. The database might include information on how to contact the members and the main activities by the members; such information should be updated at least every year; and the database should be maintained by the CAN Manager and made available to all members.

(ii) **Bi-monthly bulletin** with information related to activities of the CAA and news provided by CAN members and announcements (e.g. projects, workshops, training courses, meetings, fairs) related to commercial agriculture in the EDR. The bulletin will provide an information sharing mechanism for the different components of the CADP, namely the CAN, the AMIS, the CACGS, the ICDCA and the SMAC.

(iii) **Female entrepreneurship news.** The CAN Manager, supported by the Social and Gender Specialist of the Project Implementation Unit (PIU) and the Rural Sociologist of the Secretariat, will facilitate the sharing and dissemination of information about women involved in commercial agriculture in the EDR. A quarterly review of major experiences will be published and distributed both by mail and on the web.

(iv) **Semi-annual workshops** of CAN members. The workshops will be an opportunity for CAN members to meet and discuss achievements and plans and to make direct contact. The workshops will also stimulate ideas about partnerships and new ways to develop commercial agriculture in the region. Even though the CAN Manager will be responsible for organizing the workshops, staff of the CAA will be involved in the preparation. At the initial stage of CADP implementation, these workshops might also serve the function of an awareness campaign. The workshops might be an opportunity for having an exhibition of products by CAA members and activities by CAN service providers. The workshops will provide an opportunity for social mobilization and capacity development.

(v) **Partnerships.** The CAN Manager will facilitate partnerships between service providers and the members of the CAA. Some of these partnerships will develop joint proposals for approval by the CAA Board. The CAN Manager will ensure that information about CAA proposals (submitted and approved) be available to CAN members.

(vi) **Website.** The PIU of the CADP will establish and maintain a website of the CADP. The CAN Manager will provide the CADP website with information about network members, activities of CADP and commercial agriculture in the EDR. The information should be available both in Nepali and in English (to facilitate broader

networking with the rest of the world). The CADP website will be managed by the PIU Statistics and Computer Services unit of the PIU. Eventually, it is expected that this website will be maintained and updated by the CAN members (in particular the commercial stakeholders) after the completion of the CADP. The CAN website might over time be transferred to an autonomous organization outside of the CADP.

d. Institutional Framework

276. The CAN Manager (and two assistants) will be responsible for effective communication and flow of information among members of the CAN. The Manager will also facilitate the process of partnerships among service providers and commercial stakeholders. Services for website maintenance will be outsourced as necessary.

277. The CAN Manager will be responsible to the PIU Manager and will coordinate closely with the Secretariat and the Social and Gender Specialists of the Secretariat and the PIU. The Manager should have proven capacity in communication (written and oral), previous experience in writing newsletters or bulletins, familiarity with commercial agriculture and proficiency in computers. S(he) will appreciate the importance of relationship building in social mobilization and capacity development and will have the needed 'people skills'. In the initial stages of the CADP, the capacity of the CAN Manager will be strengthened by appropriate TA related to network management and communication. The Manager will be based in Biratnagar in the same premises of the PIU office.

278. The CAN will closely coordinate with the Regional Agriculture Development Coordination Committee and the District Agriculture Development Coordination Committee. The Regional Technical Working Groups (established under AREP) are also another largely public sector-dominated coordination mechanism for research and extension in the region. Some of the CAN members will also be members of these Regional and District Coordination Committees. However, the CAN differs from other existing coordination committees in several respects: (i) the focus on commercial agriculture; (ii) the large presence of farmers, private sector representatives (e.g. agribusiness, agro-industry, commercial bank) and NGOs; and (iii) the provision of resources ensuring the effectiveness of coordination (CAN Manager).

279. Initially, the organizations involved in CAN are likely to be a limited number such as those in Table 3.1. The members will include commercial stakeholders (farmers, traders, processors) from the CAN; farmer groups who will be the primary target of the SMAC component; line agencies including the DADOs, the District Offices for Irrigation, the District Cooperative Offices and the District Women Development Offices (WDOs); the District Development Offices; Research Stations; Financial Institutions; organizations including Technical Laboratories (Seed, Fertilizer, Food); and the Regional Training Center.

280. Over time, new members will join and old members will drop from it. Even though membership in CAN does not require a formal commitment (or fees and duties), there should be some commitment from CAN members to provide some basic information about themselves and to share it with other CAN members.

Table 3.1: Possible Commercial Agriculture Network Members

Network Members	Approximate Number
CAA members[54] (farmers, traders and processors)	40
Farmer groups with a commercial orientation/potential	40
DADOs, District Offices for Irrigations, DCOs and DDCs (one in each of 11 districts)	44
District Women Development Offices	11
Research (Tarahara, Pakhribas, Cardamom, Citrus, Aquaculture, University)	6
NGOs and Consumer Forum	11
Financial Institutions	20
Other Line Agencies such as the Regional Directorate, Plant Quarantine Offices, Soil Testing Lab, Food Testing Lab, Seed Testing Lab, Regional Training Center	6
Total	178

2. Component 2: Commercial Agriculture Alliance[55]

a. Statement

281. Establish a Commercial Agriculture Alliance (CAA) based in the EDR. The CAA will facilitate the formation of effective value chains and the provision of demand-driven services and investments. It will elect a Board responsible for approval of investment proposals submitted by the CAA members. These investments will be co-financed by the CAA members and by a CAF provided by the CADP and managed by the CAA Board. The proposals will be related to technology, infrastructure, marketing, information and capacity development.

b. Rationale

282. Commercial agriculture actors in the EDR often operate as ineffective agricultural value chains. Most farmers are not organized into entities larger than small groups (of 10-20 farmers); as a result, smallholder farmers, even though engaged in some form of commercial agriculture are unable to achieve the scale of economies facilitating technology innovation and improved access to markets, finance and information. Similar difficulty of organization exists for traders and processors. There is a paucity of service provision by the existing institutions to the main commercial actors. Moreover, only relatively weak service and trading linkages exist between these actors themselves.

283. The purpose of setting up the CAA/CAF is to enable farmer, trader and processor members of CAA to secure effective, market-oriented services or investments of their own choosing. The chosen investments will help them to increase their income, profitability and productivity by strengthening their linkages with each other and with other private and public value chain stakeholders.

284. While strengthening the linkages among the key commercial actors, the CAA will accelerate the movement from the current low level of agricultural commercialization to a higher level characterized by increased competitiveness and innovation. The success of the CAA will be a major contributing factor in the growth of regional income and employment and in meeting the challenges and opportunities of increasing urbanization and integration with international markets.

285. The **rationale** which defines the activity of the proposed private-sector based mechanism of an EDR Commercial Agriculture Alliance (CAA), operating a Commercial

[54] Note that each organization in the CAA is likely to represent several stakeholders. For example, the Betel Nut Producer Association represents 2,000 farmers, the Sugar Cane Producer Association represents 4,000 farmers, and the Koshi Multipurpose Cooperative represents 2,500 farmers.
[55] For a more detailed discussion of the CAA, see Appendix 7.

Agriculture Fund (CAF), is the weakness of public sector provision to meet the needs of commercial agriculture stakeholders.

286. The pressing question therefore is: How may the weaknesses in service provision and linkages be best remedied? The problems to be tackled are clear and many of them are already well understood, but who is to do what?

287. For guidance on this issue, we may consider the following evidence.

288. The crop sectors in the project area which have shown the strongest growth over the last decade – potatoes, sugar, vegetables and tea[56] – have all been driven largely by private sector initiative[57]. In potatoes, the cold stores have been set up by the private sector. In sugar[58], Eastern Sugar Mills is a private sector company which has dealt directly with the private sector Sugar Cane Growers' Association to build up cane production (and technical support by AEC). In vegetables, the growth of production pockets has been assisted by the DADOs, but also powerfully by NGOs (particularly on marketing aspects); and it is the farmers' cooperatives themselves which, together with private traders, have built up the marketing chains and made packaging improvements without which, production growth would be still-born. In tea, the story is one of private sector initiative (again with support of AEC) from start to finish. Small commercial agricultural investors have started and built up the predominant tea smallholdings. Larger private investors have set up the processing factories and handled the onward marketing. The staff of these factories have also provided production advice to the smallholders, who for their part now provide themselves (and each other) with nursery stock. The Tea Industry Development Board is moribund. In its stead, the private sector association HOTPA is trying to assist the farmers and processors with training and marketing initiatives.

289. It is the same story in the public markets infrastructure sector (i.e. public – in the sense of 'open to all' but not necessarily publicly-owned market-places). The commercial private sector has established cheap but high volume wholesale markets such as the Harsha Fruit Market in the Kathmandu valley and several smaller ones elsewhere. Farmer groups and cooperatives have established low investment but thriving collection points and local traders' markets in many rural locations. In contrast to this, there are many examples[59] of donor-funded public sector collection centers and local markets which are either shut or totally unused, or are used for other purposes other than those for which they were intended. The donor-funded and publicly-owned Kalimati Fruit and Vegetable Market in Kathmandu, while undoubtedly thriving, handles no greater a total value of trade than the Harsha Market, but has many times the investment cost of the latter and includes several features which are shut or not used for their intended purposes (for example a big building supposedly to be used as a fish market). In general, publicly owned markets are greatly over-built and the over-building is often dysfunctional (obstructions to flow of goods, build-up of excessive heat) as well as being wasteful of scarce investment resources.

290. By the same token, the alleged handover of responsibilities for urban wholesale markets from DOA to Market Management Committees has had very patchy results, largely because real control over regulations and investment decisions still lies with DOA/HMGN in Kathmandu. The Birtamod wholesale market for example has inadequate facilities huddled at one end of a vast and largely empty town center site – in other words, it is sitting on a large amount of unused prime commercial real estate. Why not sell or even lease, a portion of the site to private developers and with the proceeds finance the construction of an adequate

[56] See sub-sector analysis in Appendix 1.
[57] See successful cases of commercialization in Appendix 3.
[58] Similarly, a sugar mill in Sarlahi in the Central Region contracted NARC to generate technologies for contract growers.
[59] See the analysis of market infrastructure in Appendix 1.

wholesale market? Such a measure, it transpired in response to a TA consultant's question, could not be decided or implemented by the Market Management Committees. In fact, said the very senior officials and retired officials also present at the time, it could not be approved by the DOA itself, not even by its HQ in Kathmandu. First DOA Kathmandu would have to approve it, but then it would have to go to Cabinet.

291. This exchange illustrates another drawback of public sector management and provision of services: its near-strangulation by regulations and/or over-centralized control of decision-making, which means: (a) that things take a very long time to happen (the Kalimati market for example was proposed in 1985 to take care of projected increases in trading volumes up to 2000, which was also the year in which it actually commenced operations); and (b) that many initiatives are never completed.

292. There are other weaknesses of public sector service provision. Field work has indicated that the provision of R&D services is not demand driven, and for that reason alone is unlikely to be an effective support of commercialization. Moreover, the CADP TA field sample survey of perceived linkages between key stakeholders indicates that the extension services, the DADOs, although they are reasonably well linked with the farmers, are not at all well linked with the other main commercial actors downstream – the traders and the agro-processors – nor even with the upstream commercial seed companies. Just like the public R&D institutes, the DADOs focus heavily on agricultural production issues to the near-exclusion of the downstream functions, as reported in Appendix 1.

293. Furthermore, although in the CADP TA field sample survey the farmers acknowledge good linkages with the DADOs, the sample was drawn heavily from production pockets which have received much attention from their DADOs. A quite different impression was given by farmers interviewed and DADOs visited by the TA Specialists in project areas outside this. The predominant feeling there, expressed by both sides, is that the extension officers do not visit the farmers much and are mostly confined to the DADO and ASC offices by lack of funds and incentives to do otherwise; and on the farmers' side, that only occasionally do they learn anything from the officers' visits in any case.

294. Finally, the CADP TA's review of past donor-funded projects (see Appendix 2) which were focused on or relevant to, agricultural diversification and commercialization, clearly indicates that public line agencies involved in agriculture – the agricultural extension services, the research and training institutes, the livestock and irrigation offices – do not cooperate well with each other. Furthermore, when some of these projects have involved the private sector, they have found its contribution to be very positive.

295. It is therefore clearly time for a radical change in project implementation modes, particularly for a project avowedly focused on furthering agricultural commercialization.

296. The private sector, including the farmers, has shown that despite many imperfections of practice and performance it has been able to do much, largely on its own. It should be further strengthened by a CADP design which puts the main commercial actors (farmers, traders and processors) firmly in the driving seat in determining and contributing to services and strengthening linkages which will further their commercialization progress.

297. It should be clearly stated that the problem with the agriculture-related public sector is not the people in it. There are many cases of competent, hard-working and dedicated professionals despite little encouragement and incentives they are given by the system. The system, not the people, is the problem. The public sector system is not driven by demand; it greatly over-emphasizes initial investment at the expense of sustainable operations; it stifles initiative and active field services; and whilst in theory it is designed *inter alia* to prevent misuse

of public funds, in fact the system does little to stop it, and often actually encourages corruption through overstaffing and payment of low salaries.

298. These are not merely the conclusions of the TA Team but based on field observations and evidence from other sources cited above. The conclusions are openly admitted, and in some cases vehemently declared, by the public sector officials themselves. The CADP design therefore also addresses how to mobilize this stifled talent, and increase its professional capacity to contribute effectively to services, driven by demand from the private sector, that are needed for effective commercial value chains.

c. Outputs

(i) **Demand-driven Investments.** The CAA through its Board will approve demand-driven investments related to infrastructure, technology, marketing and information and capacity development.

The investments will be co-financed by a CAF provided by CADP. A significant proportion of the total investment will have to be co-financed by the CAA members submitting the proposals. Overall budget available for the investment will have to be negotiated by ADB and HMGN. An indicative allocation of investment proposal[60] is depicted in Table 3.2.

Table 3.2: Investment Budget for the Commercial Agriculture Fund (US dollars)

Category	Description	Total
Infrastructure	Larger Collection Centers	368,250
	Smaller Collection Centers	100,000
	Agricultural Roads	3,333,333
	Small Irrigation Schemes	1,150,070
	Subtotal	4,951,653
Technology	Research - Post-harvest Packaging	666,667
	Research - Storage Facilities	760,000
	Research Products - Production	64,000
	Extension	3,552,411
	Subtotal	5,043,078
Marketing	Information/Feasibility Studies	1,200,000
	Promotion/Fairs/Exhibitions	800,000
	Quality Systems/Grading	53,400
	Subtotal	2,053,400
Capacity Development	Training	60,533
	Workshops	864,000
	Study Tours	1,027,200
	Subtotal	1,951,733
TOTALS		13,999,864

(ii) **Strengthened Agricultural Value Chains**. The CAA provides a mechanism for producers, traders and processors to meet and discuss about problems and solutions. It is a forum for closer interaction and establishment of linkages between members of the CAA and service providers in the CAN. By design, the CAA is an environment facilitating interaction among different types of commercial agriculture stakeholders. By design, the CAA also provides a way to express, approve and implement demand-driven investments that contribute to the growth of commercial agriculture. Producers, traders and processors are empowered in the process of taking development

[60] Allocations in the table are indicative and their values are still under study. The values in the table reflect only the financing on the part of ADB. Further details are provided in Appendix 8.

decisions that improve their business and the overall outlook for commercial agriculture in the region. However, empowerment comes with responsibility and transparency. The CAA is designed with checks and balance that avoid misuse of funds, collusion among actors and the majority abusing the minority. As such, the CAA will contribute to transparent and more equitable governance of agricultural Value Chains.

(iii) **Board meetings.** There will be at least quarterly Board meetings (and no more than six regular meetings per year) to review and approve proposals submitted by CAA members and progress of approved projects under implementation, and to discuss CAA policies and regulations. Agenda and minutes of the Board meetings will be available both in Nepali and English to all CAA members.

(iv) **CAA meetings.** There will be at least three-yearly CAA meetings to elect Board members, discuss investment proposals, update on the progress of ongoing projects and to evaluate overall CAA performance. Proceedings of CAA meetings will be published and disseminated to all members and to the CAN members.

d. Institutional Framework

299. The CAA will be a membership organization whose members are farmers, traders and processors (and their registered and active groups, cooperatives and associations) who are significant in commercial agriculture in the CADP area. It will be set up under the Nepalese law (Company Act) as a private non-profit foundation, with Articles of Association and appropriate by-laws.

e. Board

300. The CAA will have a governing Board of ten directors collectively responsible and accountable to its members, who will elect seven of its members to the Board. The AEC will nominate one of the remaining three Board members and the Government will appoint the remaining two Board members.

301. The Chair of the Board will be elected by the ten Board members. Eligible candidates for the Chair of the Board will be the seven Directors elected by the CAA members. The CAA members will have the power to remove the Board in exceptional and defined circumstances, but the normal term of the Board members will be three years before new elections.

302. At least one of the Board members representing farmers is a woman. This is a minimal requirement given the large contribution of women to agricultural production. The female director is expected to stress the importance of promoting women in the development of commercial agriculture.

303. Board decisions will be reached by simple majority, with supporting provisions such as a minimum quorum and a casting vote for the Chair at need. The Articles of Association will focus the CAA's activities squarely on the promotion of commercial agriculture in the EDR. Within the CADP design, the CAA's principal activity will be the operation of the CAF which will be governed by the Board assisted by a small, but well-qualified, full-time professional and supporting staff: the CAA's Secretariat.

304. The CAF will receive periodic funds from the CADP per a disbursement schedule and conditions laid down in the CADP design and Loan Agreement. The CAF purpose and mode of operation is to co-finance projects proposed to the CAA by one or more CAA members. Proposals will be appraised by the Secretariat and grant funds approved by the Board.

305. The projects will define specific programs, services or local infrastructure investments that will assist the proposing CAA members to increase sales, profits, productivity and employment by intensifying their commercial agricultural operations. They will normally also accelerate intensification elsewhere in the value chain through improved commercial linkages and/or demonstration effects. The projects will be of a developmental nature and beyond what the proposers could either normally fund by themselves or through a bank loan. Each proposer will however make a significant co-financing contribution from their own resources. The balance of the project costs will be borne by the CAF's co-financing grant contribution – if the Board approves the project.

306. Projects may be in any of the crop sectors and commodities (including aquaculture fish) which fall within the normal remit of the DOA, plus tea, both orthodox and CTC, and non-timber forest products including but not limited to cardamom, charaito, etc. It is up to the proposers themselves which sectors they wish to develop through their proposed projects.

f. Criteria for Membership

307. CAA members will be commercial actors capable of contributing significantly to the long-term commercialization of the EDR agricultural sector – through further development of their own operations and those of other private enterprises and key non-enterprise stakeholders with whom they already have or will develop linkages. To this end, the CAA members will:

- Have engaged – with documentary and/or physical evidence to demonstrate such engagement – in for-profit operations within one or more qualifying value chains within the project area for at least two years;

- Be already constituted as a legal entity, or otherwise officially licensed or registered as a productive or trading party[61];

- In the case of farmer cooperatives or groups, have at least 100 current and active members, such membership to be demonstrated by reference to the cooperative's or group's current accounts, proceedings of meetings or activities, or other formal written records;

- In the case of farmer marketing cooperatives or groups, be able to demonstrate sales of agricultural products within qualifying value chains of not less than Rs.1,000,000[62] in at least one of the two years immediately preceding their joining the CAA as a member;

- In the case of traders or processors and their associations, have, and provide for inspection, audited annual accounts for the two years immediately preceding their joining the CAA as a member, and

- In the case of a trader or processor, be able to demonstrate sales of not less than Rs.1,000,000[63] within qualifying value chains from a main base located within the project area in the year immediately preceding their joining the CAA as a member.

[61] And thus be legally capable of e.g. making and been held accountable to, contracts for value, whether involving fixed or moveable assets, goods, or services.
[62] This is equivalent to sales of 100 smallholder farmers, each cultivating 0.10 ha of land with HVC and sales of Rs.100,000 per ha (see Appendix 1 for average cost of production and income potential of HVC).
[63] This value is consistent with average sales of agro-enterprises in a survey conducted under the ASPR, see Goletti and Gruhn 2001, Agro-enterprise Development in Nepal: Current Status and Constraints, ADB TA 3536-NEP, Discussion Paper No.5.

308. These provisions apply to joining the CAA as a member. They will also apply as qualifications for continuing membership in the CAA, with obvious necessary adjustments, e.g. to "… annual audited accounts for the two years immediately preceding the present". It is proposed that all CAA members be required to renew their membership on an annual basis.

309. The applications of new members to the CAA will be reviewed by the Secretariat every year and new members will be approved by the Board.

g. Smallholders and Criteria for Membership

310. The previous criteria should not suggest that the CAA will be an exclusive club of rich farmers and large enterprises. In fact, the TA fieldwork has identified potential candidates for the CAA who are neither large landowners nor large industrial conglomerates. Appendix 3 reports several such cases. In the case of farmers they are almost entirely smallholder farmers. This is not surprising, given that smallholder farmers with agricultural land size of less than 1 hectare dominate the agrarian structure of Nepal and the EDR. The key issue is not that smallholder farmers cannot commercialize (the example of several countries in Asia such as China, Indonesia, Viet Nam and Thailand proves the contrary), but that in order for smallholder farmers to commercialize, they need to be organized into larger units and integrated into value chains.

h. Scope of the CAA

311. As a legal entity – a foundation with its own governing Board of Directors and Articles of Association under the Company Act – the CAA may have to develop various types of activities for the benefit of its members. From the point of view of the CADP, the CAA's main activity will be to operate the CAF.

i. Operation of the CAF by the CAA

312. The CAF will assist the farmer, trader and processor members of the CAA to specify and access demand-driven, market-oriented services or investments of their own choosing, which will help them to increase their profitability, income and productivity by strengthening their trading and other linkages with each other and with other value chain stakeholders, e.g. government line agencies, local governments, research bodies and specialist private suppliers. The effect will be to move the commercialization of the agricultural sector in the EDR upwards to a higher general level.

313. Specific proposals for such services and/or investments will be made by CAA members to the Board, appraised by the Secretariat, and accepted or rejected by decisions of the Board.

314. Each proposal, and each service and/or investment program which is subsequently implemented after a proposal's acceptance by the Board, will specify and subsequently implement a co-financing plan for the services or investments. The contributors to the co-financing plan will be the CAA member or members themselves making the proposal; the CAF, by **grant** funding; and (possibly, but by no means necessarily) other private or public parties whose co-financing and/or other role in the program will be specified in the proposal.

315. The qualifying areas in which such proposals may be made can be categorized in many ways, but as a summary indication it will be sufficient to categorize them as: technology, at any point in the value chain; infrastructure; marketing and information; and capacity development. Some examples of each category are presented, for illustrative purposes only, in Table 3.3.

Table 3.3: Example of Proposals Suitable for Submission to the Board

Category of Proposal	Example of Proposals
TECHNOLOGY	• Development and testing of a farm-level cool storage unit for vegetables • Development and testing of early maturing varieties of green peas • Production of disease-free potato seed • Control of common cardamom diseases • Development and testing of new packaging material • Provision of expertise to upgrade processing practices and processed-product quality for fruits and vegetables
INFRASTRUCTURE	• Specification and construction of a produce collection center for farmers • Specification, construction and training to use small irrigation system including channels and drip/sprinkler irrigation • Specification and construction of agricultural road connecting main producing area to main road
MARKETING AND INFORMATION	• Advisory and design services assisting the establishment of a brand for Nepal orthodox tea • Feasibility study for investment in palm oil • Development of facilities and know how for testing and grading various agricultural products, e.g. animal feed ingredients
CAPACITY AND TRAINING	• Advisory and training services to strengthen the capacity of a traders' association to specify grading standards for purchasing produce and to arrange services testing such standards • Extension and training programs for farmers in farm management • Training in quality assurance systems • Trip to fairs and exhibitions for food technologies in other countries

316. Qualifying services or investment programs would not normally be financed by a bank, even to borrowers with substantial collateral, good credit ratings and proven commercial track records. Instead, they are 'semi-public' investments in services or infrastructure, which either (a) benefit more than one party by their direct implementation; or (b) being risky and innovative in nature, will if successful, probably stimulate imitation by other parties, thus helping to move the commercialization of the agricultural sector in the EDR upwards to a higher general level. They are 'promotional' or 'developmental' investments or programs and the CAF co-financing of them will accordingly be in pure **grant** form.

317. At a more fundamental level, the CAA (with its Board of Directors, Fund and Secretariat) will address the main failure of commercial stakeholders to link to each other and organize as an effective value chain. That failure is the core problem for the development of commercial agriculture in the EDR as conceptualized by the TA Team. The failure is constraining the movement from the current low level to a higher level of commercialization. As such it requires a new institutional mechanism and public investment in order to be established.

318. The Commercial Agriculture Fund provides the financial resources to implement the idea of Alliance and overcome the market failure abovementioned. Moreover, the Board considers those investments involving the solution of other market failures related to information, new technology and public goods such as roads or market places.

j. Sustainability

319. Here the key issue is not that of the financial or institutional sustainability of the CAF and the CAA themselves, but of sustainability of the increased commercialization of the EDR agricultural sector – more effective, profitable and more strongly-linked value chains – which the CAF/CAA operations are intended to generate. It might be useful to consider different concepts of sustainability. In irrigation projects, the focus may be on hydrological sustainability of water source and flow, and adequate organizational and financial provisions having been made and implemented by the beneficiaries to maintain the scheme. However, with projects

for promoting expansion into new markets, the key sustainability issue is not whether the marketing practices of the proposers have been changed for now, but whether they have acquired the capacity to continue to adapt their practices appropriately in the future, because the market conditions will assuredly not remain unchanged. This kind of sustainability based on inherent enhanced capacity of the proposers and beneficiaries may justly be termed ***dynamic sustainability***.

320. Another – ***extra-project*** – dimension of sustainability may be assessed by addressing this question: has the project stimulated, by its example or effects, beneficial initiatives of a similar type outside the direct beneficiary group? And are those initiatives reliant on local or private resources only? For example, a project to introduce well-managed small-scale private highland tea-plant nurseries among a particular group of smallholders may possibly spark off entirely private and profitable investment in several if not dozens of such nurseries all over the EDR hill tea-growing districts. Not all projects will achieve such effects, but they are nevertheless at the heart of the commercialization process which the CADP project is designed to stimulate.

321. If a large proportion of the CAF co-financed projects have achieved ***dynamic sustainability*** and a fair proportion have achieved ***extra-project sustainability*** then the CAA/CAF will have made a very substantial and sustainable contribution to the commercialization of agriculture in the EDR, whether it continues to exist after the end of the CADP project or not. Many of the CAA members, and other main commercial actors whose practices and performance will have been sustainably improved through imitation of those prevailing in CAF co-financed projects, will no longer need the CAF or (unless it changes the focus of its activities) the CAA.

322. Moreover, the associated commercial corporate agricultural growth will generate increased tax revenues and foreign exchange to pay off the government's CADP loan, just as the growth among the (mostly smallholder) commercial farmers will stimulate the rural economy and the growth of local private service providers operating profitably without CAA/CAF intervention. One important dimension of the CAA/CAF M&E program should be procedures to capture these effects, including timely gathering of baseline information of tax, rural incomes, etc. situation at the outset of the CADP project. However, it is likely that the CAA and the CAF will survive and continue to fulfill useful commercialization-promoting functions, although probably in an evolved form. The CAA should be set up and operated in a way which spreads more effective service provision and improved business linkages as widely as possible through the EDR agricultural value chains, rather than restrict the benefits to a narrow and fixed initial membership.

323. Accordingly, whilst the CAA will start up with a relatively small founder-membership of perhaps 40 members[64], it will be open to other farmers, traders and processors and their groups, cooperatives and associations to join the CAA as equal members after it has commenced operations. Indeed, such growth in CAA membership will be one significant indicator of the success of the activity and of the sustainability of its commercialization-upgrading effects. New members may include further farmers, traders and processors, but they also will very likely include other for gain actors in the agricultural value chains, such as agro-vets and other input suppliers such as irrigation-system designers and contractors, and transporters.

324. Another component of the project, namely the Social Mobilization for Agricultural Commercialization (SMAC) will be instrumental in generating new entries into the CAA. The

[64] Some of these members are likely to be among the successful cases of commercialization mentioned in Appendix 3. The 40 members of the CAA in fact may be organizations representing about 15,000 to 20,000 stakeholders (farmers, traders, and processors).

SMAC activities are focused on those targeted farmer groups who are already engaged in some form of commercialization, albeit to a level lower than the CAA members. Through awareness programs, training and study tours these farmer groups might be able to reach the criteria for accessing the CAA.

325. As time goes on even beyond the CADP project life, the CAA and the CAF may well serve an evolving membership – some original CAA members will drop out, new members will come in. As commercialization develops, the Board will probably reduce the CAF grant co-funding proportions it sets for various types of project – for example, from 50% to 25% for project-type A, from 60% to 30% for project-type B.

326. However, the long-term sustainability of a private-sector-service facilitating mechanism such as the CAF – if indeed that kind of sustainability is desired – must always depend on funding from outside the CAA. The CAF exists by subsidizing services, not by providing and selling them itself. It is not designed for that purpose, and would not be effective at doing so. Nor *should* it do so, in competition with (mostly private-sector) specialist service providers. Its function is to stimulate the for-profit markets between such agricultural main commercial actors as farmers, traders and processors and their service providers, and then – hopefully – leave them to deal in these markets without further subsidy.

327. If it turns out that such initial services-subsidy can be exercised as a useful stimulating function in certain EDR markets in the *long term,* i.e. for longer than the 5 years of CADP project life, then continued 'external' funding, albeit probably on a reduced scale, will be necessary to finance it. The source of such external funding could either be foreign, in the form of further donor funds; and/or domestic.

k. Secretariat

328. The CAA will have a full-time paid Secretariat (hereinafter referred to simply as the Secretariat) consisting of a General Manager and a small number of skilled professional staff, plus a small additional number of supporting staff[65]. The Secretariat will ensure that proposals by CAA members are well formulated and programs well executed. It will perform professional functions related to briefing the Board and operating the CAF as a co-financing mechanism. The Board will select the Secretariat staff from among candidates responding to public advertisement.

329. The Secretariat is an essential facilitator, operational and advisory mechanism, but will neither decide policy, nor define the services or investment programs to be co-financed by the CAF. The programs will be defined by the proposals made by CAA members to the CAA and will be approved or rejected by the Board, who will also decide on CAA policies: although with respect to CAF operations, such policies must conform to the design of the CADP and a Memorandum of Understanding between the CAA and HGM/N/MOAC as the overall implementing agency of the project.

l. Project Cycle

330. The projects considered by the board will follow the typical cycle:

- Project Generation
- Project Formulation and Review Process
- Project Approval

[65] The current proposal (in Appendix 8) envisages: one general manager, one chief accountant, one economist/financial analyst, one rural infrastructure specialist, one agriculture marketing specialist, one crop production specialist and three support staff.

- Project Implementation
- Project Monitoring.

331. The Board and the Secretariat, materially assisted by short-term specialist consultants employed by the CAA and acting under the supervision of Secretariat staff, will thus operate a CAF project cycle.

332. The cycle will also include: (i) awareness campaigns to explain the opportunities represented by the CAA and the CAF and to promote expanded membership of the CAA; (ii) project generation activities to assist proposers to formulate project ideas and specify projects adequately; (iii) post-approval activities, principally disbursement of CAF co-financing grant contributions to support implementation; and (vi) monitoring and evaluation including the regular reporting of monitoring and evaluation results to the Board, and to HMGN/MOAC and ADB, the overall implementing agency and financier of the CADP, respectively.

333. The Secretariat will play a key role in the generation, review and monitoring of projects. The Board will approve the projects and the CAA members and their service providers will be responsible for project implementation. Disbursement of funds to the winning proposals will be consistent with the procedures specified in each proposal and will be overseen by the Secretariat.

m. Service Providers, Selection Criteria and Appraisal Criteria

334. In all investment projects, the proposing CAA members will themselves choose the service providers – trainers, agriculturalists and agricultural researchers, engineers, contractors, food technologists, market researchers, other marketing specialists, etc.[66] – and specify them and the services they are to provide in their project proposals. The proposals will also specify outputs to be delivered, implementation schedules, total costs and cost breakdowns and the co-financing plan (the proposers' and the CAF's contributions).

335. Thus the projects and the services and local infrastructure investments which they specify and embody, will be demand-driven by the proposing private-sector farmers, traders and processors. Their quality and feasibility will be reasonably assured by (a) the proposers' own co-financing contributions to the projects' costs, and (b) by the specification of each project, which must be approved by the CAA's Board on the basis of having met the CAF project selection and appraisal criteria. The latter will be developed and approved by the Board before undertaking consideration of any projects.

336. One appraisal criteria is a **minimum limit** relating to projects proposed exclusively or predominantly by **women**, because women do face very considerable economic and social disadvantages, for which it will almost certainly not be able to compensate by project-type maximum caps. If such a minimum limit is set, the Board and the Secretariat must take care to ensure that it is actually used to encourage projects meeting the appraisal criteria, rather than abused by approving those which do not, or those wherein the women are used as fronts for projects actually controlled by men.

337. One additional appraisal criteria is **compliance with existing environmental guidelines** established by the Government (see Appendix 11). Moreover, during appraisal, proper attention will be given to additional environmental impacts in the case of roads traversing steep sloping land, irrespective of the length of the proposed road.

[66] Any of these service providers may be either from the public sector (including research institutes and universities) or from the private sector (including NGOs). It is up to the project proposers to choose and specify them.

n. Monitoring and Evaluation

338. To further ensure the prudential use of the CADP (i.e. public) funds, there will also be various prescribed independent external monitoring and evaluation exercises and financial audits, in addition to the statutory annual financial audit of the CAA and its CAF and any other operations required by its legal status as a private Nepali Foundation. Monthly financial reports and quarterly operations report will be submitted by the Secretariat to the PIU and Project Coordination Unit (PCU).

339. Monitoring and evaluation activities are linked to the project cycle described above and will comprise: (i) monitoring of project activities and flows and uses of funds during project implementation; (ii) assessment of project outputs and impact during and after implementation; (iii) ongoing monitoring and evaluation of project portfolio progress – implementation and impact; (iv) periodic and final monitoring and evaluation of project portfolio progress – implementation and impact; and (v) financial audit of the CAA and its use of CAF funds.

340. This is a fairly standard sequence of activities in many development and business institutions. The details of its application will be worked out at the time of the set-up of the CAA and the launch of CAF operations. This will be done by the Board and the Secretariat, together with independent advisers appointed by the Board and by HMGN/MOAC as overall implementing agency for the CADP.

o. Technical Assistance

341. The CAA and its operation of CAF will also receive substantial technical assistance by the CADP, including a resident full-time international adviser for at least two years. Details of the proposed consulting services to be provided are given in Appendix 6.

p. Leadership

342. There will be a need for dynamic and competent leadership to drive the operation. In this respect, the personal and professional characteristics of the Chair of the Board and of the General Manager of the Secretariat, selected and recruited by the Board, will be crucial elements. The General Manager will be further supported by competent and experienced professional and senior supporting staff, whose posts (like that of the General Manager) will be publicly advertised and adequately remunerated to ensure the high levels of performance expected of them.

343. Leadership cannot be ensured but its emergence could be facilitated and promoted. Performance evaluation and leadership monitoring should be conducted both internally to the CAA (the Board requiring these to be required activities) and externally, through appropriate monitoring by the PIU. Technical assistance may further facilitate the monitoring and evaluation of leadership.

344. The institutional capacity development of the Project (Component 6) will facilitate the emergence of informed leadership throughout the CAN and the CAA and this will be reflected in the selection of key appointees.

q. Commercial Agriculture Fund Advisory Group

345. A CAF Advisory Group will be established to provide advisory services and policy guidance to the Board of CAA concerning the operation of the CAF. It will be chaired by the Joint Secretary heading the PCU and will comprise the DG of DOA and representatives of DOA directorates, the Regional Agriculture Directorate (RAD), representatives of DDCs and Women Development Centers, representatives of the Chambers of Commerce and Industry in

the EDR, representatives of Nepal Agriculture Research Council (NARC) and NGOs, the Department of Cooperatives, the Food Technology and Quality Control Department, the Project Manager of the PIU, the Commercial Agriculture Credit Guarantee Fund (CACGF) Manager and the CAA Board members. The group will meet as necessary, but not less than on a quarterly basis. According to the Tenth Plan a **National Agriculture Promotion Center** will be established. It is suggested that if the Center is implemented during the implementation period of the CADP, the Center take the leadership of the Advisory Group.

r. Flow of Funds

346. After the constitution of the CAA as a legal entity under the Company Act, the Ministry of Finance (MOF) will be able to allocate financial resources directly to the CAA. The CAA will keep the financial resources in a special account that constitutes the CAF. The CAA Board of Directors will manage the CAF according to the laws of Nepal and under the monitoring of MOAC.

s. Transparency of Decisions

347. To ensure transparency of decisions, the Board will nominate a sub-committee consisting of three rotating and different members of the Board each year. The rotation will be on a year-basis. The sub-committee will ensure that the Board follows proper procedures specified in the Rules and Regulations of the CAA. The sub-committee will be responsible for semi-annual reports on the activities of the Board to the Alliance Assembly.

3. Component 3: Agriculture Market Information Service

a. Statement

348. Establish an Agriculture Market Information Service (AMIS) in the EDR. Establish a model system for the gathering of data and storage of information relating to high value crops production and cost of production.

b. Rationale

349. Data if properly organized into patterns is information; information if properly used is knowledge; and knowledge properly applied gives an advantage in the competitive situation that exists when people are engaged in trade.

350. Serviceable information cannot be derived without reliable data. If Nepal is serious about agricultural commercialization and intends to establish itself as a country trading in agricultural commodities internationally, then knowledge about the efficiency of production and marketing of its own agricultural produce must be available. Without it, intelligence cannot be compared with that of competitors and new entry points into the markets cannot be identified and exploited.

351. The same arguments apply for entrepreneurs wishing to exploit Nepal's own internal markets. If value chains are to develop as the process of commercialization progresses, the inference is that supplies and/or commodities are going to flow along them. Those who are truly entrepreneurial and are involved in establishing the links within the value chain will demand reliable up-to-date information. They need it to remain ahead of the competition, be aware of new opportunities and avoid entering a situation of over-supply in the market-place. If the information does not exist, is incomplete, or is unreliable, then commercialization is likely to remain at its present embryonic level for the foreseeable future.

352. Numerous surveys by the TA Team, the MDD and others over recent years have found that farmers and traders lack information about markets and marketing[67]. Information is a critical factor to the commercialization of agriculture. Farmers have to make decisions that impact on their ability to make an income, such as:

- What crops to grow?
- Which varieties to plant?
- How much to pay for seed?
- When to plant?
- When to harvest?
- How best to harvest and handle the produce?
- How to grade?
- How to pack?
- How, where and who to sell to?
- How to get the produce to the market?
- What selling price is acceptable?
- How long to keep in storage?

353. Note that some of the above decisions also need information on the farmer's physical resources, i.e. land quantity and topography, water availability and quality, and soil characteristics; these will affect what crops can be grown. Farmers must also take into consideration economic factors such as the availability and quality of labor and capital.

354. Similarly, traders also have to make decisions such as:

- What products (crop/variety) to buy?
- Where to buy?
- When to buy?
- How much to buy?
- What price to buy?
- Where and who to sell to?
- What selling price is acceptable?
- How long to keep in storage/when to sell?

355. Some of the price information required by both farmers and traders is not available in the EDR. Prices broadcast by radio often refer to Kalimati market in Kathmandu and are not of immediate relevance to stakeholders in the EDR. Radio broadcasts, even though they have the potential to reach large numbers of people in rural areas, limit themselves to broadcasting prices and do not broadcast other marketing information.

356. The quality of market information provided is not of the high standard required for commercialization. Data are often collected (e.g. on prices) but are not analyzed to provide relevant information for improved decision-making.

357. A statement like "Today the wholesale price of tomatoes in Dharan Market is Rs.10/kg" would be an example of marketing data. If this data was supplemented with a chart that showed prices for the whole year and showed when prices were highest and lowest, this could be termed marketing information. If this information were then analyzed in conjunction with other data such as production and marketing costs, supply volumes and interviews with traders, then it might be possible to produce marketing intelligence such as: "If farmers in Dhankuta planted tomatoes of variety 'Abinash 2' in June for subsequent harvesting and sale

[67] Examples can be found in the Marketing Specialist Background Report.

to Biratnagar Market in August and September then they could expect to make a net income of Rs.15,000/ropani."

358. This type of marketing intelligence would make it much easier for farmers to decide and take action. Of course, other information might also be required such as advice on how to pack the tomatoes, what size grades are preferred and at what stage of maturity they should be picked so that they arrive in the market in a state preferred by traders and consumers, etc.

359. The AMIS will play a useful role in producing and disseminating such types of marketing intelligence. For example, printed leaflets, one per crop, might be produced providing intelligence as described above and disseminated via extension agents (DADOs and NGOs).

360. During the course of the present TA, it was found that data currently available about production and sale of high value agricultural crops in Nepal while numerous, were either incomplete or were inaccurate, or suffered from both deficiencies. The problem with the presently published statistical tables is the gaps in the data contained within them. While statistics relating to cereal grains and other staple food crops were by and large adequate, there was effectively no information about production and sale of different types of vegetables, and the production statistics for fruit crops were based upon centrally calculated yield factors applied on a blanket basis across different zones, resulting in unrealistic productivity data.

361. This makes derivation and interpretation of trends in HVC production and marketing difficult, and frustrates those who need the information to plan strategies for the further expansion of commercial agriculture development. It becomes necessary to revalidate statistics of doubtful provenance through confirmatory surveys, something that is usually costly and that a potential business entrepreneur may very well not have the time or the inclination to do.

362. Production and marketing statistics are gathered regularly by DADOs but the extent to which this is a process to which those responsible are predisposed, as opposed to being a monthly ritual followed to meet a central policy obligation, is debatable. The gaps in the information presumably result either from data not being gathered from time to time in the first place, or from not being transmitted, and if there is lack of monitoring and follow-up at the central level, then the omissions that have happened in the past will persist in the future.

363. Even with the present inconsistencies, it can be argued that some system is better than no system, but if the present system can be substantially improved it will reflect creditably on all parties to the process. The foundations of a system which can be augmented and further developed already exist. If the Government takes seriously its role as a facilitator under the Tenth Plan, provision of an efficient and dependable information service related to agricultural production and marketing is one area where an impact could be quickly and easily be achieved.

c. Outputs

(i) **Survey of information needs and access to communication.** In order to improve the dissemination of current price information (via radio or other means) in the project area it is necessary to undertake a quantitative survey of farmers and traders, particularly in the rural areas, to find out more about their information needs (i.e. in terms of which crops, which times of the year, which time of the day, which markets, etc). Also to find out about their access to radio, which stations they prefer to listen to, which programs do they listen to, at what time, and their reasons for listening (or not listening). In addition, it will gather information about farmers' purchasing habits, i.e. what branded products they buy, how often, how much do

they spend, etc? This information will be of interest to corporate advertisers and sponsors who could help finance the broadcast of marketing information and the radio stations should be involved in designing the survey and questionnaire.

(ii) **Price information.** Price information needed by farmers and traders will be collected by well-trained enumerators and will complement similar prices collected by MDD and AEC. Prices in the main markets in the regions will be collected. Prices will be broadcast by radio and organized as a database. Price bulletins will be distributed to the CAN members and to interested Village Development Committees.

(iii) **Historical price information and analysis.** Once collected, information should be organized into appropriate databases and analyzed so that patterns could be detected and disseminated to farmers and traders. The analysis could be disseminated in different means, including radio, bulletins, briefs, posters and workshops.

(iv) **Radio broadcasts.** Marketing information (including price information) will be broadcast through radio. It is recommended that rather than pay radio stations to broadcast the information, AMIS should work closely with the radio stations and persuade them to broadcast the information free of charge. This will be facilitated by the broadcast of market information in less than 5 minutes and therefore the cost of broadcasting need not be high. With advertising or sponsor announcement both before and after the 5-minute program, the potential to generate advertising revenue could be high relative to the length of the program. The AMIS team should work closely with the radio stations (of which there are now three in the region) to identify and contact potential sponsors and advertisers. AMIS and the radio stations should work together closely with the Farm Radio Network based in Toronto, Canada. It is a charitable organization, founded in 1979, that has built on Canada's rich history in farm radio to provide a unique international development program. Working with rural radio broadcasters, their goal is poverty reduction and food security for smallholder farmers in low-income countries. Radio transcripts are already available at the website www.farmradio.org and could easily be adapted to the Nepal condition. Other technical material on tropical and sub-tropical agriculture that could be incorporated in the radio broadcast is available at the website www.dpi.qld.gov.au.

(v) **An Internet accessible database** will make EDR crop production, cost of production statistics and price and marketing information available instantly to anyone who wishes to access it. The data will be available on the website of CADP. This will be a distinct advantage over the present situation where information is scattered through numbers of individually derived databases with different projects or line agencies or is in various publications produced by several organizations. This can subsequently be expanded to include other development regions and eventually become a national database of crop production statistics.

(vi) **Enhanced capacity.** The capacity of the staff of DADOs whose responsibility is presently to collect information pertaining to crop area, production and cost of production will have been enhanced through appropriate training and skills development.

d. Institutional Framework

364. AMIS will work closely with the AEC, the Agricultural Statistics and Agribusiness Promotion Division at the MOAC and the Economic Analysis Directorate at the DOA, the

owners of markets in the project area, the radio stations (Radio Nepal in Dhankuta and the Commercial FM stations in Biratnagar and Birtamod), the Chambers of Commerce and Industry in the region, and particularly with the Chamber of Industry of Morang which has already expressed interest in the initiative. Close relationship with the regional Agricultural Information and Communication Centers (AICC) will also be developed. The data produced by AMIS will be shared with the CAN. The website of the CADP will have a section with information provided by AMIS including data, reports and news.

365. The Central Bureau of Statistics and MDD will develop the production and cost of production database with technical assistance support of the CADP. The initial data for improvement will be the one on HVC for the EDR. If successful, the improvement might be replicated in other regions of Nepal.

366. The component will have a full-time manager assisted by three technical staff and one secretarial staff.

367. The TA on agricultural market information system and database development and collection methods will facilitate the implementation of the component.

1. Component 4: Commercial Agriculture Credit Guarantee Scheme

a. Statement

368. Establish a Commercial Agriculture Credit Guarantee Scheme (CACGS) to facilitate the flow of credit to commercial agriculture stakeholders by reducing the risk of lending to them.

b. Rationale

369. Commercial agriculture stakeholders (farmers, traders and processors) have limited access to finance, which is often the result of prospective borrowers being perceived by banks as too risky. Risk is considered high because prospective borrowers might lack adequate collateral or because of inherent risks associated with commercial agriculture. Highly variable prices and production of HVCs are among the main explanatory factors of the widely held perception of commercial agriculture as a high-risk venture.

370. Bank managers often regard commercial agriculture perspective clients as more risky than other types of clients. In Nepal, there are not many mechanisms to reduce risk related to commercial agriculture. Crop insurance, contract arrangements and credit insurance are either not available, or when available (for example contracts arrangements between producers and traders/processors), are not functioning well. In the case of commercial agriculture with inadequate collateral, there is a provision for credit guarantees (as provided by the Deposit Insurance and Credit Guarantee Corporation [DICGC]) but this has so far been limited to priority sectors and loans of up to Rs.2,500,000.

371. Finding ways to reduce risk and transaction costs associated with lending to commercial agriculture will contribute to the expansion of credit available to commercial stakeholders. Commercial farmers (individual, groups and cooperatives) and small and medium agro-enterprises are often recognized as engines of growth and sustainable development. Within the agricultural system, micro and small enterprises are of special importance because they are considered the cradle of entrepreneurship, particularly in environments facing high unemployment and poverty. In order to grow, agro-enterprises need capital. Banks however are concerned to minimize risk and so credit is usually only available when the necessary collateral is provided.

372. Institutions in the financial and banking sector in Nepal may be either unable or unwilling to meet the financing needs of agro-enterprises for a variety of reasons:

- Limited experience in commercial agriculture and small business appraisal, and particularly, limited knowledge of agro-enterprises;
- Limited experience in appraising and managing medium term loans;
- Lack of an adequate system for monitoring loan portfolio;
- Limited means of valuing and, when necessary, seizing collateral; and
- Lack of track records of entrepreneurs and enterprises.

373. Borrowers face constraints related to:

- Lack of asset or personal equity to use as loan security/collateral;
- Lack of any track record or information;
- Lack of management capability and lack of business planning skills; and
- Lack of trust so that the borrower is unwilling to share financial details with others.

374. In addition to the CACGS component, there are other measures planned under CADP that will address these constraints on the borrowers and the lenders.

375. For example, CAN provides information about different commercial agriculture stakeholders. The ICDCA component develops the competence of service providers to facilitate the development of commercial agriculture through better farm management skills, marketing capacity, project and proposal preparation, accounting and business planning skills.

376. The CACGS described in this section will provide: (i) capacity strengthening for bank staff in lending to commercial agriculture and (ii) a CACGF to reduce risks in lending to commercial agriculture stakeholders. These measures, together, will reduce the risks and transactions costs that banks and other financial institutions (including MFIs) face in lending to commercial agriculture stakeholders.

377. Credit guarantee schemes often exist to enable financial institutions to lend start-up capital to micro and small businesses that would not otherwise be able to obtain finance, due to lack of collateral and/or absence of a track record. The envisaged CACGS ensures that an independent financial institution guarantees a percentage of the loan so that in the event of a default, the loss to the lender (bank) is only a proportion of the sum at risk.

378. The borrower usually has to pay higher than normal interest charges, which include an additional insurance-type premium. This premium is expected to cover the expected losses and administration cost of the CACGS. A risk shared is a risk reduced, and by sharing the risk, the CACGS acts as a “catalyst” enabling the bank to build relationships with otherwise unknown and untried small business clients. The bank nevertheless maintains its integrity by deciding whether or not to lend, even at the reduced risk.

379. Experience of credit guarantee schemes in other countries illustrates difficulties in attaining sustainability, especially for state-owned financial institutions, which may be unable to resist political pressures brought to bear on them. There are also difficulties in demonstrating the extent to which credit guarantee schemes contribute to additional lending to the target beneficiaries (e.g. SME or commercial agriculture) without incurring adverse selection (that is selection of the most risky loans). Best practice indicates that credit guarantee schemes should: (i) strive to keep transactions costs as low as possible (i.e. keep time taken to approve loans to a minimum); (ii) strive for a leverage level of between 5 and 10 (i.e. guarantee a volume of 5 to 10 times the loan amount); (iii) function in an environment of not more that 5%

default rate, (iv) share the risk with lenders, who should assume at least 25% of the risk; and (v) share knowledge with the lender.

380. Developing local and regional economies and linkages between farmers and growers, agro-enterprise and agro-enterprise associations is one effective way to reduce poverty. By expanding the credit that is provided to commercial agriculture stakeholders, the CACGS creates the conditions for fledgling entrepreneurs (including farmers, farmer groups and farm cooperatives) to develop their capacity to manage resources efficiently.

d. Outputs

(i) **Trained personnel.** The envisaged CACGS will require well-trained personnel to assess credit risk in commercial agriculture both within commercial banks (including Agriculture Development Bank of Nepal [ADBN]) and MFIs. Capacity of technical and managerial staff of the DICGC will need to be strengthened in portfolio risk assessment.

(ii) **Increased loans to commercial agriculture in the EDR**. More loans will be given to commercial agriculture stakeholders as a result of credit guarantees. This is sometimes called the "additionality" outcome of credit guarantee schemes.

e. Institutional Framework

381. The CADP will provide a fund of $0.5 million (the CACGF) that will be managed by the DICGC. The CACGS will involve the use of the fund to guarantee loans to commercial agriculture in the EDR. The PIU of CADP will closely coordinate with the CACGS established under the DICGC.

382. The proposed measure will be implemented as part of the activities of DICGC. The DICGC has already a long-time presence in Nepal and is involved mostly in guaranteeing loans by commercial banks. It charges a premium of 1% and covers up to 75% of the defaulted loans. In the past, it was mostly involved in guaranteeing loans by commercial banks to priority sectors. The ceiling for those loans was set at Rs.2,500,000. Currently, there is a new orientation at DICGC towards guaranteeing loans to SME with a ceiling up to Rs.10 million.

383. The envisaged ceiling for guaranteed loans for commercial agriculture could be raised to Rs.50 million if the management of the DICGC developed confidence over time. Different premiums should be charged depending on the collateral given by the prospective borrowers. Premium policy should be revised annually.

384. DICGC has already established rules and regulation for applying to credit guarantees. In order to develop the CACGS, additional rules and regulations will have to be developed within the existing framework of the financial institution. There will be a need to keep separate accounts in order to evaluate performance of the CACGF separately from other activities of the DICGC.

385. A ***Credit Guarantee Scheme Coordination Committee*** will be established to guide the CACGS on a more regular basis. Chaired by the NRB, the committee will comprise representatives of ADBN, commercial banks participating in the CACGS, MFI wholesalers including MCDC and MFIs prominent in the EDR. The Joint Secretary heading the PCU, the Chair of the Board of the CAA, the CACGS Manager, the DICGC DG and the PIU Manager will also participate. The function of the committee will be to monitor, report and evaluate progress; identify problem areas for correction; and review premiums.

1. Component 5: Social Mobilization for Agricultural Commercialization (SMAC)

a. Statement

386. Promote social mobilization of farmer groups already involved in commercial agriculture and facilitate their transformation into larger organizations operating at the higher level of commercialization needed to satisfy the criteria for membership of the CAA .

b. Rationale

387. Farmer groups in Nepal are often small in size, have difficulty in joining with other farmer groups to become larger organizations, and have limited access to markets, information, finance and technology. Some farmer groups have made the transition from subsistence to some form of low level of commercialization, particularly in the case of high-value crops such as vegetables, potatoes and fruits.

388. NGOs and line agencies have sometimes targeted farmer groups with a large proportion of women, poor and disadvantaged ethnic groups. In order for these targeted farmer groups already involved in commercialization to meet the more demanding criteria of the CAA, they will need to organize themselves into larger groups, such as cooperatives and producer associations.

389. The experience of NGOs such as CEAPRED has proved that social mobilization strategies can be sustainable. Integrated Pest Management Farmer Field School experience is an important lesson for a modality of farmer-to-farmer effective extension and social mobilization.

390. Component 5 (SMAC) will provide a mechanism to facilitate the organization of farmer groups who are already commercialized, have a large proportion (e.g. 50%) of targeted groups (women, poor and ethnic groups), but are currently too small to be able to move to the higher level of commercialization needed to join the CAA.

391. SMAC will utilize NGOs and line agencies to conduct social mobilization activities, awareness programs and networking to move the more dynamic farmer groups into a higher level of commercialization.

392. SMAC will link the institutional capacity development component of the CADP to the CAA component. NGOs and line agencies who develop through the institutional capacity development component will be enabled to facilitate the effective transformation of farmer groups into larger groups better organized to meet the challenges of commercial agriculture. After larger groups are organized and have acquired the necessary commercial experience, they will be in a position to join the CAA. The social mobilization will thus ensure a continuous flow of new recruits into the CAA (see Figures 3.1 and 3.2).

393. Figures 3.1 and 3.2 illustrate the dynamic process of commercialization[68]. Both figures suggest that the majority of farmers (or other types of value chain stakeholders such as traders and agro-enterprises) in the EDR are at a very low level of commercialization: in the case of farmers, most of them are close to subsistence level; in the figures this lowest level of commercialization is referred to as level L_0. Most of the programs in agricultural development pursued by HMGN and NGOs deal with this group. The commercialization of this group will take a long time. The CADP instead deal with farmers who are at a higher level (level L_2)

[68] The figures are for illustrative purpose only, they are not drawn as proportional to the actual number of rural farmers in the EDR.

characterized by the criteria defined for membership in the CAA. In the distribution of farmer population, however, there are farmers at a lower level than L_2 and higher than L_0. These are the farmers often participating in extension programs and NGO activities. They may include the poor and vulnerable groups. The figures refer to them as level L_1. The farmers at level L_1 are the primary targets for social mobilization. After the CADP, it is expected that the overall distribution of farmers will include a lower number of farmers at level L_0, and a greater number at higher levels L_1, L_2, and L_3 (the latter even higher than the CAA members). While the CAA will move stakeholders from level L_2 to level L_3, SMAC will move stakeholders from level L_1 to level L_2.

Figure 3.1 Before the CADP

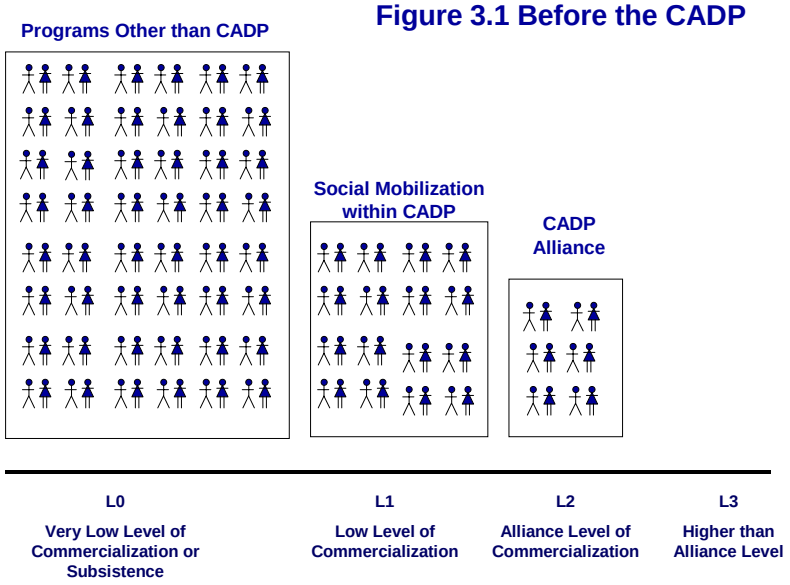
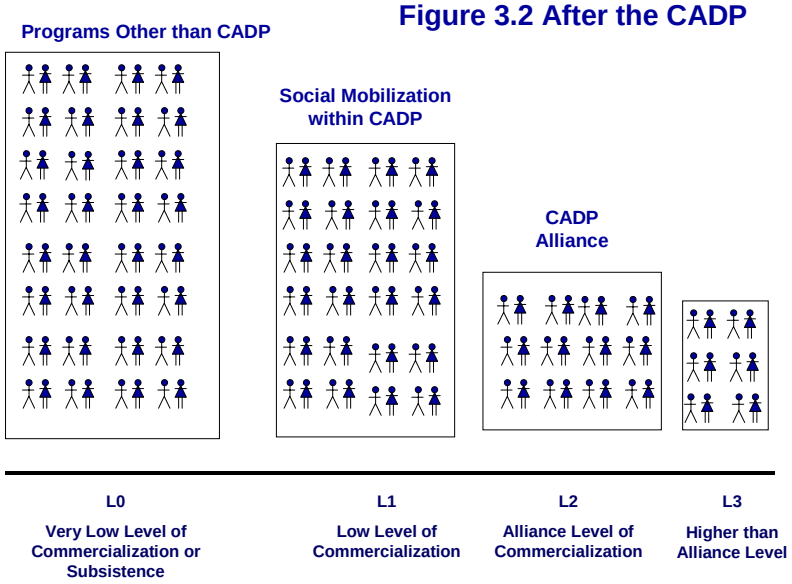


Figure 3.2 After the CADP



Note. The size of each bar is not proportional to the actual number of individuals in the EDR.

c. Outputs

(1) **Awareness Program**. The objective of the program is to sensitize farmer groups about CADP and the commercial agriculture network and alliance. It will also provide awareness about the advantages of organizing into larger units, the constraints and possible solutions.

(ii) **Commercial Learning Activities**. Farmer groups will be enabled to participate in developmental learning activities designed to develop their competence in different aspects of value chain management, including marketing and farm management. These activities will be an extension of the approach to capacity development outlined under Component 6. They will not be "training courses" in the conventional sense. What is learned in conventional training courses is too often not put into practice.

The underlying concept of learning involves finding out, making sense and taking action. It sees learning as iterative and continuous in the sense that the experience of taking action is then reflected upon and a new cycle of finding out, making sense and taking action is initiated. The outcome over time is steady development of competence. Competence incorporates the skills, knowledge and attitudes which are the normal targets of training, but it goes beyond this.

Competence means effectiveness in the 'real world'. The effectiveness of training and education program graduates is too often limited to the training and education environment. Commercial agriculture demands 'real world' commercial competence. A significant aspect of this is the confidence and ability to provide leadership in an uncertain and complex commercial environment.

(iii) **Study Tours**. Study tours will be conducted with a view to exposing farmer groups to other commercial farmers, particularly the farmers, traders, processors and service providers belonging to the CAN. The tours will facilitate goal-setting by illustrating 'what is possible' and will encourage networking and formation of potential commercial linkages.

Study tours will be linked to commercial learning activities' and the wider institutional capacity development under Component 6. This will counter the phenomenon of study tours that lack relevance and/or where there is no provision for integrating what is observed into the home situation. The study tours will be designed as elements of the finding out phase of learning – with the expectation that this will lead to new ways of doing things by the farmer groups that undertakes the tour and a rise in the commercial competence of its members.

All the developmental activities that comprise Component 5 will have as their goal the transformation of farmer groups to higher levels of commercial organization, and will be designed, conducted, monitored and evaluated with this in mind.

(iv) **Information sharing through CAN**. Contacts and information sharing between farmer groups and CAN members will be facilitated through the CAN Manager who will see complementing 'study tours' and 'commercial learning activities' as the key aspects of this process.

(v) **Formation of Larger Farmer Organizations**. NGOs, line agencies and farmer-to-farmer social mobilizers will motivate farmer groups to transform themselves into larger farmer organizations (e.g. cooperatives, producers associations, federations).

d. Institutional Framework

394. In each of the 11 project districts, about 20 groups of farmers (on average about 20 farmers per group) will be targeted every year (total of 1,100 groups over 5 years). These groups will be selected from those (a) already involved in commercial agriculture, and (b) with a large component of women, poor and disadvantaged ethnic groups.

395. The coordination of SMAC with PIU will be ensured by liaison officers working under LDOs of each district. These officers will be the actual liaisons between the CADP and the DDCs. With the support of technical staff from the PIU, they will facilitate the implementation of the social mobilization activities by NGOs and line agencies in their respective districts. The selection of the NGOs and line agencies implementing the SMAC will be decided by a committee at DDC. The funds will be channeled by MOF directly to the DDC's Local Development Fund.

396. The final selection of the farmer groups to be included in the social mobilization activities will be decided by a sub-committee of the DDC Agricultural Development Coordination Committee, assisted by technical officers of the PIU. Preference will be given to those groups who (a) show a greater experience in governance (meetings, election of leaders), (b) are more socially diverse (including different ethnic groups and castes), and (c) have a greater number of women involved in commercial agriculture.

397. NGOs and line agencies belonging to CAN and who are participating in relevant capacity strengthening activities will implement the social mobilization component under the supervision of the DDC with technical support from the PIU, i.e. facilitating social mobilization of farmer groups will be an institutional strengthening activity whereby the NGO and line agency staff involved will 'learn by doing' and develop needed competence in the process. The TORs for NGOs and line agencies implementing the program are provided in Appendix 15.

398. Involvement in commercial agriculture programs with the targeted groups will be a criterion for selection of NGOs and line agencies for participation in the SMAC.

399. The selected NGOs and line agencies will have responsibility for preparation of awareness program materials, resource materials to support commercial learning activities and the study tour programs. They will do this in consultation with, and technical support from, the PIU. NGO and line agency staff responsible for these activities will develop their competence to do so through participation in a relevant capacity strengthening activity (another example of developing competence through 'learning by doing').

400. The flow of funds to NGOs and line agencies involved in social mobilization activities will be through the District Agriculture Development Fund under DDC. The PIU will plan and supervise the activities undertaken by the NGOs and line agencies, monitor their implementation, and coordinate with both the DDC and the implementing organizations.

401. Selection of NGOs and line agencies to implement the component and selection of farmer groups to be involved in the social mobilization activities will be based on criteria prepared by the PIU and approved by the DDC subcommittee overseeing the release of funds for these activities.

6. Component 6: Institutional Capacity Development for Commercial Agriculture

a. Statement

402. Provide capacity building and strengthening in the following subject areas:

- Commodity systems assessment methodology.
- Planning and managing market infrastructure.
- Agricultural marketing extension.
- Farm management.
- Post-harvest system development.
- Value chain management.
- Proposal and business plan preparation.
- Grading and quality assurance system.
- Gender awareness and female entrepreneurship.

403. The details for each of the nine measures proposed are contained in Appendix 5.

b. Rationale

404. The overall rationale for institutional capacity development is the need for stakeholders in commercial agriculture, including service providers, to work together to institutionalize sustainable agricultural value chains.

405. However, past experience in capacity development in Nepal and other developing countries shows that the activity will not be successful unless adequate provisions are taken to link capacity development to experiential learning and evaluation of its impact. There is little scope in building or strengthening capacity of individuals and institutions unless that increased capacity is actually put to use and is evaluated as useful by the very beneficiaries for which it was intended. The latter includes both users and providers of services.

406. The CADP design of this component reflects the link between capacity development activities and implementation of other activities in the program, such as social mobilization and service provisions within the CAN and to members of the CAA.

407. The common theme of the various measures under this component is the idea of action research whereby what is learned through traditional training course is tested in the field immediately after completion of the training. The effectiveness of the training will be tested by the success of these action research projects.

c. Outputs

408. The outputs of the capacity development activity will consist of a combination of training courses, action research projects and possibly study tours. Each trainee will be responsible for carrying out an action research project with commercial stakeholders in the CAA or with farmer groups selected in the social mobilization component. The results of action research projects will be summarized by the Manager of the institutional capacity development component and made available to all interested members of the CAN.

409. An action research project has two concurrent elements: (i) action to improve a real-world situation, and (ii) research by the individual or group into how to do this most effectively. It is reflecting on the experience of action research projects and putting what is learned into

subsequent practice, that competence is developed and needed changes in institutional arrangements made.

d. Institutional Framework

410. In most cases, the trainees will be members of different public and private organizations including DOA, NARC, universities, consultants and NGOs. The Institutional Capacity Development Unit of the PIU will identify the trainees based on pre-specified TOR for each measure. The trainees will form core teams responsible for providing improved services to the CAA members and farmer groups selected in the social mobilization component.

411. Most of the training activities will be conducted in the EDR on campuses, institutes, at the DOA Regional Training Centre or at CIM. There may however, usefully be provision for study or demonstration visits outside the Region, to other parts of Nepal or to neighboring countries, within some of the courses. If, as will almost certainly be true in some cases, suitable trainers are not available within the region or in Nepal, they will be brought in from outside.

412. Each trainee will be requested to conduct an action research together with commercial stakeholders. This action research will provide a practical testing of what has been learned during training and the opportunity of making an actual contribution to the participating beneficiaries.

413. Trainees will document their action research reports and submit them to the trainers and their trainee colleagues for critical comment. This sharing of project experience through presentations and reports will encourage reflection, highlight the need for changes in institutional arrangements and generate momentum for change. The project reports should include a review of what issue was addressed, why this was done, how it was done, what the outcome was, what was learned in terms of the competence of the individuals who undertook the project and the needed changes in institutional arrangements, highlighted.

E. IMPLEMENTATION ARRANGEMENTS

1. Project Management

414. The Ministry of Agriculture and Cooperatives (MOAC) will be the Executing Agency (EA) responsible for overall project management and coordination. There will be four implementation agencies (IAs), namely the Project Implementation Unit (PIU), the Commercial Agriculture Alliance (CAA), the Deposit Insurance and Credit Guarantee Corporation (DICGC) and the District Development Committees (DDCs).

415. The choice of four implementation agencies coordinated by the PCU of MOAC is justified by the following special features of the CADP:

- Commercialization of agriculture involves many different actors (including farmers, traders, processors, their associations, financial institutions, research organizations, NGOs, etc.). Many of these actors are beyond the traditional reach of the DOA.

- The PIU will have to coordinate both with the CAA and with the DICGC, two institutions that require a different sets of skills than those currently available at DOA. A broader perspective such as that provided by the MOAC will be necessary.

- Commercialization of agriculture implies close coordination with different line agencies (such as Ministry of Commerce, Ministry of Industry and Ministry of Local

Development). The close coordination requires a PIU directly under the control of the MOAC.

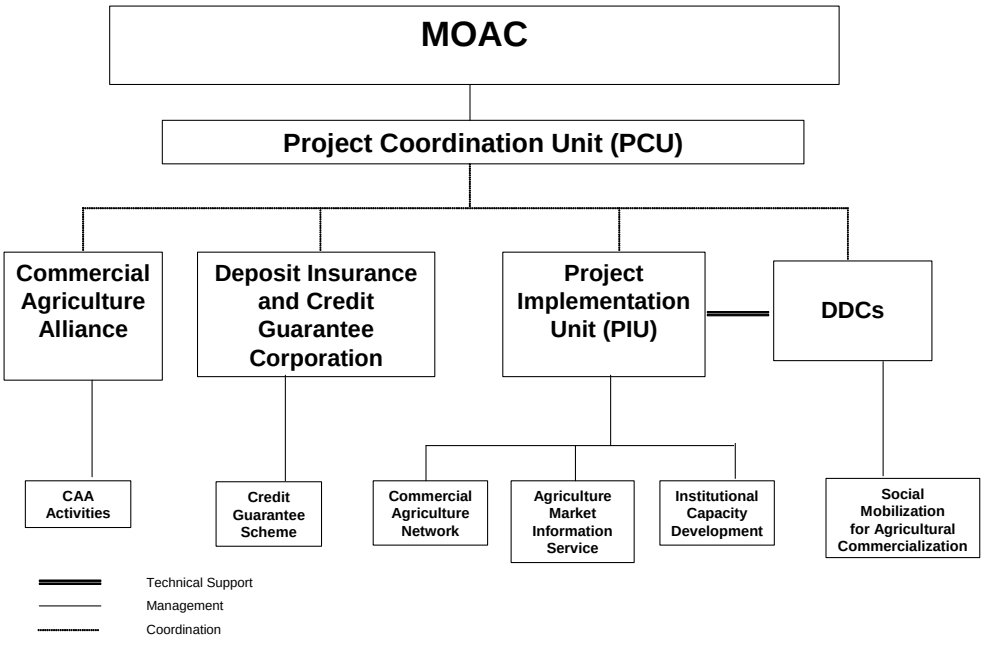
- Commercialization of agriculture in the EDR might be regarded of national interest in view of the key role that the region plays in agricultural exports. Commercialization goes beyond the narrow limits of a district. Production, marketing and distribution cuts across districts and are integrated by well functioning value chains. Traditionally DOA activities have focused on the district without looking at the linkage among different districts or between different functions (production, marketing, processing, etc.)

- WTO accession presents a new set of policy issues that will become of particular importance during the implementation of the project, such as quality control, phytosanitary control and trade dispute resolutions. All these issues require the direct monitoring and action of the Ministry.

- The orientation of policy towards decentralization implies empowerment of local government in the planning and implementation of policies and programs at the district level. DDCs need to be directly involved in the implementation of the CADP and this will be possible through their active role in the SMAC. Given that capacity of DDCs varies among districts and is generally weak, the PIU will provide technical support to the SMAC component implemented by the DDCs.

416. MOAC, through the PIU, will be responsible for the implementation of activities related to the CAN, AMIS and ICDCA and will also provide technical support to the SMAC component implemented by the DDCs (see Figure 3.3). The CAA Board will be responsible for the implementation of the activities related to the CAF. The DICGC will be responsible for the activities related to the implementation of activities related to the CACGF.

Figure 3.3: Management Structure of CADP



417. MOAC will also provide guidelines to the project and, through PIU, will supervise monitoring and evaluation of all the project activities.

a. Project Coordination Unit (PCU)

418. MOAC will establish a PCU within the MOAC in Kathmandu under the heading of a Joint Secretary and with assistance of a Class II officer. The head of the PCU will be the Project Director for the CADP. The main roles and functions of the PCU consist in coordination between CADP and other line agencies; reporting and coordination with ADB; reporting and coordinating with MOF and NRB; and organization of meetings of the Steering Committee, Implementation Coordination Committee, Credit Guarantee Scheme Coordination Committee, and CAF Advisory Group. The PCU will also take charge of the pre-inception activities described in a later section, including recruitment of international consultants, facilitation of the formation of CAA under the Company Act, and recruitment of domestic consultants in the management position of the PIU.

b. Project Implementation Unit (PIU)

419. The CADP will provide funding for a PIU which will be staffed by: (i) a managerially competent Class I officer (project manager); (ii) one Class II officer (deputy project manager); (iii) one Class II officer for M&E; (iv) one Class II planning officer; (v) one Chief Accountant; (vi) one Gender Specialist; (vii) one Computer Specialist; (viii) four support administrative staff (accountant, secretaries, computer, monitoring and evaluation); and office support staff.

420. The PIU will act as a facilitating unit for all the components of the project. The PIU will (i) prepare annual work plans and relevant project reports, in consultation with the Secretariat of the CAA and the management of the CACGS; (ii) supervise project activities related to the CAN, AMIS and SMAC; (iii) provide technical support to the SMAC component implemented by DDCs; and (iv) carry out monitoring and evaluation of all project activities, project outputs and expected impacts. The PIU will also have responsibility for ensuring that several crosscutting issues are firmly embedded in Project activities, namely: (i) the value chain approach; (ii) gender awareness and gender equity; (iii) environment concern; and (iv) good governance.

421. The PIU will be based in Biratnagar, at office facilities to be rented by the CADP. The facilities will host the other components of the project, including the Secretariat, CAN, AMIS, SMAC and the ICDCA. The facility will be appropriately located and provided with well functioning infrastructure for office space, communications (including internet) and meeting rooms. The PIU will also be provided with adequate equipment, furniture and vehicles (see budget in Appendix 8, Table A8.7).

c. The Commercial Agriculture Alliance (CAA)

422. The scope and details of the CAA, including the associated Board, the Secretariat and the Fund are described separately[69]. The PIU and the Secretariat will coordinate closely through liaison officers selected by the PIU and the CAA Board.

423. Periodic reporting of CAF activities will be submitted by the Secretariat to the PIU; monitoring and evaluation and impact assessment of CAA activities will be conducted by the PIU. The periodic and final monitoring and evaluation of project portfolio progress, implementation and impact of CAF activities will be in addition to: (a) monitoring of project activities and flows and uses of funds during project implementation; (b) assessment of project outputs and impact during and after implementation; and (c) ongoing monitoring and evaluation of project portfolio progress, implementation and impact. The Secretariat will conduct (a), (b), and (c) on behalf of the CAA Board and make reports available to the PIU Manager. Financial audit of the CAA and its use of CAF funds will be performed by the CAA's statutory independent auditors as a legal entity and by other independent auditors of the use of

[69] See Appendix 7.

CADP funds appointed by HMGN/MOAC as overall implementing agency of the project. As is normal practice, the auditors' starting point will be comprehensive draft accounts produced by the Chief Accountant and his or her assistant using a fully-developed and professional internal accounting system.

424. The Secretariat will be selected by the CAA Board and will consist of a staff of experts including (i) the General Manager; (ii) the Chief Accountant; (iii) the Rural Sociologist; (iv) the Economist/Financial Analyst; (v) the Rural Infrastructure Specialist; (vi) the Agricultural Marketing Specialist; (vii) the Crop Specialist; and (viii) external advisors. The budget for the Secretariat is provided in Appendix 8, Table A8.2.

d. The Deposit Insurance and Credit Guarantee Corporation (DICGC)

425. The scope and details of the CACGF are described separately in Appendix 5. The PIU and the Unit of the DICGC responsible for the CACGF will coordinate closely through liaison officers selected by the PIU and the Board of the DICGC. In addition to the normal mechanisms of supervision and monitoring internal to the DICGC, the PIU will also conduct periodic and final monitoring and evaluation of project portfolio progress, implementation and impact of CACGF activities.

426. The DICGC will appoint a unit responsible for the implementation of the CACGS and the management of its fund. The head of the unit will coordinate with the PIU and the CAA.

e. The District Development Committees (DDCs)

427. The LDO of the DDCs will implement the SMAC component of the project. Liaison officers in each of 11 districts will be selected to manage the social mobilization activities with technical support from the PIU. By competitive bidding, the DDCs will select NGOs and line agencies to carry out the TORs for the social mobilization activities (see Appendix 15).

2. Implementation

428. Before inception of the CADP, the CAA will be established under the Company Act. The process will be facilitated by an international consultant recruited by the PCU and supervised by PCU itself. The members of the CAA will adhere to the Article of Agreements and the Operations Manual initially designed with the help of the international advisor. The guidelines provided in Appendix 7 will be taken into account during this phase.

429. During the first year, the Project will establish the CAN, the CAF, the CACGF and the AMIS, and initiate capacity development activities and planning of social mobilization activities.

430. Investments approved by the CAA Board will commence implementation in the second year of the project. Social mobilization activities will also be in full swing during the second year of the project.

431. The TA will also be mobilized at the beginning of the project, particularly advisory services related to the CAA, the CAN and monitoring and evaluation.

432. A **Project Steering Committee** will be established to oversee the implementation of the project and will meet as necessary, but no less than once a year, to review progress and resolve policy issues. The Secretary of MOAC will chair the Committee, which will include ministerial representatives from the MOF, Ministry of Women, Children and Social Welfare, Ministry of Industry Commerce and Supply, Ministry of Local Development, the NPC, the DG of DOA, AEC, the Chair of the Board of the CAA, the DG of the CACGF, NRB, the Joint Secretary heading the PCU and the Project Manager of the PIU being the member Secretary.

433. An **Implementation Coordination Committee** will be established to guide the PIU on a more regular basis. Chaired by the Joint Secretary heading the PCU at MOAC, the Committee will comprise the DG of DOA, heads of DOA directorates, the RAD, the DDC, the Women Development Centers, the CCI in the EDR, NARC, NGOs and the Project Manager of the PIU. The Committee will meet on a trimester basis in the EDR. Its responsibility will be to address and resolve implementation issues, to advice on technical matters, and to advice the Project Steering Committee on policy matters.

434. A **Credit Guarantee Scheme Coordination Committee** will be established to guide the CACGS on a more regular basis. Chaired by the NRB, the Committee will comprise representatives of ADBN, commercial banks participating in the CACGS, MFI wholesalers including MCDC and MFIs prominent in the EDR. The Chair of the Board of the CAA, the CACGS Manager, the DICGC DG, the Joint Secretary heading the PCU, and the PIU Manager will also participate. The function of the Committee will be to monitor, report and evaluate progress, identify problem areas for correction and review premiums policy.

435. A **Commercial Agriculture Fund Advisory Group** will be established to provide advisory services and policy guidance to the CAA Board. Chaired by the Joint Secretary heading the PCU, the Group will comprise the DG of DOA and representatives of DOA directorates, the RAD, the DDC, the Women Development Centers, the CCI in the EDR, NARC, NGOs, the Department of Cooperatives, the Food Technology and Quality Control Department, the Project Manager of the PIU, the CACGF Manager and the CAA Board members. The Group will meet as necessary, but no less than on a quarterly basis. According to the Tenth Plan a **National Agriculture Promotion Center** will be established. It is suggested that if the Center is implemented during the implementation period of the CADP, the Center take the leadership of the Advisory Group.

3. Implementation Schedule

436. Appendix 16 contains the implementation schedule of the project.

4. Component Implementation

437. The PIU will supervise the implementation of the CAN, AMIS and the institutional capacity development components; it will also provide technical support to the DDCs in the implementation of the social mobilization component. Each of these components will have a manager responsible for implementation. The **CAN Manager** will be directly responsible to the PIU Manager and will coordinate with all the components of the project, the CAN members, and regional coordination committees. The **AMIS Manager** will be responsible to the PIU Manager and coordinate closely with the MDD, the AEC, AICC, CCI and radio stations in the EDR. The **Social Mobilization Manager** attached to the PIU will work closely with the liaison officers of the DDC to prepare annual work plans, supervise and monitor activities by the NGOs and line agencies in the implementation of the SMAC component. The social mobilization activities will include district level activities involving awareness program, training programs and study tours for farmer groups already involved in commercial agriculture. The manager will coordinate closely with DDC in the selection of implementing agencies at the district level and in the selection of farmer groups. The **Institutional Capacity Development Manager** will be responsible for the implementation of capacity development activities made available through the Regional Training Center.

438. The Secretariat will be responsible to the CAA Board and provide services to the CAA members. The Secretariat will be appointed by the CAA Board and be responsible for evaluating the technical feasibility of proposals by CAA members, submitting the proposals to the Board for approval, supervising the disbursement of funds for implementation of the approved proposals, monitoring and evaluating project implementation and project portfolio,

preparing annual plans and reports, coordinating with the PIU, and facilitating meetings of the CAA, Board Meetings and participation of Board members to other committees provided in the CADP (Steering Committee, Coordination Committee, Advisory Group).

5. Roles and Responsibilities

439. Table 3.4 provides a summary of the roles and responsibilities of different units, components and committees of the CADP. At the beginning of project implementation, roles and responsibilities will be further defined for each component and unit according to the guidelines mentioned in the project design.

6. Line Agencies Bidding

440. Several activities of the CADP will require hiring competent professionals and organizations to carry out several of the proposed activities. The hiring will be often done through competitive bidding. Typically, private sector and NGOs bid for these services. It appears that line agencies, as service providers, should also be allowed to bid in the provision of these services. Public extension services as well as public research organizations should be allowed to bid. Currently, line agencies are not allowed to bid. That limits the development of professionalism within these organizations. For example, NGOs, DADOs and WDOs should be allowed to bid for carrying out the social mobilization activities at the district level envisaged in this project. However, under current regulations, this is not possible for DADOs and WDOs.

441. However, under the Civil Service Acts and Regulations, civil servants could offer their professional services to outside organizations and be remunerated accordingly at prevailing market rates, provided that this is approved by HMGN.

442. It is recommended by the TA Team that MOAC clarify the extent to which civil servants and line agencies could bid for implementation of some of the activities envisaged in the CADP and allow greater flexibility in this respect in order to improve effective implementation of the project.

7. Role of Local Government in CADP

443. The CADP links with local government is reflected in the different components of the project. At the general level, MLD and DDCs are part of various committees providing guidelines, feedback and directions to the CADP (e.g. Project Steering Committee, Implementation Coordination Committee and Commercial Agriculture Fund Advisory Group).

444. DDCs are part of the CAN and will be consulted in the decisions of the CAA Board relating to infrastructure projects proposed by the CAA members. AMIS provides information and ICDCA provides capacity building to DDCs staff.

445. DDCs are directly involved in the SMAC implementation with technical support provided by the PIU Manager for SMAC. Direct allocation of funds from MOF to DDC's Local Development Fund are to be used by DDCs to select NGOs and line agencies working in the districts to carry out social mobilization activities related to the CADP. Each DDC will select a liaison officer for the CADP and the CADP will provide funding for these liaison officers.

Table 3.4: Roles and Functions of Different Units of the CADP

Components/ Committees	Roles and Functions	Linkages/ Coordination	Staff	Responsible to	TA
PCU	• Coordination between CADP and other line agencies • Reports and coordination with ADB • Reports and coordination with MOF and NRB • Organize Steering Committee Meetings • Organize Implementation Coordination Committee Meetings • Organize Credit Guarantee Scheme Coordination Committee Meetings • Organize CAF Advisory Group Meetings	MOAC, MOF, NRB, NPC, ADB, Steering Committee Members, Implementation Coordination Committee Members Credit Guarantee Scheme Coordination Committee Members, CAF Advisory Group	• Joint Secretary /Project Director • Assistant	MOAC	
PIU	• Coordination of different components of CADP • Coordination with MOAC • Management/Planning • Administration/Finance • Monitoring & Evaluation • Information/Database	RAD, DDCs, DADOs, WDOs, AEC, CCIs, Regional Line Agencies, Network Members	• Project Manager • Deputy Project Manager • Planning Officer • Chief Accountant • M&E Specialist • Gender Specialist • Computer Specialist • Support Staff		Monitoring and Evaluation
CAN	• Maintain database of CAN members • CAN bi-monthly bulletin publication • Organizing semi-annual CAN workshops • Facilitate partnerships between service providers and the CAA members • Disseminating information through CAN website	Other components of CADP (CAA,AMIS, ICDCA,CACGS, SMAC), NARC, Network Members, Projects implemented in the EDR (e.g. Community Livestock Development Program)	• Component Manager • Assistant Manager (2)	CAN Manager	Network Management and Awareness
CAA/CAF/CAB/CAS	• CAB approves investment proposals submitted by CAA members • CAS reviews project proposals for consideration by the CAB • CAS monitors and evaluates implementation of projects approved by the CAB • CAS provides administrative and finance services to the CAB • CAS disburses funds from CAF to the proposals approved by CAB • CAS coordinates with other components of CADP • CAS provides coordination and organization support to the CAA	Other components of CADP, CAF Advisory Group	• General Manager • Chief Accountant • Rural Sociologist • Economist/Financial Analyst • Rural Infrastructure Specialist • Agricultural Marketing Specialist • Crop Production Specialist • Support Staff	HMGN/MOAC	Advisor to Secretariat and Board

Components/ Committees	Roles and Functions	Linkages/ Coordination	Staff	Responsible to	TA
AMIS	• Conduct survey of information needs and access to communication • Collect price information needed by farmers and traders • Provides radio scripts for broadcasting • Organize databases • Publish price bulletins and distribute to CAN members • Organize and maintain appropriate databases • Disseminate information to farmers and traders • Coordinates and support organization and collection of production statistics	AEC, MDD, Market Owners, Radio Stations, AICC, CIM, Central Bureau of Statistics	• AMIS Manager • Technical Staff (3) • Secretarial Staff (1)	PIU	Agricultural Market Information System Specialist Database Development and Collection Methods Specialist
CACGS	• To facilitate the flow of credit to commercial agriculture stakeholders by reducing the risk of lending to them	ADBN, Commercial Banks, MFI, Micro Finance Development Center	• Staff under the DICGC	HMGN/MOAC	Credit Guarantee Scheme
SMAC	• Promote social mobilization of farmers groups already involved in commercial agriculture but at a lower level than the CAA members • Organize capacity building and strengthening activities with farmer groups • Coordinates with CAN activities	NGOs, DADOs, DDCs, WDOs, Poverty Alleviation Program	• Component Manager • Assistant (1)	DDC/PIU	
ICDCA	• Provide training in different thematic areas including: – Commodity systems assessment methodology – Planning and managing market infrastructure – Agricultural marketing extension – Farm management – Post-harvest system development – Value Chain Management – Proposal Preparation – Business Planning – Grading and Quality Assurance System – Gender Awareness and Female Entrepreneurship • Builds and strengthens capacity of core trainers • Ensure implementation of Action Research Projects	Regional Agriculture Training Centre at Jhumka, DOA, NARC, Universities and Consultants, NGOs, CAN, CAA, SMAC components of the CADP	Component Manager (1) Assistant (1)	PIU	Commodity System Analysis Agricultural Marketing Extension Post-harvest System Value Chain Management Proposals and Business Plans Quality Assurance System Women Entrepreneurship

Components/ Committees	Roles and Functions	Linkages/ Coordination	Staff	Responsible to	TA
Steering Committee	• Oversees implementation of projects • Review progress • Resolve policy issues	MOAC, DOA, NARC, MOF, MWCSW, MICS, Ministry of Local Development, NPC, AEC, CAB, NRB, DICGC, PIU			
Implementation Coordination Committee	• To guide PIU on a regular basis	MOAC, DOA, RAD, DDCs, WDOs, CCIs, PIU			
Credit Guarantee Scheme Coordination Committee	• Monitor progress reports and evaluate progress • Identify problem areas for correction • Review premium policy	NRB, ADBN, Commercial Banks, MFI, DICGC, PCU, PIU.			
CAF Advisory Group[70]	• Advisory and policy guidance to the CAB	MOAC, DOA, NPC, RAD, DDCs, WDOs, CCIs, NARC, NGOs, PCU, PIU.			

[70] This group might be under the leadership of the planned National Agricultural Promotion Center, envisaged by the 10th Plan.

8. Pre-Inception Activities

446. Prior to inception of the project, and perhaps as a condition of the loan agreement, several activities need to be implemented, including:

- Clarification of the extent to which civil servants and line agencies could bid for implementation of some of the activities of the project;
- Recruitment of international advisor to facilitate the formation of CAA, the census of commercial agriculture stakeholders in the EDR, and the awareness campaign about the CADP;
- Awareness campaigns in the EDR about the CADP;
- Operations Manual for the CAA;
- Identification of suitable staff for the PIU;
- Census of agricultural commercial stakeholders in the region with a view to identifying suitable members of the CAA;
- Establishment of the CAA; and
- Approval of the **Agricultural Markets Development and Management Bill.** The bill will provide a regulatory framework for the organization of markets by both the private and the public sectors. The bill was in a position to be passed by the House of Representatives in May 2002. The House dissolved in May 2002 and the status of the bill is unclear at present. Its approval before inception of the CADP would facilitate the development of marketing.

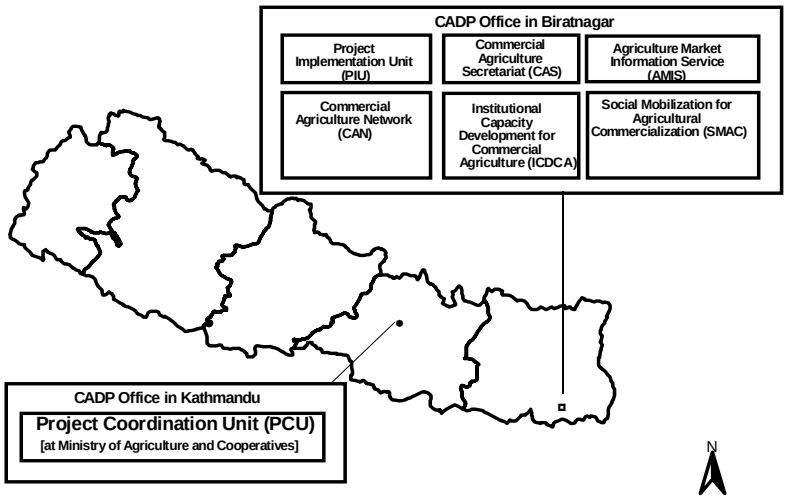
9. Implementation Period

447. The Project will be implemented over a 5-year period. Initial activities will include recruitment of staff and consultants for the PIU, establishing a project performance monitoring system, carrying out baseline surveys, establishing the procedures for the CAA (including the Board, the Fund and the Secretariat) and the CACGF, identifying and partnering with local NGOs, establishing the CAA (including the Board and the Secretariat) and procurement of essential equipment. While activities related to the AMIS and to institutional capacity development will start in the first year, investment projects approved by the CAA Board will likely start implementation in the second year of the project. Social mobilization activities at the district level will also start in the second year of the project, after CAN and the CAA has been formed and capacity of service providers has been strengthened.

10. Office

448. The CADP will operate from two offices: one small office at MOAC hosting the PCU and a bigger office at Biratnagar hosting the PIU, Secretariat, AMIS, CAN Manager, Institutional Capacity Development Manager and the Social Mobilization Manager (see Figure 3.4). The presence of different project components under the same office roof in Biratnagar will greatly facilitate coordination within the CADP.

Figure 3.4: CADP Office Locations



11. Consulting Services

449. Consulting services will be recruited to provide technical assistance to the project. Appendix 6 provides the TOR for international and domestic consultants required for a smooth implementation of the project. Several of the positions indicated for domestic consultants could be well provided by HMGN officers, including officers at MOAC, DOA, Regional Agriculture Training Center and DADOs. The principle of recruitment, however, should be based on selecting the most competent candidate for each position. In case such candidate is from line agencies, then their professional services should be provided as consultants to the project, implying a leave from their respective units in HMGN. That leave of absence will require previous approval from the HMGN (see previous section on Line Agencies Bidding).

450. The project envisages three packages of consulting services. Package 1 refers to International Consultants. Package 2 refers to Domestic Consultants to work under the PIU, CAN, AMIS, SMAC, ICDCA and CACGS. Package 3 refers to Domestic Consultants to work in the Secretariat.

451. Each package will be procured based on competitive bidding by local and international firms. Package 1 will be selected by the MOAC/PCU. Package 2, the procurement of consultants, will take place in two phases: Phase 1 (at the pre-inception phase), only the management of the PIU and the managers of CAN, AMIS, SMAC and ICDCA will be selected by MOAC/PCU and Phase 2 (at the beginning of the CADP), the management of PIU, CAN, AMIS, SMAC, ICDCA and DICGC will procure the remaining consultants mentioned in Appendix 6, again according to competitive bidding. Package 3 will be selected by the CAA Board.

12. Procurement

452. Appendix 17 summarizes the procurement of goods and services in the different components of the CADP. Procurement of goods will be made on the basis of local competitive bidding, international shopping and direct purchase. Procurement of services will be made through local competitive bidding and international competitive bidding.

453. All procurement related to the CAA investment projects will be conducted by the Secretariat on the basis of local competitive bidding. Since most civil works will be small and widely dispersed, foreign contractors are unlikely to be interested in bidding. Consequently, all

the civil works contracts will be procured on the basis of local competitive bidding among prequalified contractors in accordance with the Government's procurement procedures acceptable to ADB. Prequalification, selection and engagement of contractors will be subject to the approval of the CAA Board. A contracted private sector engineer under the guidance of the Secretariat will advise on the award of contracts for infrastructure rehabilitation and market improvements.

454. It is not expected that there will be supply contracts for equipment or materials estimated to cost $500,000 or more, but should a contract be required it will be awarded on the basis of international competitive bidding, and those costing less than the equivalent of $500,000 (other than minor items) will be awarded on the basis of international shopping. Direct purchase procedures will be used for small or off-the-shelf items valued at less than $100,000.

13. Project Performance Monitoring and Evaluation (M&E)

455. A list of indicators is available in the Logical Framework (see Appendix 4); and a list of means of verification is available for each measure envisaged in the CADP (see Appendix 5). Appendix 13 provides detailed information of all the activities of M&E. These activities include pre-inception activities, baseline surveys, project input monitoring, participatory monitoring and evaluation, project benefit monitoring and evaluation, aggregate output data monitoring, project reporting and reviews.

456. Pre-inception activities include an awareness program of the CADP, a census of agricultural commercialization in the EDR and a workshop to agree on indicators and the methods for M&E proposed in the CADP design. Table 3.5 provides a summary of the monitoring and evaluation activities of the CADP.

Table 3.5: Summary of Monitoring and Evaluation Activities

Activity	Timing of Activity	Primary Responsibility
Pre-inception Activities		
Pre-inception CADP Awareness	Pre-inception	▪ PCU with support of International Advisor
Pre-inception Census of Agriculture Commercial Stakeholders in the EDR	Pre-inception	▪ PCU/RAD with support of International Advisor
Workshop for Defining Indicators and Monitoring and Evaluation System	Pre-inception	▪ PCU with support of International Advisor
Baseline Surveys		
Value chain surveys	Inception	▪ PIU/CAS
Information needs surveys	Inception	▪ AMIS
Social mobilization surveys	Every year at inception of SMAC in each district with new farmers groups	▪ DDC/SMAC
Project Input Monitoring		
Work Plans	Yearly preparation and six-month review	▪ All CADP components ▪ Aggregated by PIU
Regular monitoring of disbursements, procurement, contract	Monthly	▪ PIU, CAS, CACGS
Records of meetings of Steering Committees, minutes of discussions, and decisions affecting CADP	Quarterly	▪ PCU
Records of Coordination Committees and minutes of discussions	Quarterly	▪ PCU/PIU
Records of CAA Board meetings, minutes of discussions, and decision reached	Quarterly	▪ CAS

Activity	Timing of Activity	Primary Responsibility
Records of Advisory Group Meetings and minutes of discussion	Quarterly	▪ PCU/PIU
Follow up Monitoring of value chains	Year 3 and year 4	▪ PIU/CAS
Participatory Monitoring and Evaluation		
Activities indicators	Yearly	▪ All components of CADP
Output indicators	Yearly	▪ All components of CADP
Impact indicators	Yearly	▪ All components of CADP
Project Benefit Monitoring and Evaluation		
Indicators of benefits	Yearly	▪ All components of CADP
Aggregate Outcome Data Monitoring	Yearly	▪ PIU/RAD
Project Reporting		
Quarterly progress report	Quarterly	▪ All components ▪ Aggregated by PIU/PCU
Annual reports	Yearly	▪ All components ▪ Aggregated by PIU/PCU
Audited project accounts	Yearly	▪ Selected Auditor
Reviews	Six-month	▪ MOAC
	Mid-term	▪ ADB/MOAC

457. There are general principles that a successful monitoring and evaluation system has to keep in mind. First, the actors involved in monitoring and evaluation should clarify and agree about the content of what has to be monitored. Second, it should be clear on the purpose of the monitoring and evaluation and how decision-makers will use its results. If monitoring and evaluation is regarded mainly as a surveillance system rather than as a learning tool for improvement, chances are that the overall process of monitoring and evaluation will fail. Third, the methods, baseline surveys and indicators used for monitoring and evaluation should be clearly defined and agreed before starting the process. Finally, agreement should be reached as to who will conduct the monitoring and evaluation, so as to ensure that conflicts of interests are minimized and reliable information is obtained.

458. Monitoring and evaluation is a key activity of any project since it allows understanding of problems and provides an opportunity to take corrective action at an early stage of the project. In the case of CADP, monitoring and evaluation is particularly important in view of the dearth of relevant data on agricultural value chains, marketing, trade and the extent of commercialization in the EDR. It is recommended that comprehensive value chain baseline surveys be undertaken at the beginning of the project[71]. To the possible extent, customer surveys (where the customer could be any commercial stakeholder receiving services from public or private providers) should be undertaken during the course of the project.

459. M&E staff will be part of the PIU. Each component of the project will have to be closely monitored and evaluated by the management of that component. An M&E Specialist will provide technical assistance to facilitate the various monitoring activities of the project.

14. Flow of Funds

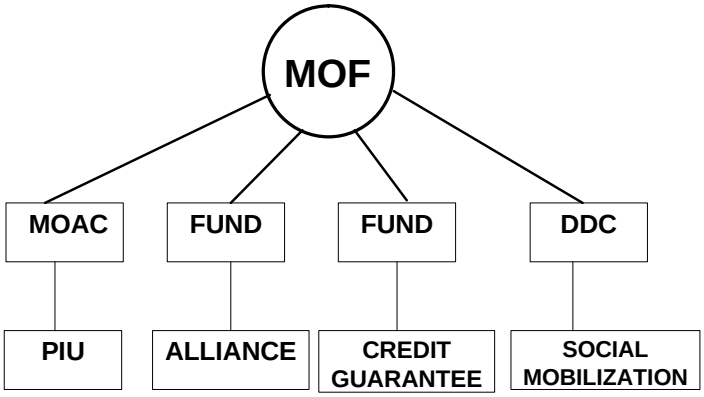
460. Project funds are envisaged to flow through four channels as follows (see Figure 3.5):

- Direct allocation from MOF to the CAA in order to establish and replenish the CAF periodically.
- Direct allocation from MOF to the DICGC in order to establish the CACGF.

[71] It is the experience of some of the TA Team members that "baseline" surveys were sometimes conducted at the end of a project, program, or years after a certain policy was put into implementation.

- Allocation to MOAC for activities of the PCU and PIU.
- Allocation to DDC for implementation of activities related to social mobilization

Figure 3.5: Flow of Funds



461. The four channels correspond to legal entities that are established at the pre-inception stage of the CADP. The CAA is a legal entity constituted under the Company Act. The DICGC is a public corporation. The PIU will be under direct control of MOAC. The DDCs are representatives of the local government, which can receive allocations directly from MOF according to the LSGA. The coordination of funds flow will be the responsibility of the PCU of MOAC and will provide the overall linkage between MOF and the various entities involved in the implementation of the CADP.

462. Financial accountability for the funds is embedded in the design of the project. The project funds will be scrutinized at different levels, through proper accounting procedures, monthly reporting, monitoring and evaluation activities and auditing. The PIU will be responsible for consolidating all the accounts for final review by the PCU.

463. The project design envisages the creation of the Commercial Agriculture Fund (CAF). Given the existence of a Nepal Agricultural Research and Development Fund (NARDF), the question arises of why there is a need of another fund. Would not the project be more simply implemented by channeling the resources to NARDF, rather than creating an autonomous fund? The reply to this question is key to the understanding of the main approach of the CADP, which puts stakeholders in the driving seat of decisions regarding investment on commercial agriculture. Differently from NARDF, CAF is a fund that is managed directly by stakeholders (with clearly specified governance structure), is regionally oriented, provides a mechanism for commercial stakeholders to join together and experiment with the formation of value chains, and is likely to be more responsive to the needs of the stakeholders and more timely in the disbursement of funds.

IV. COSTS, BENEFITS AND IMPACTS

A. INTRODUCTION

464. This chapter provides an analysis of costs, benefits and impacts of the proposed project. The chapter is organized into six sections including this introduction. Section B presents the financial and economic analysis of the project. Sections C to E discuss the expected impacts related to poverty, gender and environment. Section F discusses the assumptions and risks of the project. For detailed analysis please refer to Appendix 8 and Appendix 9.

B. FINANCIAL AND ECONOMIC ANALYSIS

465. In this section the overall project viability is considered. This takes account of all the project components including those that do not produce revenues but merely provide social benefits and non-quantifiable benefits – like the mobilization of women and disadvantaged groups.

466. The economic analysis of a project measures its effect on the economic efficiency of the whole economy. The economic analysis of a project differs from the financial analysis in the sense that the latter focuses on the monetary profits accruing to farmers, traders and processors based on market costs. Rather than market prices, economists use shadow (or efficiency) prices that reflect opportunity costs (i.e. the benefit foregone by using a scarce resource for one purpose instead of its next best alternative use). The economic analysis includes the valuation of externalities wherever practical.

467. In this economic analysis, costs and benefits are identified which arise from the future with the project scenario compared to the future without the project scenario. The difference is the net incremental benefit arising from the project investment. Accordingly, the most basic economic criterion for accepting a project compares the without the project and with the project costs and benefits to ensure that the net present value of benefits is positive. All incremental benefits and costs are defined as the difference between what would occur in the without project and with project scenarios once the project has been implemented.

468. The economic decision-making criteria employed are:

- Net Present Value (NPV);
- Economic Internal Rate of Return (EIRR); and
- Benefit Cost Ratio.

469. For non-revenue projects, such as the creation of the CAN, information dissemination, social mobilization and institutional capacity building, FIRR calculations are not required. However, a general financial analysis is carried out to identify the cash streams that do exist and to identify the amount that the HMGN will have to subsidize this project.

470. Unit costs have been captured using the COSTAB software and then analyzed in EXCEL.

1. Capital Costs[72]

471. The total project cost is estimated at $27.6 million, of which $5.1 million (18.5%) represents the foreign exchange cost and $22.5 million equivalent (81.5%) represents the local currency cost, including taxes and duties of $2.7 million (see Table 4.1).

Table 4.1: Financing Plan

(US$)

	Foreign	Local	Total	Percent
The Government	-	5,079,902	5,079,902	18.4
Asian Development Bank	5,122,168	14,955,533	20,077,701	72.6
Local Government	-	-	-	-
Beneficaries	-	2,488,609	2,488,609	9.0
Total	5,122,168	22,524,045	27,646,213	100.0

2. Major Components

472. The major components are:

- The creation of a Network to support the CAA.
- The creation of an Alliance.
- Provision of information to members of the CAA.
- Provision of a credit guarantee scheme.
- A social mobilization program.
- Institutional capacity development.

473. The total cost of the project by component and financier is summarized in Table 4.2.

Table 4.2: Components by Financiers

(US$)

	The Government		Bank		Beneficaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%
1. Commercial Agricultural Network	69,176.5	29.2	167,505.7	70.8	-	-	236,682.3	0.9
2. Commercial Agricultural Alliance	2,115,147.2	11.1	14,498,539.2	76.2	2,421,772.9	12.7	19,035,459.2	68.9
3. Market Information	301,619.4	34.4	575,405.6	65.6	-	-	877,025.1	3.2
4. Credit	226,249.9	27.5	595,486.5	72.5	-	-	821,736.4	3.0
5. Social Mobilization	1,594,504.1	48.0	1,661,340.4	50.0	66,836.2	2.0	3,322,680.7	12.0
6. Institutional Capacity Building	558,081.4	35.1	1,031,278.8	64.9	-	-	1,589,360.2	5.7
7. Project Management	215,124.0	19.6	880,991.2	80.4	-	-	1,096,115.1	4.0
Total PROJECT COSTS	5,079,902.5	18.8	19,410,547.4	71.9	2,488,609.1	9.2	26,979,059.1	97.6
Interest During Implementation	-	-	667,153.8	100.0	-	-	667,153.8	2.4
Total Disbursement	5,079,902.5	18.4	20,077,701.2	72.6	2,488,609.1	9.0	27,646,212.8	100.0

474. This financing table shows a total amount of $27.6 million with the largest investment in the CAA, followed by the social mobilization program.

475. In terms of economic benefits the project taken overall has an EIRR of 37.1% (Table 4.3). This is calculated on the aggregate sum of all costs of the various components, with the quantifiable benefits from the CAA subprojects, the credit guarantee scheme, the social mobilization program and the capacity building program.

[72] See Appendix 8.

476. The project relies heavily on the economic benefits that accrue to these four components. The benefits arising from the other components were not quantified; however their costs were taken in the calculation of the overall EIRR.

477. A significant factor in all of this is the selection of the subprojects to be financed out of the CAA fund. The EIRR of the subprojects ranges from 13.3% to 973% and the overall average EIRR for the CAA fund is 25.3%.

478. The component ranges of EIRR are as follows:

- The creation of a Network to support the CAA [EIRR Nil]
- The creation of an Alliance [EIRR 25.3%]
- Provision of information to members of the CAA [EIRR Nil]
- Provision a credit guarantee scheme [EIRR 376%]
- A social mobilization program [EIRR 51.3%]
- Institutional capacity development [EIRR 9.1%]
- Project management [EIRR Nil]

479. The overall EIRR for the project is 37.1% (Table 4.3).

Table 4.3: Costs and Benefits of the Main Components of the CADP

		Network Cost	Alliance	Information	Credit	Social Mobilization	Capacity Building	Project Management	Total Costs
Cost									
	Year								
	2004	60,720	12,530,061	219,180	567,000	531,918	486,126	360,600	14,755,605
	2005	48,220	18,595,690	152,880	67,000	524,543	370,026	193,400	19,951,759
	2006	28,220	17,196,863	159,380	27,000	523,147	373,457	149,400	18,457,467
	2007	28,220	21,096,270	93,480	27,000	523,147	52,800	109,800	21,930,716
	2008	28,220	24,598,663	93,480	27,000	523,147	52,800	109,800	25,433,109
	2009		31,434,426						31,434,426
	2010		35,767,253						35,767,253
	2011		33,303,253						33,303,253
	2012		33,247,253						33,247,253
	2013		33,247,253						33,247,253
	NPV	**146,689**	**133,866,905**	**543,466**	**611,360**	**1,894,771**	**1,058,359**	**714,565**	**138,836,114**

Benefit							**Total Benefit**
2004	0	202,752	0	0			202,752
2005	6,693,695	918,528	283,654	0			7,895,877
2006	11,490,821	2,657,280	567,309	240,648			14,956,058
2007	16,906,484	5,222,400	850,963	240,648			23,220,496
2008	33,807,836	8,294,400	1,134,617	240,648			43,477,501
2009	45,783,607	10,752,000	1,418,272	240,648			58,194,527
2010	57,759,379	11,274,240	1,418,272	240,648			70,692,539
2011	59,487,379	9,216,000	1,418,272	240,648			70,362,299
2012	61,215,379	6,144,000	1,418,272	240,648			69,018,299
2013	61,215,379	3,072,000	1,418,272	240,648			65,946,299
NPV	**158,576,320**	**0**	**28,304,137**	**4,715,541**	**953,008**	**0**	**192,549,005**

Net Benefit								**Net Total Benefit**
2004	-60,720	-12,530,061	-219,180	-364,248	-531,918	-486,126	-360,600	-14,552,853
2005	-48,220	-11,901,995	-152,880	851,528	-240,889	-370,026	-193,400	-12,055,882
2006	-28,220	-5,706,042	-159,380	2,630,280	44,162	-132,809	-149,400	-3,501,409
2007	-28,220	-4,189,785	-93,480	5,195,400	327,817	187,848	-109,800	1,289,780
2008	-28,220	9,209,173	-93,480	8,267,400	611,471	187,848	-109,800	18,044,392
2009	0	14,349,181	0	10,752,000	1,418,272	240,648	0	26,760,101
2010	0	21,992,126	0	11,274,240	1,418,272	240,648	0	34,925,286
2011	0	26,184,126	0	9,216,000	1,418,272	240,648	0	37,059,046
2012	0	27,968,126	0	6,144,000	1,418,272	240,648	0	35,771,046
2013	0	27,968,126	0	3,072,000	1,418,272	240,648	0	32,699,046
NPV	-146,689	24,709,415	-543,466	27,692,777	2,820,770	-105,351	-714,565	53,712,892
EIRR		**25.3%**		**376.4%**	**51.3%**	**9.1%**		**37.1%**

480. This EIRR is calculated on the basis that all project costs are brought to the equation; however benefits are only assessed for the four components: the CAA, the credit guarantee scheme, the social mobilization program and the capacity building program. In terms of the CAA, the EIRR takes account of the fact that some of the investments in subprojects have a high degree of risk attached to them and therefore they may not realize the full potential of benefits.

C. POVERTY REDUCTION IMPACTS

481. Impact on poverty in the project is expected to derive through three channels: (i) employment generation, (ii) social mobilization and organization of smallholder farmers into larger groups, and (iii) additional income opportunities in a more dynamic rural economy.

482. Poverty-reduction through employment generation is achieved through increase and diversification of employment opportunities both on the farm and in the post-production system. Increased employment opportunities for the poor is derived from increased demand for agricultural products, particularly HVC in labor-intensive activities such as vegetable production and tea gardens. Increased employment opportunities in the post-production system are related to activities such as additional movement of commodities, sorting, grading, packaging, processing and storing.

483. Poverty-reduction via social mobilization is achieved through organization of small-size and dispersed farmer groups into larger and closely-linked farmer organizations such as cooperatives, producer associations and federations. The project will adopt social mobilization approaches that motivate the poor to overcome the barriers to organization into larger units able to better cope with risk and improve access to technology, markets, credit and information.

484. One of the main features of the SMAC component is the linking of farmer groups having a large composition of women and poor with the CAN, including members of the CAA. The linkage will provide opportunities for both the farmer groups and the CAA members. The farmer groups will be able to see what other farmers have been able to achieve through improved organization and therefore will be motivated to undertake similar type of arrangements, as deemed suitable to their circumstances. The CAA members might see opportunities for further involving more farmers into their operations, either in production, marketing or processing.

485. The third channel is through linkages within the rural economy. As agriculture and post-production activities are the main sector of the rural economy, it is expected that a more commercialized economy will increase income and growth of agriculture and the rural economy. Agricultural commercialization will then be an engine of growth of the rural economy, and generate demand for a variety of services and goods. Agricultural growth multipliers are estimated in the order of 3 to 4 in other economies with similar structure as Nepal. This implies that for each percentage point of growth in the agricultural sector (both production and post-production), 3-4 additional points of growth will be expected in the non-agricultural sector of the rural economy. This will be realized through demand linkages for services (e.g. transportation, accounting, restaurants, tourism, advertising) and commodities (e.g. equipment, household goods, construction, spare parts).

1. Distribution and Poverty Impact

486. The poverty-reducing impact of a project is traced by evaluating the expected distribution of net economic benefits to different groups. With financial prices determining who controls net economic benefits, the first step is to estimate the present value of financial benefits by participating group. Next, the difference between benefits by group and contribution

to capital costs by group is computed to give the distribution of net economic benefits by group. Finally, the net economic benefits accrue to the poor according to the proportion of each group that is poor. A poverty impact ratio expressing the proportion of net economic benefits accruing to the poor can be calculated by comparing net economic benefits to the poor with net economic benefits to the project as a whole.

487. Each of the seven components of the project has a combination of costs and benefits. For this analysis the non-quantifiable benefits are ignored, this in effect means that some of the components contribute to poverty reduction with overall benefits whilst others are a cost not directly recovered by the intervention.

488. The major components and their assumed impacts are:

- The creation of a Network to support the CAA [COST]
- The creation of an Alliance [COST & BENEFITS]
- Provision of information to members of the CAA [COST]
- Provision of a credit guarantee scheme [COST & BENEFITS]
- A social mobilization program [COST & BENEFITS]
- Institutional capacity development [COST & BENEFITS]
- Project management [COST]

2. Distribution of Project Costs and Benefits

489. The costs and benefits of the project are shared among different groups. There are several ways in which the distribution of project effects can be analyzed. This project has adopted the approach whereby project effects are allocated among different project participants, commercial groups (meaning farmer groups, traders and processors), workers or individual farmers (classified as labor in our model), and the government representing the rest of the economy. It is usual to expect commercial groups, workers or individual farmers, and the government all to share in the net project effects. Frequently, consumers also share in project effects and therefore are included in the analysis. Project effects can be allocated between the public and the private sectors. This is particularly important for this project where public sector expenditures are made in support of private sector operations, however the intention is to assume that benefits accruing to commercial groups reflect those effects allocated to the private sector.

3. The Overall Project Poverty Impact Assessment

490. Each of the component distribution of benefits is aggregated in Table 4.4 below. The resultant Poverty Impact Ratio for the Project is 53%.

Table 4.4: Poverty Impact Ratio for the Total Project

		Consumers	Government Economy	Commercial Group	Labor	
SUMMARY OF DISTRIBUTION						
Project Component - Network		0	-193,600	0	0	
Project Component - Alliance		15,857,632	3,025,634	76,997,750	47,572,896	
Project Component - Information		0	-718,400	0	0	
Project Component - Social Mobilization		0	-2,625,900	1,584,422	3,696,984	
Project Component - Capacity Building		0	-1,335,210	597,727	597,727	
Project Component - Project Management		0	-923,000	0	0	
	Gains & Losses	15,857,632	-2,770,476	79,179,898	51,867,607	144,134,661
	Benefits for the Poor	1,868,805	-26,404	37,246,787	37,074,251	76,163,438
	Poverty Impact Ratio	**53%**				

D. SOCIAL AND GENDER DEVELOPMENT IMPACTS[73]

491. The main theme of the project design for the CADP is to ensure the movement of commercial ventures in agriculture from a low level of commercialization to a higher level of commercialization. However, the conceptualization of the project recognizes that the majority of farmers are operating at subsistence level and many are at a very low level of commercialization. Moreover, the analysis of the core problem for commercialization identified vulnerability of rural households as one of the main causes for the absence of a network of functional value chains.

492. Most of the poor and vulnerable groups have few assets (e.g. land, finance, livestock) and little education. As a consequence, their main source of income is low-skill wage labor. However, employment opportunities are limited in rural areas, and the poor and vulnerable often resort to different coping mechanisms (including migration and indebtedness). Their capacity to organize and interact with other stakeholders in the value chains is limited. Their low education and social status usually prevents them from gaining access to markets (for labor), and to credit and programs that might improve their condition. The limited access to social services (health, education, water) aggravates the plight often arising from their exposure to different types of risk (e.g. disease, natural calamities and accidents).

493. Even though women represent a large share of the labor force in agriculture, there is limited active participation of women in commercial agriculture. Women entrepreneurship in commercial agriculture is quite limited. The involvement of women in trading is quite rare in the EDR. In the interviews of the TA Team, only few women were detected to play a leadership role in activities related to trade, marketing, processing and post-production activities. When involved in these activities, usually women are employed as wage labor (in processing plants, in grading produce and storage operations), rather than as managers or entrepreneurs. This general comment has to be qualified in view of differences among castes and ethnic groups: Burmese Tibetan groups exhibit a greater presence of women involved in commercial agriculture "business" than caste groups.

494. Before considering the effects of the proposed CADP on the poor and women, it might be useful to summarize the main activities of the project in terms of the socio-economic groups that were identified by the Social Survey (see Appendix 10). The social assessment classified households as belonging to one of four wellbeing categories, ranging from well-off to vulnerable. The classification of a household into these categories was based on a number of indicators developed by the households during focus group discussions. Overall, almost 15% of households were classified as well-off, about 30% fell into both the medium and poor categories and over 25% as being vulnerable. Moreover, the social survey conducted independent PRA work with women group in each community[74]. Table 4.5 summarizes the main target group of the CADP (the four socio-economic groups and women) and the main activities which are described more in detail in chapter 3 and Appendix 5. In each group, the main beneficiaries will be farmers, traders (of agricultural inputs and outputs), processors and wage laborers. In the case of beneficiaries with access to land, the CADP will promote income generation activities related to production activities integrated with value chains. In the case of beneficiaries without access to land, the CADP will promote employment generation activities related to production, trade and processing integrated with value chains.

[73] See Appendix 10 (Social and Gender Analysis), and Appendix 12 (Gender Action Plan).
[74] Even though women groups should also be classified by wellbeing categories, this was not done during field work.

Table 4.5: Activities of the CADP by Target Group

Socio-economic Group	Distribution (percent)	Target Groups	Activities
Well-off	14.9	Farmers, traders and processors involved in commercial agriculture	▪ As part of producer and trade associations (farmer groups, cooperatives, chamber of commerce, etc.) involvement in the CAN activities (workshops, bulletins, database) ▪ As part of producer and trade associations (farmer groups, cooperatives, chamber of commerce, etc.) participating in the CAA and access to investment opportunities ▪ Access to AMIS (radio programs, bulletins, analysis) ▪ As part of producer and trade associations (farmer groups, cooperatives, chamber of commerce, etc.) access to agricultural credit insurance ▪ Participation in social mobilization activities (awareness programs, training and study tours) ▪ Participation in action research programs (related to post-harvest, farm management, value chain management)
Medium	29.7	Farmers, traders and processors involved in commercial agriculture	▪ As part of producer and trade associations (farmer groups, cooperatives, chamber of commerce, etc.) involvement in the CAN activities (workshops, bulletins, database) ▪ As part of producer and trade associations (farmer groups, cooperatives, chamber of commerce, etc.) participating in the CAA and access to investment opportunities ▪ Access to AMIS (radio programs, bulletins, analysis) ▪ As part of producer and trade associations (farmer groups, cooperatives, chamber of commerce, etc.) access to agricultural credit insurance ▪ Participation in social mobilization activities (awareness programs, training and study tours) ▪ Participation in action research programs (related to post-harvest, farm management, value chain management)
Poor	30.3	Farmers, wage laborers, traders and processors involved in commercial agriculture	▪ As part of producer associations (farmer groups, cooperatives, etc.) involvement in the CAN activities (workshops, bulletins, database) ▪ As part of producer associations (farmer groups, cooperatives, etc.) participating in the CAA and access to investment opportunities ▪ Access to AMIS (radio programs, bulletins, analysis) ▪ As part of producer associations (farmer groups, cooperatives, etc.) access to agricultural credit insurance ▪ Participation in social mobilization activities (awareness programs, training and study tours). 50 percent of the participants of mobilized group will be poor (including some of the vulnerable) ▪ Participation in action research programs (related to post-harvest, farm management, value chain management)

Socio-economic Group	Distribution (percent)	Target Groups	Activities
Vulnerable	25.1	Wage laborers and farmers involved in commercial agriculture	▪ As part of producer associations (farmer groups, cooperatives, etc.) involvement in the CAN activities (workshops, bulletins, database) ▪ As part of producer associations (farmer groups, cooperatives, etc.) participating in the CAA and access to investment opportunities ▪ Access to AMIS Service (especially radio programs for the poor, bulletins, analysis) ▪ As part of producer associations (farmer groups, cooperatives, etc.) access to agricultural credit insurance ▪ Participation in social mobilization activities (awareness programs, training and study tours). 50 percent of the participants of mobilized group will be poor (including some of the vulnerable) ▪ Participation in action research programs (related to post-harvest, farm management, value chain management)
Women	48.5	Farmers, wage laborers, traders and processors involved in commercial agriculture	▪ As part of producer associations (farmer groups, cooperatives, etc.) involvement in the CAN activities (workshops, bulletins, women entrepreneurs news, database) ▪ As part of producer associations (farmer groups, cooperatives, etc.) participating in the CAA and access to investment opportunities, including special measures for women (Board director, women investment quota) ▪ Access to AMIS (especially radio programs for women, bulletins) ▪ As part of producer associations (farmer groups, cooperatives, etc.) access to agricultural credit insurance ▪ Participation in social mobilization activities (awareness programs, training and study tours). 50 percent of the participants of mobilized group will be women ▪ Participation in action research programs (related to post-harvest, farm management, value chain management, female entrepreneurship)

495. In order to analyze how the project is expected to affect poverty and gender unbalance, it is useful to consider (a) how the project will be able to expand opportunities for the poor and women to engage in commercial activities, (b) reduce vulnerability of disadvantaged groups arising from commercial agriculture, and (c) enhance capabilities of the poor, disadvantaged groups and women to engage directly or benefit indirectly in commercial agriculture.

496. The following paragraphs will summarize the analysis along the three dimensions of opportunity, vulnerability and capability; Table 4.6 shows a more detailed analysis by component[75]. Appendix 12 provides details about the Gender Action Plan.

Table 4.6: Effects of the CADP on the Poor and on Women

CADP Component	Aspect	Effects on the Poor	Effects on Women
Commercial Agriculture Network	Opportunities	Groups of poor farmers engaged into commercial agriculture will have an opportunity to link with other organizations. To this effect, NGOs, DDCs and Line Agencies which are part of the CAN will be able to introduce these groups to the commercial stakeholders in the CAA and other service providers to explore possibility of meeting some of their concerns.	The CAN will publish a quarterly review, called "Female Entrepreneurship News" to facilitate the sharing of information about women involved in commercial agriculture. Business opportunities for women are expected to result from this initiative.
	Vulnerability	Organizations working with the poor (e.g. NGOs) who are members of the CAN will have access to considerable amount of information (database, bulletin, website, workshops) that is instrumental to reduce vulnerability of the poor (e.g. employment opportunities, credit programs, technology innovations, market opportunities)	The dissemination of information about women in commercial agriculture and the semi-annual workshop will provide opportunities for improving confidence of women in commercial agriculture, increase access to credit and information, thus reducing vulnerability.
	Capabilities	NGOs and Line Agencies working with the poor will acquire networking skills that will make them more effective to facilitate the engagement of the poor in commercial agriculture.	Networking, awareness and dissemination of information on women role in commercial agriculture will contribute to the development of capabilities of women.
Commercial Agriculture Alliance	Opportunities	Investment made by CAA members will affect the poor through two channels: on-farm production and off-farm post-production activities. On-farm production will imply both income and employment opportunities for poor stakeholders engaged in commercial agriculture. Engagement in commercial agriculture on-farm will be through own-land cultivation, sharecropping or wage labor. Most of the opportunities in off-farm will be through employment in the post-production chain (transportation, storage, processing, marketing, grading, services).	The CAA Board of Directors will have at least one female director selected by the CAA producer members. The presence of at least one woman in the CAA Board will facilitate the inclusion and approval of women concerns in the investment proposals submitted by the CAA members. Moreover, a minimum amount of investment proposals addressing commercial agriculture concerns of women will have to be approved by the Board. The Secretariat will also include women staff and a Social and Gender Specialist. Monitoring and evaluation conducted by the CAA itself will consider gender variables.
	Vulnerability	Unless smallholder farmers and small business organize themselves into value chains or larger organizations, there is the danger that the development of commercial agriculture will leave behind some of the smallholders and small businesses.	
	Capabilities	Through expanded opportunities of the poor in more advanced commercial agriculture and engagement in activities such as contract farming, capabilities of commercial stakeholders, including the poor will be enhanced.	Women groups in the CAA will have the opportunity to increase capability directly by submitting proposal for enhancing capacity and other types of investment (technology, markets, and information) and indirectly by being engaged in the CAA mechanism for strengthening value chains.

[75] See Appendix 10 (Social and Gender Analysis).

CADP Component	Aspect	Effects on the Poor	Effects on Women
Agricultural Market Information Service	Opportunities	The information service will reach all rural households, including the poor, through media such as radio and bulletins available to VDCs. Radio programs will provide interviews with farmers, workers and business, including poor farmers, sharecroppers, and workers engaged in commercial agriculture.	The information service will reach all rural households, including women, through media such as radio and bulletins available to VDCs. Radio programs will provide interviews with farmers, workers and business, including women farmers, women sharecroppers, and businesswomen engaged in commercial agriculture.
	Vulnerability	Improved information services will enhance the opportunities for new types of business. Rather than relying on traditional commodities, quality, and technologies, alternative methods will be adopted. That will provide different responses to benefit households with greater income and employment opportunities, but also to cope with uncertainty and risk arising from natural calamities, markets, and seasonal factors.	
	Capabilities	The objective of the component is not only to provide data, but also information and knowledge through the analysis of raw data. The dissemination of this information will then increase the ability of stakeholders, including the poor ones, to interpret and analyze data themselves.	The objective of the component is not only to provide data, but also information and knowledge through the analysis of raw data. The dissemination of this information will then increase the ability of stakeholders, including women, to interpret and analyze data themselves.
Credit Guarantee Scheme	Opportunities	If the poor are organized into groups engaged in viable commercial activities, the expansion of credit made possible by the reduction of risk, will benefit the poor by increasing their access to credit. Indirectly, the poor will benefit through additional employment and income generated in expanded commercial agriculture in the region.	Women have repeatedly showed that they are more reliable and often viable borrowers than men. Increase access to credit for commercial agriculture is expected to benefit women to a greater extent than men.
	Vulnerability	Improved access to credit both for short-term (one year) and long-term commercial activities will improve the coping ability of stakeholders engaged in commercial agriculture, including the poor.	
	Capabilities		By multiplying the opportunities for women to get credit, they will become more familiar with business practices and the practice of commercial agriculture, thus resulting in enhanced capabilities.
Social Mobilization	Opportunities	The component's main purpose is to facilitate the formation of larger farmer organizations so that they might reach a level of commercialization similar to that of the CAA members. The farmer groups targeted in this component will have at least 50% composition of poor and have already engaged in commercial agriculture, albeit at a low level. The component will provide awareness programs, training, and study tours to increase the opportunities of these groups to move further into their current effort at commercialization.	The component will facilitate the formation of larger farmer groups and associations including women engaged in commercial agriculture. The farmer groups targeted in this component will have at least 50% composition of women. The component will provide awareness programs, training, and study tours to increase the opportunities of these groups to move further into their current effort at commercialization.
	Vulnerability	One key effect of social mobilization is the understanding that individual farmers and households engaged in commercial agriculture are more vulnerable than larger groups and less likely to access technology, information and credit needed to move further along the path of commercial agriculture.	
	Capabilities	The main output of this component is to enhance the capability of stakeholders to form and function as larger commercial groups.	Women will enhance their capabilities to participate and hold leadership positions in farmer groups and association, participate in study tours and training programs.

CADP Component	Aspect	Effects on the Poor	Effects on Women
Institutional Capacity Development	Opportunities	The innovative part of the component on institutional capacity is the adoption of Action Research/Learning Activities linked to training of staff from NGOs, Line Agencies and DDCs. The Action Learning Activities will be conducted with farmer groups and enterprises, and also with targeted groups of poor households who are already engaged in commercial agriculture, albeit at a very low level.	There will be capacity development activities involving women and also about women entrepreneurship. Moreover, all programs will be accompanied by Action Research/ Learning Activities with farmer groups and enterprises involving women. That will enhance opportunities of women both as trainers, researchers, social mobilizers and active beneficiaries.
	Vulnerability		
	Capabilities	The objective of the component is to develop capacity of NGOs, Line Agencies and DDCs to better serve the needs of commercial agriculture. The targeted activities within this component will also ensure that social mobilization activities be more effective in moving target groups including the poor towards higher level of commercialization. This will be achieved by developing skills and capacity to deal with some of the key issues in commercialization, such as those related to post-harvest operations, value chain management, marketing, integrated nutrient and water management.	A special activity under this component will be that devoted to promote woman entrepreneurship in commercial agriculture. Capabilities of women will also be devoted during the implementation of the Action Research/Learning Activities of all training programs in the component.

1. Improved Opportunity

497. The design of the CADP envisages increased opportunities for income growth and employment generation for the poor, women and disadvantaged groups. The increased opportunities will be the effect of investment projects conducted by the CAA to facilitate the access to technology, markets, infrastructure and information. The investments of the CAA are expected to expand production and marketing of a broad range of agricultural products such as labor-intensive vegetables, tea and sugar cane, thus resulting in the promotion of organizations that involve smallholder farmers production, and employment of labor both on-farm (production activities) and off-farm (post-production activities). The expansion of credit to commercial agriculture agro-enterprises (including farmer groups, cooperatives, farmer associations and agribusiness) is also expected to expand production and employment opportunities for the poor and women. The expanded opportunities are part of the design of the AMIS (reaching through radio most of the rural population in the EDR) and the CAN. The focus of the social mobilization on targeted groups (women, poor and disadvantaged groups) will also expand opportunities for these groups.

2. Vulnerability Reduction

498. The CADP aims at moving the commercialization from the current low level to a higher level. At the higher level of commercialization, stakeholders are better organized as value chains and therefore better able to cope with challenges and risk arising from natural events and markets. The social mobilization activities highlight the importance for the smallholder farmers and the targeted groups of poor, women and disadvantaged people to form larger organizations able to connect to markets, access technology and make larger investments. Reduction of risk through risk sharing between banks and borrowers is also a way to expand the availability of credit for commercial agriculture, including those groups who have not sufficient collateral. The promotion of higher level of commercialization implies the greater use of contracts between farmer groups and processors, thus reducing the vagaries of markets and weather. The growth of agribusiness and agro-industry will also stimulate the growth of employment, both at the farm and off-farm levels, stabilizing the flow of seasonal labor out of the rural areas.

3. Capability Development

499. The CADP design recognizes that there is a considerable amount of work to do in order to increase capacity to move commercial agriculture to a higher level. To a large extent, the CADP could be regarded as a project that is building capabilities for stakeholders to form value chains and establish mutually profitable linkages among themselves. Capability development within CADP takes place in all components, but primarily at the level of the institutional capacity development, at the level of the CAA and at the level of social mobilization. Awareness programs, women leadership programs and organizational skills to benefit targeted groups are part of the various modules proposed both in the social mobilization and in the institutional capacity development components.

500. The previous analysis of effects of various CADP components on poverty and gender suggests that the CADP might in fact play an important role in reducing poverty and redressing gender unbalance. The two objectives will be achieved through an acceleration of agricultural broad-based growth in the region.

501. Broad-based agricultural growth in the region is a necessity. Given the predominance of small-scale farms in the region (according to Agricultural Sample Census 1994/95, 82% of households in the region own less than 2 ha of land and 98% less than 5 ha), it is quite difficult to envisage growth of the sector without a broad-based involvement and sharing by smallholders. The commercial producers in the CAA itself will be primarily smallholder farmers, as confirmed by the examples of the various commercial organizations contacted by the CADP. Appendix 3 shows several success cases of commercial agriculture that involve smallholders, including poor farmers. As long as the poor are well organized into larger commercial organizations their chances of getting out of poverty are higher and their chances of precipitating into abject poverty are lower.

502. The design of the CADP is aware that many poor farmers and rural households will be able to benefit directly from growth of commercial agriculture primarily as wage earners, either as laborers on farms or as laborers in the post-production system. In some cases, poor households might be able to get out of poverty through sharecropping or through the engaging in micro enterprises and provision of services related to agribusiness.

503. Most of the investments considered in the CAA design are likely to be labor-intensive. In most cases, the capital is relatively small and oriented to improve infrastructure and increase access to knowledge, markets, information and improved skills.

504. The design of the CADP envisages a dynamics of the commercialization process that sees the CAA as one step in a continuum of degrees of commercialization ranging from semi-subsistence to sophisticated commercialization. By providing a mechanism to move the groups already commercialized to a higher level, the project facilitates the dynamics of social change necessary to commercialization. The composition of the CAA will continuously change, enlarging itself over time with the addition of new recruits from less commercialized groups and reducing its membership every time some of the CAA members mature to a higher degree that will not require the facilitation of the CAA.

E. ENVIRONMENTAL IMPACTS[76]

505. Several components such as those related to institutional capacity development, the network and the social mobilization may be construed as environmental friendly components and opportunities for different stakeholders to discuss sustainability issues.

[76] See Appendix 11 (Environmental Analysis).

506. The setting up of the CAA will help farmers, traders and processors to secure effective, market oriented services or investments of their own choosing. The types of investments envisaged requiring closer environmental scrutiny are construction of agricultural roads, small irrigation schemes and research. As the stakeholders are given the choice of selecting the investments, there is a strong suggestion that the stakeholders will thoroughly consider the positive and negative impacts that may incur from such investments, and will be successful in minimizing the adverse environmental impacts to the extent possible.

507. Guidelines for the construction of agricultural roads and farmer-managed small irrigation schemes have been prepared by the concerned government line agencies but this would need revision to incorporate appropriate technology including indigenous knowledge. During the appraisal of project proposals submitted by CAA members to the Board, the environmental guidelines already established by the government should be applied.

508. Research to support farming practices which minimize soil erosion, especially in the hills, will have to be started and the farmers must be involved in such research. Sloping agriculture technology with leguminous hedge-grows will be adopted in the red soil area of the hills.

509. The CAA provides a mechanism for farmers, traders and producers to meet and discuss about problems and solutions. It is a forum where issues concerning the adverse impacts to the environment arising out of the actions of some of the stakeholders (especially in the processing chain) could be discussed and avoided or minimized with mutual understanding.

510. The CACGS component offers the opportunity of incorporating environmental considerations in the credit guaranteed by the Project. A guideline will have to be developed to outline what environmental measures have to be incorporated in the implementation of various types of projects (of the stakeholders). This type of practice will be helpful to avoid adverse impacts on environment and also help in the improvement of existing environmental conditions.

511. Capacity development through action research emphasizes the practical side of the intervention. Field research activities will give the farmers (stakeholders) more insight into the issues as compared to usual classroom involvement. Practical experiences concerning cultivation practices, harvesting and storage, preparation of farm yard manures, use of agro-chemicals, etc could be tested and improved; this should lead to the establishment of *Farmers Field Research Units* where the farmers will conduct investigations or research to meet their requirements.

512. Environmental analysis of the project indicates that some adverse effects might arise during implementation of the project. These impacts include intensified use of land and water resources, increased use of agro-chemicals (fertilizers and pesticides), and development of infrastructure (agricultural roads and rehabilitation of small irrigation systems). The precise projects that will be implemented by the CAA can be known ex-ante with precision, as they will be mostly driven by the demands of the CAA members. However, compliance with already established environmental guidelines of the Government will be considered during appraisal of the project and during monitoring and evaluation.

513. The intensive use of land resources generally does not cover a large area because of the small landholding pattern in the country, especially in the hills. At best on cumulative basis the intensive cultivation area may cover a large area but due to different types of crops being cultivated, the adverse impacts are at very low level or insignificant. In hilly areas, sloping agriculture land technology practices should be promoted, whereas in the plain rotation of crops, various tillage practices should be introduced.

514. The use of agro-chemicals is low in Nepal as compared to other South Asian countries and the adverse impacts from the use of the chemicals should not be of grave concern at present. The INPM and IPM programs should be promoted and best practices should be mainstreamed among concerned stakeholders to minimize the adverse effects.

515. As per the Environment Protection Regulation, HMGN (1997) construction of agricultural roads up to a length of 5 km needs an IEE and longer than that would need an EIA. Generally the agricultural roads constructed in project area are short length roads (under 5 km) linking up with already existing road network. During appraisal of the project proposals of members of the CAA (see Chapter 3), proper attention will be given to additional environmental impacts in the case of roads traversing steep sloping land, irrespective of the length of the proposed road. The construction of the agricultural road is the responsibility of Department of Local Infrastructure Development and Agriculture Roads (DOLIDAR) under the Ministry of Local Development. The DOLIDAR has developed guidelines for selection, construction and operation of the agricultural road which complies with the existing Environmental Protection Rules and Regulation.

516. The project will support the construction or rehabilitation of only small farmer-managed irrigation systems. This may require an IEE at the most (see Annex 2 of Appendix 11) and by following the existing construction related sectoral guidelines, all the adverse environmental effects could be avoided or minimized.

517. Based on the above findings, the project will have minimal negative impacts on the environment. All the negative impacts can be mitigated by properly following the existing regulation guidelines (see Annex 3 of Appendix 11) and field practices and the recommendation of the environmental management plan as presented in Appendix 11.

518. It is hereby stated that the project does not need a full-scale EIA. The IEE provided in Appendix 11 can be considered the Final Environmental Assessment Report.

F. ASSUMPTIONS AND RISKS

519. The major assumption of the project is that the ongoing social unrest will be resolved. In the absence of such stability, also lacking will be an environment that is conducive to strong investment in commercial agriculture.

520. It should be noted, however, that the central role given to the CAA in this project might prove to be an important element of stability. Differently from a project supply-pushed by the Government, the CADP is designed to be a project demand-driven by commercial stakeholders including farmers, traders and processors. As such it is likely that it will be perceived to be less of a target for political confrontations.

521. Even though it is difficult to assess the impact of the conflict in the EDR so far and to predict its future development, it seems that the region has proved to be more resilient in coping with the difficulties associated to the conflict than the other regions. For example, the EDR has witnessed less instances of violence and extraction of compulsory taxes. Perhaps, this is the result of relatively more developed agriculture and higher human development indicators in rural areas of the EDR than in other regions of Nepal. The involvement of smallholder farmers in commercial agriculture, both in the Terai and in some of the more prosperous Hills areas (for example Ilam and Dhankuta) has provided an outlet to move out of poverty. The proposed CADP is expected to further accelerate economic activities and the generation of employment for the poor in rural areas, thus addressing the problem of poverty, which is central to the dynamics of the conflict.

522. It has been pointed out that extortions are now widespread in rural areas. It is the experience of several members of the Consultants' Team (both local and international) that extortions were common even in previous periods, for example during the implementation of the Agricultural Sector Performance Review. When the team consulted with key respondents from farmers and business communities in the EDR, there was no evidence that the extortions have increased recently. Some entrepreneurs reach an "accommodation" whereby the level of the extortion is negotiated. All this has obviously a negative effect on economic activity, much as a tax or a rent-seeking activity by other private and public actors. What is different is the uncertainty about whether or not the situation is going to deteriorate.

523. Several stakeholders during the participatory workshops expressed concern about the current conflict and their negative impact on the economy in general and possibly on the conflict. However, it was the perception of all the stakeholders that the CADP could still make an important contribution to the livelihoods in the EDR and that the key stakeholders (farmers, traders and processors) if adequately empowered (with the institutional mechanisms provided by the project) could overcome the difficulties arising from the current conflict. This has to be qualified with the statement that the participatory workshops were conducted before the peace talks broke down.

524. To speculate further on the current conflict goes beyond the TOR and would not be appropriate for the Consultants' Team. It is however necessary to make an assessment over the next few months.

525. The major risk of the project is the capacity of institutions and individuals to adapt to the new approach of the project. By putting the commercial stakeholders in the driving seat of decisions regarding investments in commercial agriculture, the project proposes a demand-driven approach. The new approach requires an almost radical change in the way service providers operate. This is true for both public service providers and for NGOs. Rather than implementing programs decided by the government or donors, the service providers will have to respond to the demands of the key stakeholders who have the control of the resources needed to implement investment proposals. The new approach requires a change of attitude that will take time. In order to facilitate this change of attitude the project will support through institutional capacity development, a functioning network and technical assistance.

526. Despite the risks, the potential benefits of a well implemented project are so great that they justify the approach and the project design.

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