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**JAPAN INTERNATIONAL COOPERATION AGENCY**

**MINISTRY OF AGRICULTURE AND COOPERATIVES  
HIS MAJESTY'S GOVERNMENT OF NEPAL**

**STUDY ON THE AGRICULTURAL MARKETING  
DEVELOPMENT PROJECT  
IN  
THE KINGDOM OF NEPAL**

**FINAL REPORT**

**Annex - Data Book**

**MAY 2001**

**SYSTEM SCIENCE CONSULTANTS INC.  
SANYU CONSULTANTS INC.**

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**FINAL REPORT**

**Main Report**

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## **LIST OF FINAL REPORTS**

### 1. Main Report

### 2. Annex – Data Book

- Introduction
- Sector 1 Horticulture Production and Post Harvest
- Sector 2 Horticulture Marketing System
- Sector 3 Livestock Marketing System
- Sector 4 Fish Marketing System
- Sector 5 Sanitary Control of Livestock Products
- Sector 6 Laws, Institution and Organization
- Sector 7 Facility and Equipment Design & Costing
- Sector 8 Environment
- Participatory Approach Summary and Compiled Reports

## PREFACE

In response to the request from the Government of the Kingdom of Nepal, the Government of Japan decided to conduct a Study on the Agricultural Marketing Development Project in the Kingdom of Nepal and entrusted the study to the Japan International Cooperation Agency (JICA).

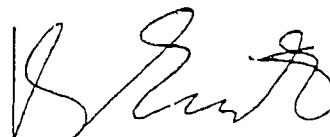
JICA organized a study team composed of System Science Consultants Inc. and Sanyu Consultants Inc. The team headed by Mr. Tateo Kusano of System Science Consultants Inc. visited Nepal four times between April 2000 and March 2001.

The team held discussions with the officials concerned of the Government of the Kingdom of Nepal, and conducted field surveys at the study area. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the projects and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Kingdom of Nepal for their close cooperation extended to the team.

May 2001

A handwritten signature in black ink, appearing to read 'K. Saito', written in a cursive style.

Kunihiko Saito

President

Japan International Cooperation Agency

May 2001

Mr. Kunihiko Saito  
President  
Japan International Cooperation Agency  
Tokyo, Japan

Letter of Transmittal

We are pleased to submit to you the report on the Study on the Agricultural Marketing Development Project in the Kingdom of Nepal.

The report contains the results of the work and investigation carried out by the Study Team from April 2000 and March 2001 with the advice and assistance from the relevant Japanese and Nepalese officials and counterpart.

The current conditions, problems and development needs of horticulture, livestock and fisheries marketing systems in the Kingdom of Nepal were investigated. Based on the findings of these investigations, the Study Team proposed an Action Plan for priority projects which should be implemented in the short term and a Master Plan for the whole country to be implemented in a phase-wise approach to achieve the functional integration of the national agricultural marketing system.

The recommended projects of the Action Plan, namely, Integrated Marketing System in the Central and Eastern Regions, were selected based on the high development potential in these regions. The project components comprise the establishment of the new wholesale markets, model collection centers, pilot projects, demonstration and training.

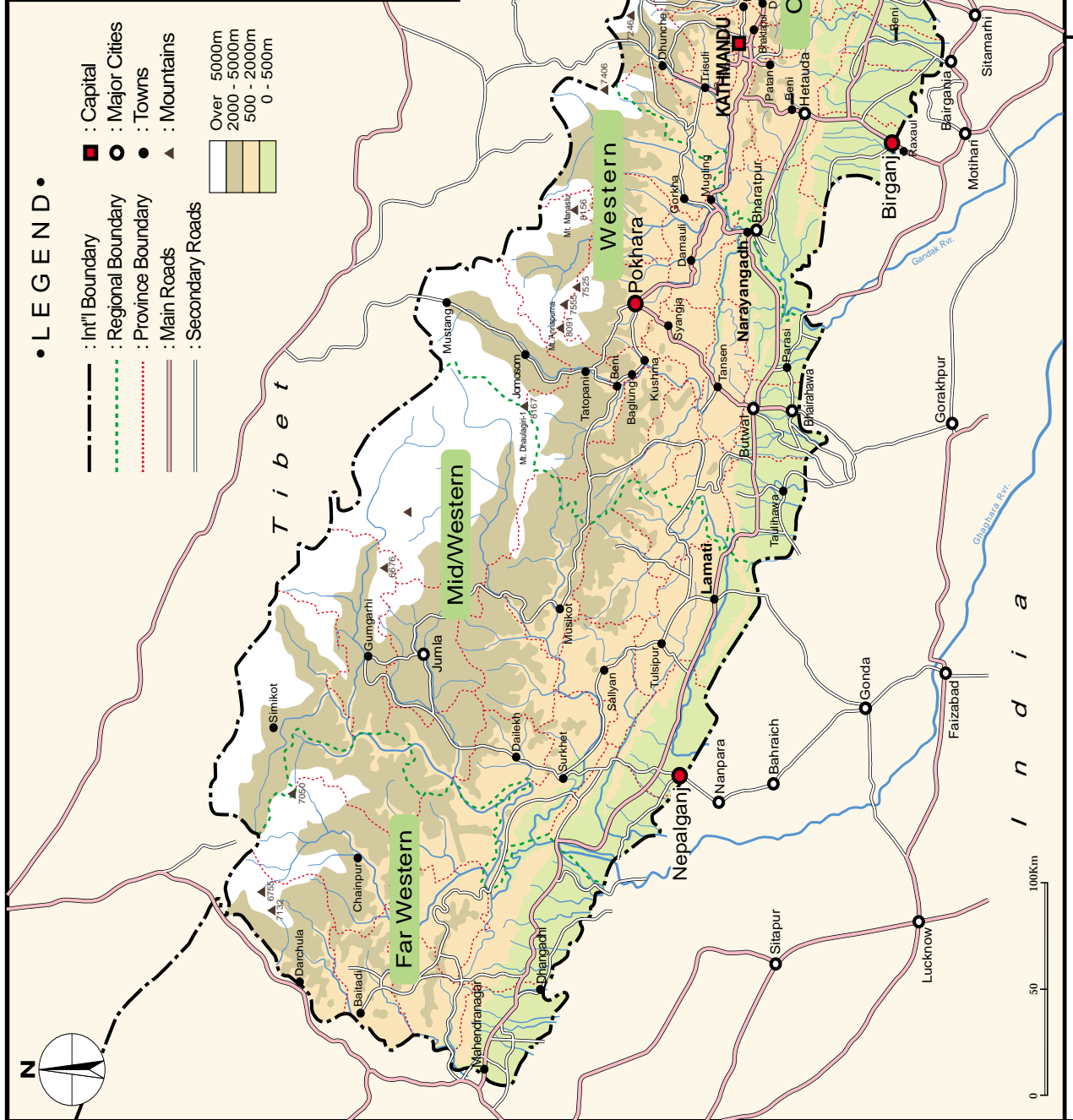
The project is expected to contribute to the improvement of the horticulture produce collection, distribution and marketing in these regions, and also be a nationwide model, with beneficiaries being the producers, women groups, wholesalers, small-scale traders, transporters, and ordinary consumers within and outside these regions.

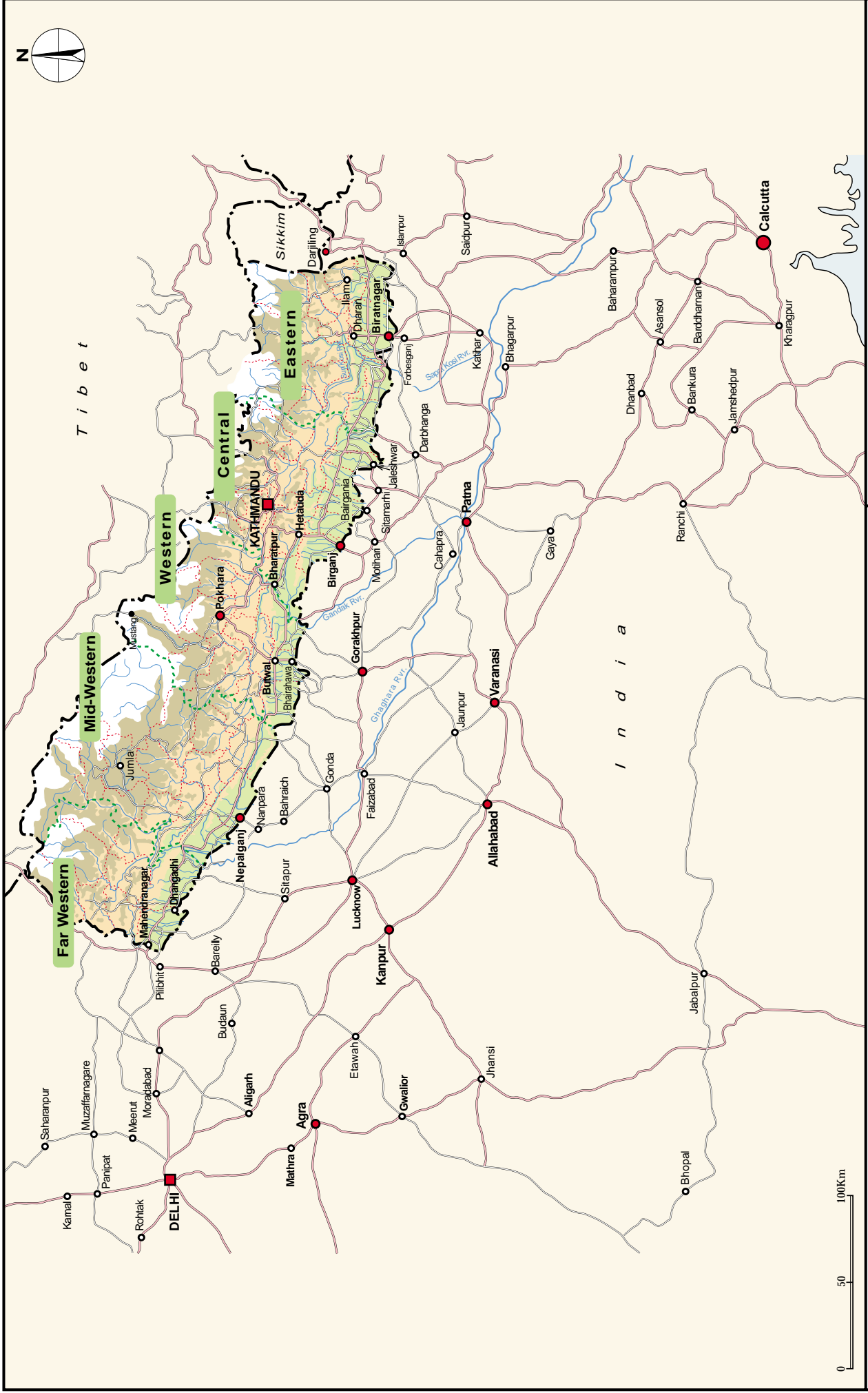
We wish to express our deep appreciation and gratitude to the personnel concerned of your Agency, Kathmandu office, Embassy of Japan in Kathmandu, Ministry of Foreign Affairs, and the Ministry of Agriculture, Forestry and Fisheries. We also wish to express our sincere gratitude to the concerned officials of the Ministry of Agriculture and Cooperatives, Marketing Development Division, Department of Agriculture, Department of Livestock Services, and Department of Fisheries for their close cooperation and assistance extended to the team during the study.

Very truly yours,



Tateo Kusano  
Team Leader for the Feasibility Study for the  
Improvement of Agricultural Marketing  
System in Santa Cruz





STUDY ON THE AGRICULTURAL MARKETING DEVELOPMENT PROJECT  
 IN THE KINGDOM OF NEPAL  
 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Map of Nepal and Surrounding Areas of India



# Post Harvest Handling



Dried onion in shallow round type basket at Kalimati Market



Radish, cabbage and cauliflower displayed in round basket at Narayangadh



Potato in jude sacks at Kalimati Market



Imported wooden cases stored in cold strage



Packed fruits in plastic crates at Kalimati Market



Imported grape and mango from India



Transportation by rickshaw at Narayangadh



Stacked plastic crates at Kalimati Market



# Horticulture Marketing



Production pocket (Kavre)



Collection center (Yampa Phant, Tanafu)



Transportation of produce by bus



Collection center (Lalbandi)



Wholesale market (Narayangadh, Chitwan)



Retailer at wholesale market (Narayangadh, Chitwan)



Unpaved ground of wholesale market (Narayangadh)



Wholesale market (Kalimati, Kathmandu)

## LIVESTOCK MARKETING



Goat market in Kathmandu



Pig market at road side



Goat market at road side



Slaughtering site beside Bishnumati River in Kathmandu



Stall for retailing vegetables and meats in Nepalganj



Dressing buffalo at local market



Selling pork at local market



Dressed buffalo meat at local market



# FISH MARKETING



Private aquaculture pond (Biratnagar)



Fish gathering at the rice field (Nepalganj)



Transportation of fish by rickshaw (Birganj)



Fish packing (Birganj)



Retailing of fresh fish at local market (Biratnagar)



Retailing of fresh fish at local market (Dhankuta)



Retailing of fresh fish at regular market (Biratnagar)



Selling of live fish (Bhairahawa)

# Field Interview Survey & Participatory Approach



Field interview



Field interview



Workshop in Biratnagar



Workshop in Kathmandu



Group discussion in Biratnagar Workshop



Group discussion in KTM Workshop



PRA

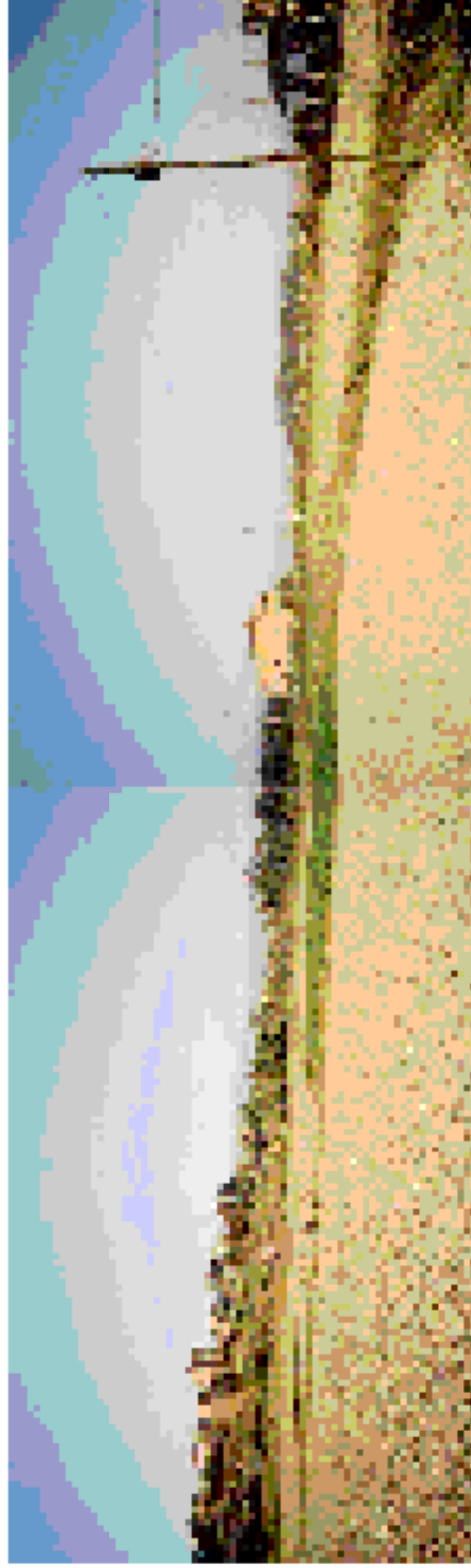


Study tour (India)

## Proposed Sites for New Wholesale Market in Kathmandu



Proposed Site - A



Drainage Site - B





-Legend-

a : Market Hall-A (Vegetables)

b : Market Hall-B (Fruits)

c : Administration Office/ Training Center

d : Pilot Project Building

## Perspective of the New Wholesale Market in Kathmandu

**Proposed Sites for New Wholesale Market in Birainagar**



Proposed Site - 1



Proposed Site - 1



Proposed Site - 2



## **SUMMARY**

### **1. OVERVIEW**

HMGN's Ninth Plan has adopted the APP as its strategy for agricultural development based on pocket – package approach with the primary objective of economic growth through agricultural commercialization. The strategy emphasizes the need to develop high value agricultural produce that offers the opportunity for high income per unit area and development of markets and a market-oriented approach, together with support for the private sector through policies, institutions and investments.

There are many projects regarding improvement of horticulture marketing assisted by international donors, some of which relate to the provision of physical facility, while others relate to the support for operation and management of the market. Most projects that did not include software component or institutional support have not been well operated or failed.

### **2. WEAKNESS AND DEVELOPMENT ISSUES OF THE AGRICULTURAL MARKETING SYSTEM IN NEPAL**

#### **2.1 Horticulture production and post-harvest**

##### **2.1.1 Production**

- (1) Gap with the consumers preference for the products
- (2) Lack of production input and poor linkages among relevant organization
- (3) Poor consciousness of farmers on the planned cropping pattern

##### **2.1.2 Collection and distribution system at the production area**

- (1) Poor access road from production area to market
- (2) Lack of bulky transport means
- (3) Lack of the established farmers organization shipping from the production area

##### **2.1.3 Post harvest technology**

- (1) Shortage of proper post harvest handling facilities
- (2) Less consciousness for post-harvest handling
- (3) Lack of simple and small scale processing technology

##### **2.1.4 Lack of institutional support**

- (1) Shortage of front line extension services
- (2) Limitation of government support to farmers on marketing credit

- (3) Lack of export promotion activities
- (4) Inaccurate data base

## **2.2 Horticulture Marketing System**

- (1) Regional gap of per capita consumption
- (2) Limited volume of export but higher potentiality to increase the export of off-season products
- (3) Less competitiveness of peak-season products compared with imports from India
- (4) Limited coverage area of commercial zone from the production area to the consumption area
- (5) Regional gap of functional level of farmers organization
- (6) Small regional differences of agricultural products price
- (7) High seasonal fluctuation of agricultural products price
- (8) Limited use of the formal marketing information system by farmers
- (9) Inaccurate data base
- (10) Market infrastructure: poor drainage and sewage system/water supply network system, narrow unloading place/ car parking and bicycle parking areas, unsuitable platform for quality control, inaccurate weighing instrument and system, poor electric lighting facility, no flush toilet, muddy conditions of market area caused by heavy rain fall
- (11) Market financing: inadequate fee system and financial management

## **2.3 Livestock Marketing System**

- (1) Limitation of livestock production
- (2) Social constraints on meat consumption
- (3) Poor accessibility to the wholesale markets
- (4) Lack of marketing facilities (Wholesale Markets and Collection Centers)
- (5) Ineffective quarantine inspection system on livestock and meats
- (6) Lack of market information system
- (7) Less development of livestock farmer's organization

## **2.4 Sanitary Control of Livestock Products**

- (1) Lack of consumer's attention to food sanitation
- (2) Lack of knowledge for food sanitary

- (3) Lack of raw meat standard
- (4) Lack of suitable slaughter house
- (5) Low application of law and regulations

## **2.5 Fish Marketing System**

- (1) Small quantity of fish consumption
- (2) Scattered and small scale producers
- (3) Lack of effective transport system
- (4) Poor market facility
- (5) Traditional fish marketing operation system
- (6) Inaccurate data base
- (7) Weak motivation and participatory approach

## **2.6 Law, Institution and Organization**

### **2.6.1 Existing Laws Related to Agricultural Market Management System**

- (1) MoAC directives with weak legal aspects and legal authorities.
- (2) MMC formed under the directives without legal authority or legal status.
- (3) The MMC not authorized to be autonomous status

### **2.6.2 Existing Laws for Agricultural Marketing Cooperatives**

- (1) Cooperative Act
  - 1) The present Cooperative Act 1992 is neither simple nor clear for farmers cooperative institutional development especially for the purpose of agricultural marketing cooperatives development.
  - 2) The present cooperative Act 1992 is not tuned towards agricultural cooperative development especially for agricultural marketing cooperative development.
  - 3) The present Cooperative Act 1992 is more subsistence oriented rather than supportive for Agricultural Marketing Development.
- (2) Cooperative Rules and Regulatory, 1993 even though are effectively used by a few progressive farmers, but it has some limitations:
  - 1) More focus on the requirements for records, accounts and bookkeeping as of HMGN rather than on program for financial management on farmer's commercialized production planning and marketing for enterprise development.

- 2) More complicated in registration and operational aspects especially in representing large numbers of farmer's involved in commercial production of the specific products as it is more focused on the requirement of the 25 number and their signatures and citizenships.
- 3) In large production pocket areas to meet the economies of scale, there are number of farmers groups definitely more than five required for the registration of cooperative. It was found difficult and cumbersome to try to include large number of groups in a cooperative. It is always easy and safe if a very limited and focus area and number of groups are included in the cooperative. Therefore, it has its own weaknesses that needs to be improved to make it suitable for the commercial production areas to cover the whole masses and groups

### **2.6.3 Farmers Organization for the Operation and Management of Collection Centers**

- (1) Agricultural marketing cooperatives
  - 1) More subsistence oriented and very few market-oriented cooperatives
  - 2) Lack of the fine tuning for the development of agricultural marketing co-operatives: lack of profit making aspects
  - 3) Lack of handover process for market management of Collection Centers: lack of clearly defined role for agricultural marketing co-operatives
  - 4) Members of the cooperatives are not trained in local products marketing and in the management of collection centers
- (2) Individual farmer's organization
  - 1) Lack of cooperative group approach for group benefit
  - 2) Lack of trust with group leader
  - 3) Farmers depending more on traders
  - 4) Poor development of local traders
  - 5) Lack of association of local traders

### **2.6.4 Institutions and Organizations Related to Agricultural Market Management System Development**

- (1) MoAC
  - 1) Low incentive for field staff for implementation of pocket package coordination program prioritized by MoAC for its implementation.
  - 2) The other main weakness is in its limited manpower with technical skills in enterprises development based on fruits, vegetables, potatoes, spices, and other high value commodities production.

- 3) Lack of trained manpower in market management system at the grassroots level.
  - 4) No planning for modernization of the market management system.
  - 5) The limited participation of the women farmers in commercial production of high value commodities and in market management system.
- (2) Local Government
- 1) Lack of skilled human resources at local government level for agricultural marketing development programs. The examples they have shown with traditional wholesale market management and haat bazaar management is poor.
  - 2) No plan for the improvement of the traditional marketing systems.
  - 3) No plan also for the modernization of the market management system.
- (3) Farmer's Organizations
- 1) Members of the farmer's organizations are not trained in market management activities.
  - 2) Lack of resources and capability for improvement on the market management system.
  - 3) No program planned for the modernization of market management system
- (4) Trader's Organization
- 1) Lack of training programs for the Traders and wholesalers in Auction System or in any other open marketing system.
  - 2) Lack of organized private market management system handled by the traders and wholesalers.
  - 3) Lack of resources and capability for improved market management system
- (5) Market Management Committee (MMC)
- 1) MMCs' experience is limited to a very short period of two years.
  - 2) MMCs members have no or limited experience as Market Manager to handle the management body.
  - 3) Lack of resources and capability of the MMCs.

### **3. MASTER PLAN**

#### **3.1 Integrated and Comprehensive Development Concept of Master Plan**

##### **3.1.1 Development goals**

- (1) Improvement of the food security by encouraging the domestic supply

- (2) Increase of farmers' income
- (3) Encouragement of employment opportunity for beneficiaries
- (4) Poverty alleviation

### **3.1.2 Basic principles for the development**

- (1) Promotion of commercialization
- (2) Identification of commercial zones and establishment of the effective marketing system within the commercial zones and of inter-linkages among zones
- (3) Strengthening of institution and organization
- (4) Improvement of international competitiveness

## **3.2 Master Plan by Sector**

### **3.2.1 Master Plan for Horticulture Marketing System**

- (1) Horticulture Production and Post Harvest System: Horticulture production improvement program, post harvest handling facilities improvement program, Export promotion program
- (2) Horticulture Marketing and Distribution System: Production system, post-harvest handling system, marketing and distribution system, Institution / organization and management system, market infrastructure and O&M system of the facilities/equipment, marketing information system

### **3.2.2 Master Plan for Livestock Marketing System**

- (1) Production System: To develop in line with Nepalese custom and preference, taking account also of live livestock imports from India.
- (2) Marketing and Distribution System: Existing markets to be improved by providing basic necessary facilities.
- (3) Institution/Organization and Management System: To improve quarantine check and supply of hygienic meat at the quarantine check posts and organize MMC at each market.
- (4) Marketing Infrastructure and O & M system of the facilitates/ equipment: Suitable management of livestock markets comprising officials, farmers' and traders' groups, and market contractor to be organized.
- (5) Market Information System: MMC to collect data in cooperation with DLSO and inform to LMD on monthly basis.

### **3.2.3 Master Plan for Sanitary Control of Livestock Products**

- (1) Strengthening application system of the law and regulation: Acts to be enforced and management capacity of CFRL and DLS to be strengthened.

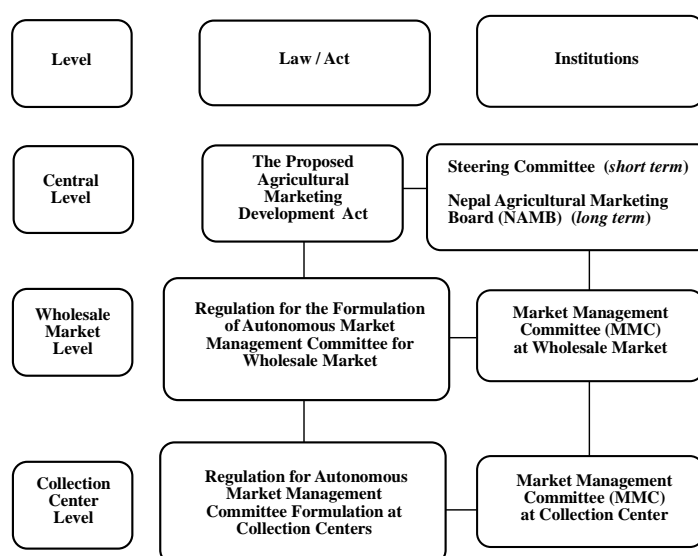
- (2) Establishment of the slaughtering slabs: Model facilities to be introduced and demonstrated for extension to other areas.
- (3) Extension of food sanitary control technology: Necessary technology for food sanitary control should be extended to all persons concerned.

### 3.2.4 Master Plan for Fish Marketing System

- (1) Fish Production Programme: To promote production of aquaculture fish in potential areas.
- (2) Marketing and Distribution Programme: To improve fish distribution and marketing system among the linkage between producing center and urban/city areas.
- (3) Post-harvest Handling Programme: To reduce losses at production site by cold storage, ice supply, fish processing, and linking remote fishing village to market.
- (4) Fisheries Institutions Programme: To strengthen government support services, institutional capacity of fisheries staff and private organizations, and fish market research.

### 3.2.5 Master Plan for Market Management System

- (1) Laws And Regulations of Market Management System
  - 1) [First]: A review of the proposed Agricultural Marketing Development and Management Act is required to meet the improvement plan proposed in the project. A good look on the following aspects are necessary especially on the (i) formation of the autonomous MMCs; (ii) its membership and participation of the key actors; (iii) rights to own the market and its facilities as well as on the use and management for marketing activities in the market area; (iv) Financial management; and (v) on the organization of market management body.



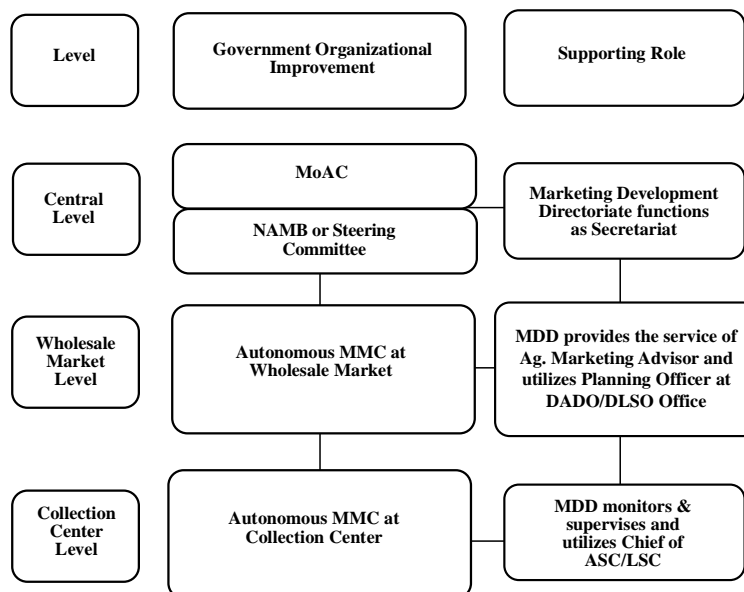
Proposed Law and Institution for Agricultural Marketing Management System



- 2) **[Second]:** Improvement plan with a public policy commitment to encourage farmers groups to organize and register with legal status for its operation and management system on: (i) transfer of technology on high value commodities for expansion on the scale of production and marketing; (ii) transfer of technology on collection, washing/cleaning, sorting/grading, packing, transportation and distribution of their products; (iii) production planning; (iv) small farming saving and credit scheme to meet their own small credit requirements; and (v) fine tuning of cooperative Act, 1992 and Association Registration Act 1977 to meet the requirements of producers cooperatives and producers associations especially for marketing management system.
- 3) **[Third]:** It proposes improvement plan for legal status to promote participation and investment of private sector in both commercial production planning as well as in the agro-product processing and in market management system.

(2) **Institution And Organization For Market Management System**

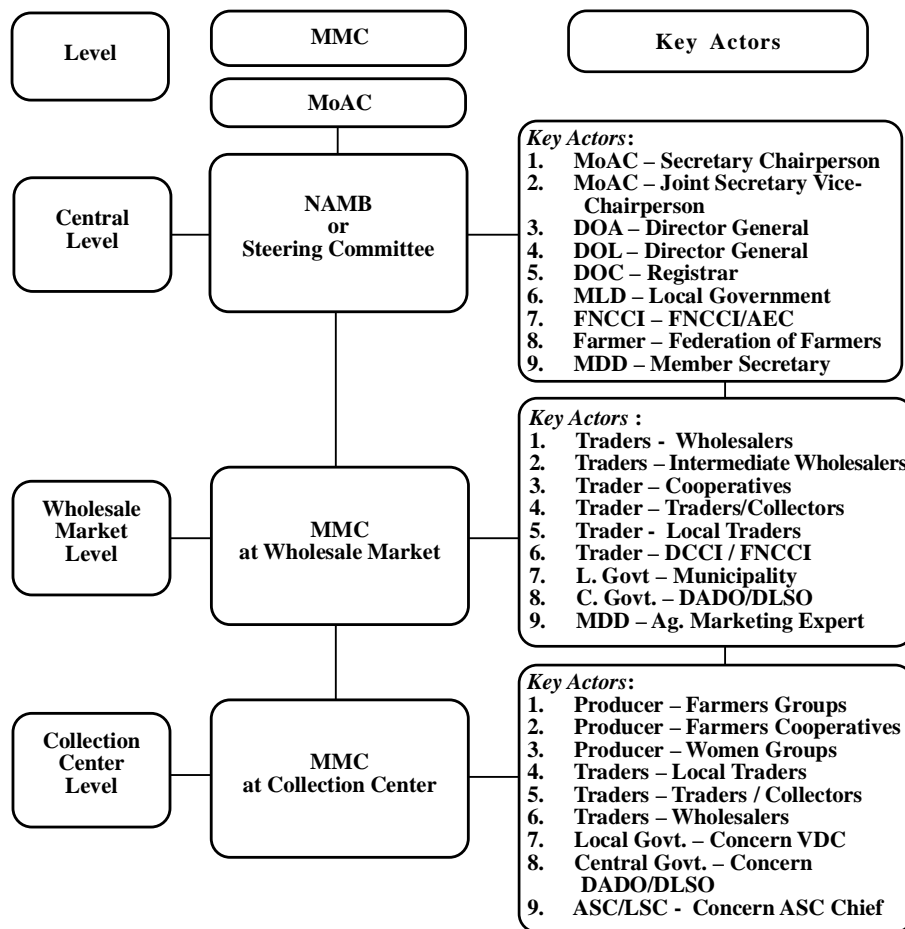
- 1) **[First]:** It proposed to strengthen the respective implementing agencies of the Department of Agriculture and Department of Livestock Services, Agricultural Marketing Development Directorate of DOA and Livestock Market Promotion Directorate of DOLS for its successful implementation. An Apex body, "Nepal Agricultural Marketing Board" (NAMB) under the chairmanship of the Secretary of MoAC with chief of Agricultural Marketing Development Directorate or the chief of Livestock Market Promotion Directorate as member secretary is proposed to be established to provide the policy guidance and national overview. However it would be a more pragmatic strategy to begin with a Steering Committee rather than NAMB in the immediate run and to gradually evolve into a full fledged Apex body in the long run. This Steering Committee is to be chaired by the Secretary of MoAC and composed of chiefs/ representatives of all concerned agencies and stakeholders.



**Proposed Government Organization for Agricultural Marketing Management System**

Board's Fund will be invested for education/training and test operation of the pilot project for modernization of agricultural marketing system. This fund is supervised under the control of the Board, while it is deposited to ADBN or micro-credit system managed by MMC/CC/community fund.

- 2) [Second]: It proposes to create establish and strengthen with legal authority, the Marketing Management Committee (MMC) at all types of market centers with full and active participation of all users including farmers, traders, agricultural cooperatives, private sector associations, banking agencies, local enterprises, local government, and central government field offices.

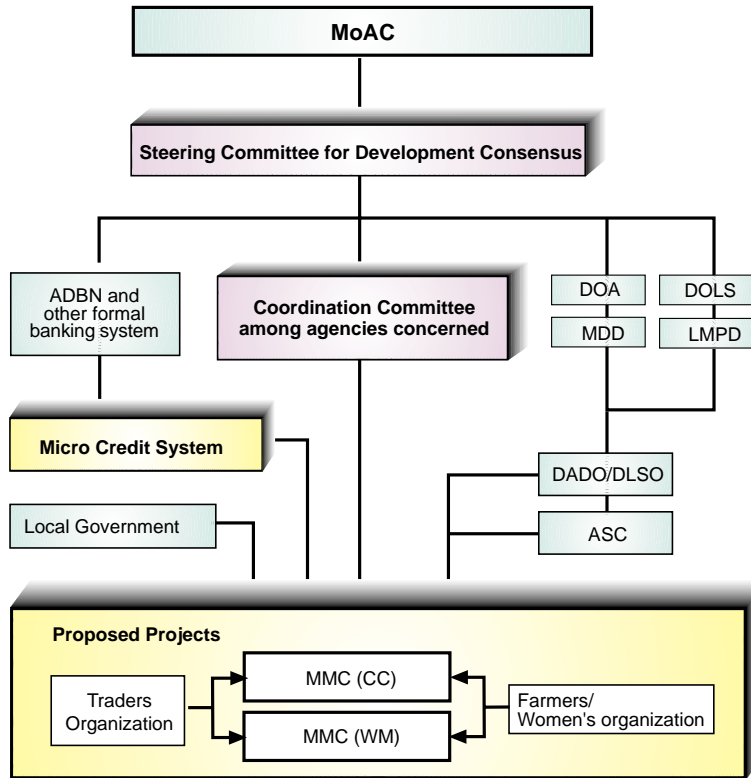


**Proposed Market Management Committee (MMC) and Key Actors at Various Level**

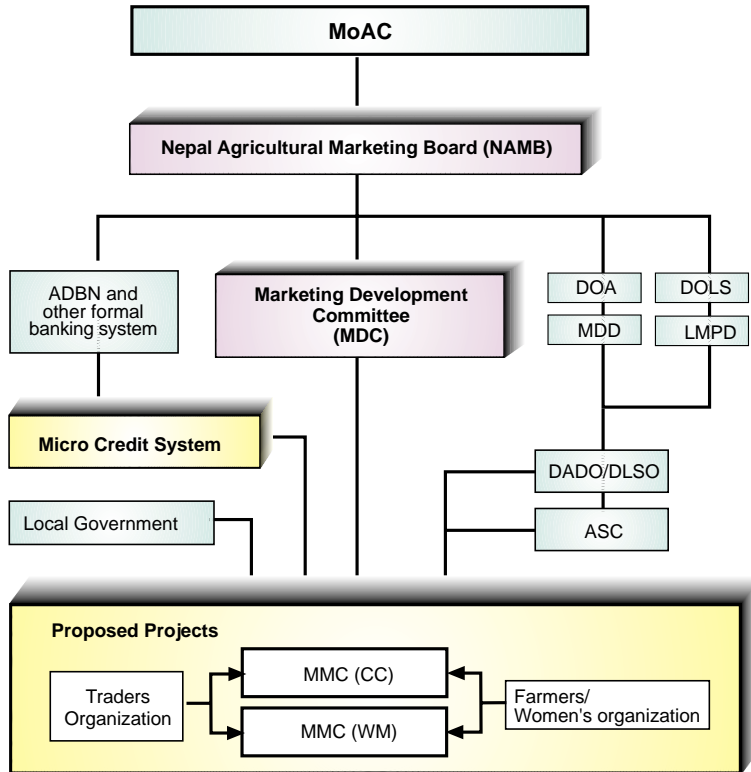
- 3) [Third]: It proposes to strengthen the Farmer's Groups/Organizations especially Agricultural Marketing Cooperatives to provide a competitive force for the private sector. In order to revitalize farmers' organizations, especially the agricultural marketing cooperatives, the plan proposes to help farmers learn how to organize and manage cooperative group approach for the benefit of all members. However, it will take a long time to rehabilitate the sector and the philosophy towards the sector needs to be reevaluated.

- 4) [Fourth]: It proposes to strengthening the Small Farmers Savings and Credit Cooperative Society to serve as a lead agency for the provision of credit a grassroots level for agricultural marketing development project. This will change the main role of SFCS on agricultural marketing both for the provision of small amount loans/ credits to the small farmers groups/organizations involved in the production of high value commodities for marketing as well as to provide loans/credit to MMCs for its physical structure development and maintenance.
- 5) [Fifth]: It proposed to strengthening the MoAC field offices (Agriculture Services Centers of DADO and Livestock Service Centers of DLSO offices) for its important role in agricultural marketing systems: (i) As Marketing Manager of MMC; (ii) As Technical personnel for technology transfer; and (iii) As motivator for farmers groups formation with some incentives of technical support educational tours and support services.
- 6) [Sixth]: It proposes to strengthen the local government (Municipalities and VDCs) offices for their active participation in the successful implementation of the project. The project proposes to provide both the technical training as well as the market management training to the local government officials to ensure that the project program is implemented in the right place/areas in the municipalities and VDCs for the benefit of all the participants.
- 7) [Last but not least]: It proposed to strengthening the private sector in general for their active participation and investment in agricultural market systems and wholesalers and traders in particular for their role in wholesale market management. It also proposes for better public-private partnership in accelerating market centers development. A large number of commodity specific farmers and traders associations have been formed but only at a few limited areas.

**Short Term for 2005**



**Long Term for 2015**



**Proposed Agricultural Marketing Management System,  
Short Term (2005) and Long Term (2015)**

### **3.3 Master Plan by Region**

#### **3.3.1 Eastern Region**

##### (1) Horticulture Marketing System

A wholesale market in Biratnagar will be established to act as a regional model of commercialization of high quality products from the hill areas with effective linkage to the collection points and centers.

##### (2) Livestock Marketing System

This region is important as a supply area of goats from India through 4 animal quarantine check posts. The activities of these check posts should be reinforced as well as the Belbari livestock market.

##### (3) Fish Marketing System

A sustainable and efficient fish distribution chain through improvement of marketing facilities and trading system is proposed for this region. Small scale fish processing project is proposed for the Sapta Khoshi area.

#### **3.3.2 Central Region**

##### (1) Horticulture Marketing System

A new wholesale market for the Kathmandu valley, collection centers in the hill areas, and strengthening of the extension services for high quality horticulture products are proposed for this region.

##### (2) Livestock Marketing System

For the Kathmandu valley, small-scale slaughter house to improve sanitary meat supply and improvement of selected livestock markets are proposed.

##### (3) Fish Marketing System

A new fish wholesale market in addition to establishing a sustainable and efficient fish distribution chain through improvement of marketing facilities and trading system is proposed for this region.

#### **3.3.3 Western Region**

##### (1) Horticulture Marketing System

Effective use by the MMC of the existing wholesale market at Pokhara as a regional center of marketing together with greater farmers' participatory approach is recommended for this region.

##### (2) Livestock Marketing System

Slaughter slab for sanitary meat supply is recommended.

(3) Fish Marketing System

Integrated fish marketing in rural community project and small scale fish processing project is recommended.

### **3.3.4 Mid-Western Region**

(1) Horticulture Marketing System

Upgrading of the collection center as a model of commercialization of high quality vegetable products in the hill area is recommended for this region.

(2) Livestock Marketing System

Strengthening of major livestock market and collection center in Banke and Bardiya is recommended.

(3) Fish Marketing System

The integrated fish farming in rural community project is recommended.

### **3.3.5 Far-Western Region**

(1) Horticulture Marketing System

Technical support for extension of the high quality and off-season products for export to India is recommended for this region.

(2) Livestock Marketing System

Effective operation of seasonal livestock market during the cultivation period of paddy due to the remoteness of the region to major markets is recommended.

(3) Fish Marketing System

The integrated fish farming in rural community project is recommended.

## **3.4 Priority Project Areas for Action Plan**

Based on the proposed Master Plan, priority project areas have been selected to prepare Action Plan which will be implemented in the short term.

The Central and Eastern regions can be classified into the commercialized areas for agriculture marketing. Both regions are high potential areas as commercialized production area and also good potential for marketing because of its population.

The Western, Mid-Western and Far-Western Region can be classified into the subsistence areas in which long term efforts will be required for commercialization.

The Central and Eastern regions were selected for the target areas to prepare Action Plan.

## **4. PARTICIPATORY APPROACH FOR DEVELOPMENT OF ACTION PLAN**

### **4.1 Objectives**

Objectives of the participatory approach are to clarify users' needs and way of use and management of wholesale market and collection centers for agricultural products.

### **4.2 Participants**

Participants are representatives from target groups such as farmers and women groups from commercialized production pockets, traders/ entrepreneurs associations and government officers.

### **4.3 Methodology of Participatory Approach**

#### **4.3.1 Workshops and Focus Group Discussion at:**

- (1) Kathmandu (for Central Region)
- (2) Biratnagar (for Eastern Region)

#### **4.3.2 PRA at the selected VDC linked with CC**

#### **4.3.3 Study Tour**

- (1) Nepal Study Tour: Kalimati Wholesale Market in Kathmandu Metropolitan area.
- (2) India Study Tour: Wholesale markets in the north part of India.

### **4.4 Output of Participatory Approach**

Major outputs through this participatory approach are as follows and these outputs were applied for the formulation of Action Plan:

- (1) Establishment of the integrated production and marketing system
- (2) Introduction of the education and training system for the improved agricultural marketing
- (3) Management under the clear-cut regulation of the collection centers (CC) and wholesale market (WM)
- (4) Establishment of Market Management Committee of the CC/WM, of which members should be selected as representatives from users groups
- (5) Establishment of the Autonomous body for market management
- (6) Support by the central and local government on the management of CC/WM
- (7) Establishment of the new collection centers and wholesale market with multipurpose and integrated functions
- (8) Importance of location of wholesale market which will be the less conflict areas with urban development use



## **5. ACTION PLAN FOR THE SHORT TERM PROJECTS**

### **5.1 Development Goals**

Development goals for this Action Plan is to contribute to the national economic development by the establishment of effective marketing system and promotion of modernization for all marketing stages of agricultural products such as production, post harvest, transport, wholesaling/retailing, domestic consumption and external trade and to increase income of farmers, women and traders involved in marketing activities and redistributed income more to the poverty group

### **5.2 Development Concept**

#### **5.2.1 Establishment of marketing policy**

Nepal Agricultural Marketing Board or Steering Committee will be organized under MoAC and has role of preparation and monitoring of national marketing policy as adhoc basis. This board will prepare legal, institutional and organizational development of the new marketing system and physical infrastructure.

#### **5.2.2 Establishment of commercial zones**

Administrative Region is the existing commercial zone based upon the origin and destination pattern. The new wholesale market (NWM) in the Kathmandu Metropolitan area and Biratnagar city will be the regional base of agricultural marketing in Central and Eastern Regions during the short period. Regional agricultural marketing system will be established from the production pockets (PP) to the NWM, covering the marketing route from PP to the collection points (CP), from collection points to the collection centers, collection centers to the NWM. This regional marketing system will be expanded as the nationwide marketing system in the long run.

#### **5.2.3 Promotion of external trade of agricultural products**

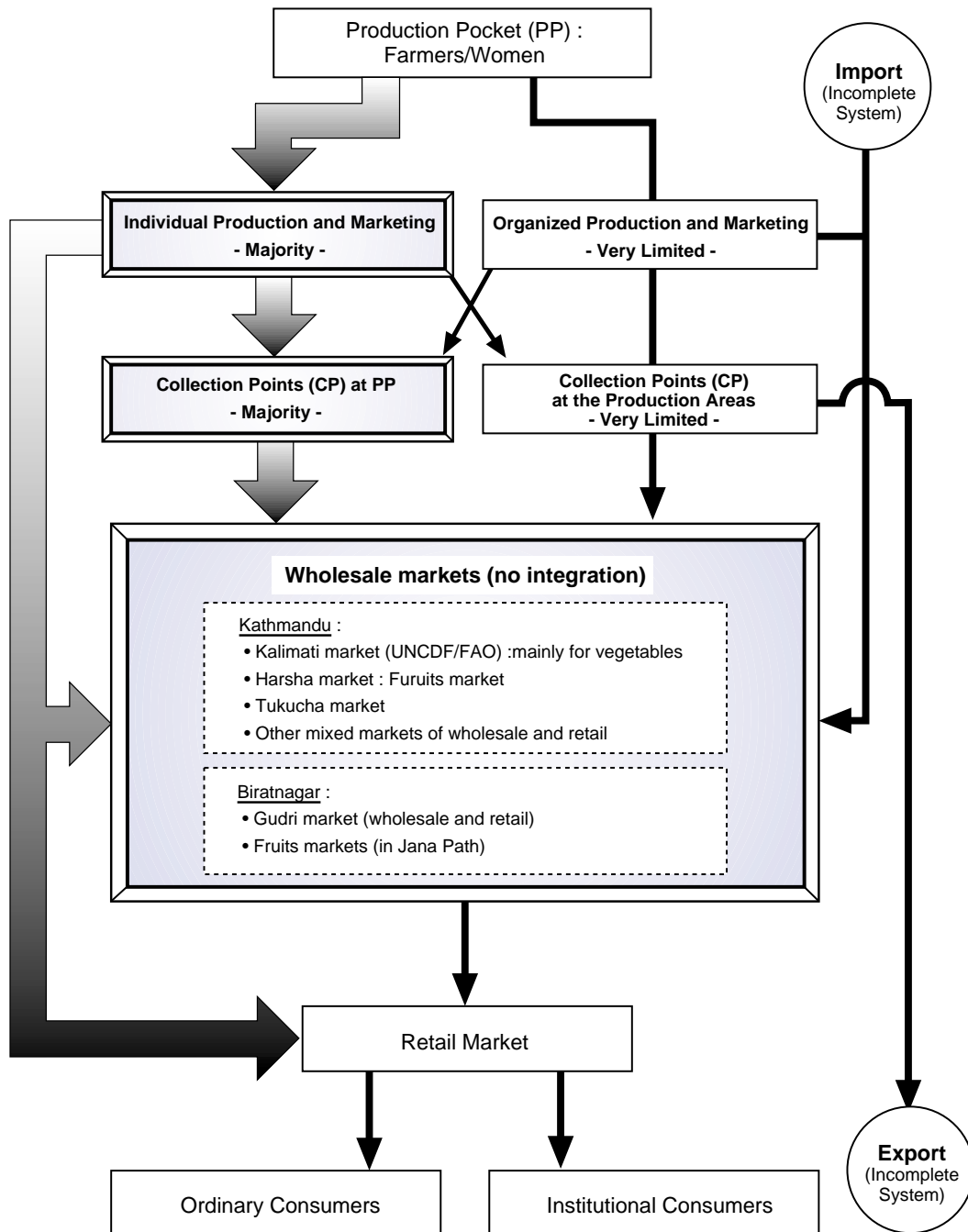
The imported agricultural products will be transported and traded at the NWM through the phyto-sanitary inspection procedure. The exported agricultural products will be collected at the collection centers by way of CP from PP and directly exported from CC to the foreign markets mainly in India, Bangladesh, Tibet and Bhutan. There is only a limited portion of the exported products to the other countries in the short term. During this period, test trial for the expansion and diversification of export will be expanded for long term development .

#### **5.2.4 Integration and establishment of simple marketing structure of the wholesale activities**

The integrated NWM of agricultural products will be proposed in Kathmandu Metropolitan Area (KMA) and Biratnagar city. NWM in KMA will include the modernized function of Kalimati wholesale market, wholesale function of Harsha fruits market, Tukucha markets and the other mixed markets. The function of Kalimati wholesale market will be transferred to a multipurpose urban retail market because of being located at the urban center of Metropolitan area. In Biratnagar, NWM will

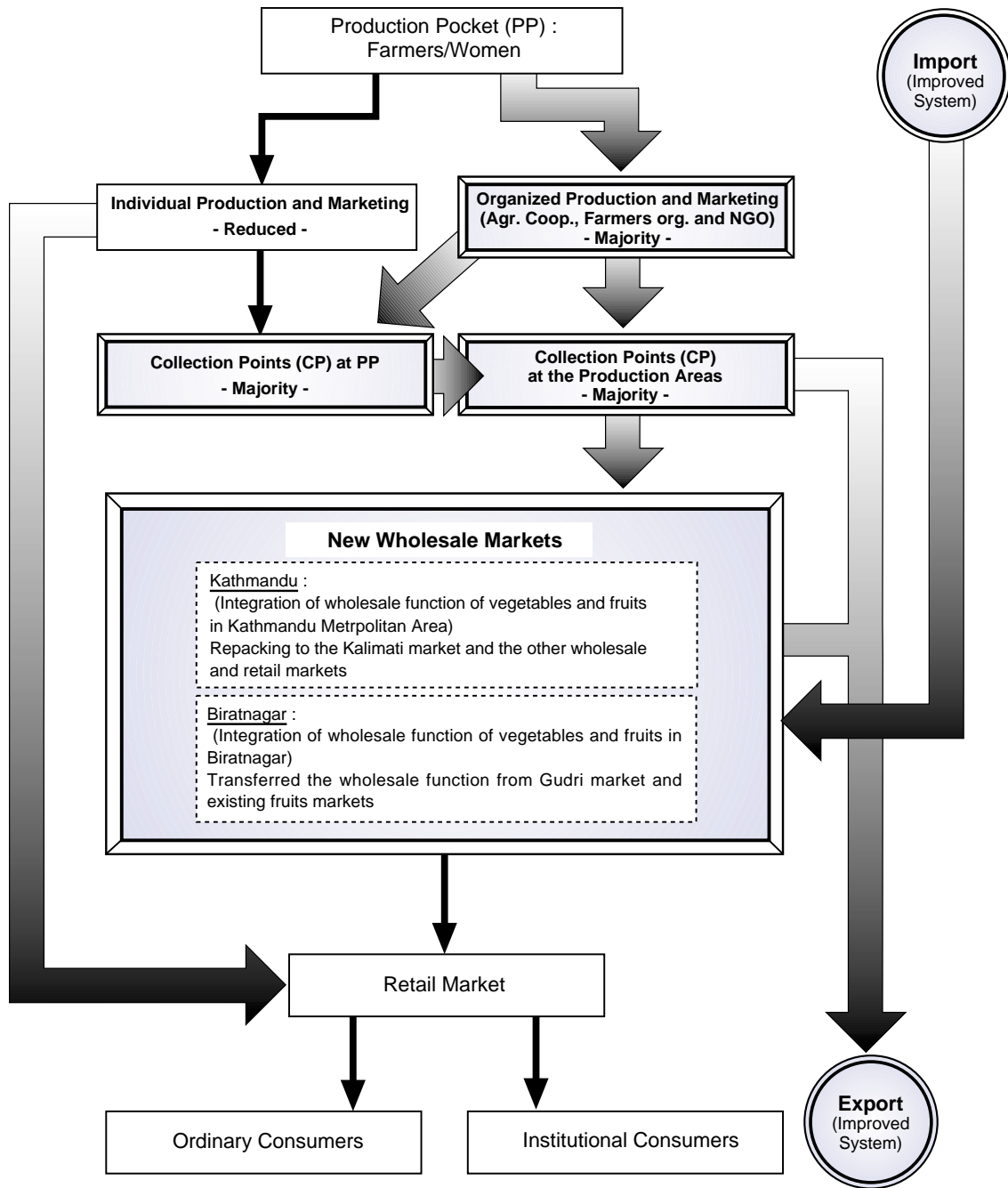
function as real wholesale market in the future while it will also contribute to work as retail market once or twice a week in the short period. After establishment of NWM, the existing traditional wholesale market will be transferred to the other purpose of urban use.

**< Without Project >**



**The Agricultural Marketing System without the proposed Integrated Marketing System project in the Central and Eastern Region**

< With Project >



**The Agricultural Marketing System with the proposed Integrated Marketing System project in the Central and Eastern Region**

### **5.2.5 Establishment of Effective Market Management system**

NWM/CC will be managed and operated by the representatives of users (beneficiaries). For this purpose, Market Management Committee (MMC) will be organized by bottom-up method supported by the government.

Major functions of NWM and CC are as follows:

- (1) Collection, sorting, grading, packing and transport of the agricultural products will be strengthened and modernized
- (2) Open and fair pricing mechanism will be established through the introduction of the open transaction system like auction system and marketing information system.
- (3) Farmer's organization will be supported through more involvement of farmers groups in marketing activities and establishment of effective marketing infrastructure and institutions such as agricultural marketing cooperatives.
- (4) Legal support will contribute to establish the orderly controlled NWM/CC through reorganization of management committee, licensing system and the other regulation.
- (5) Financial conditions of WM/CC will be significantly improved by introduction of the new fee collection system.

### **5.2.6 Research and test operation by the Pilot Project**

- (1) Horticulture products: Pilot project will be established in NWM/CC for sales promotion of the high quality products and export promotion.
- (2) Livestock and livestock products: Model projects of NWM/CC for live animals, of the slaughter slab and of sanitary control promotion of livestock products will be proposed for demonstration of the improved livestock marketing system
- (3) Fish: Small scale community project will be proposed for marketing /processing technology transfer to the small scale fish farmers and women.

### **5.2.7 Education and training**

All of the target groups of agricultural marketing system, like farmers/women, traders, management organization of the existing WM/CC and government officers, have inadequate knowledge and experience on the effective marketing system. For the solution, sustainable education/ training system should be introduced and fund arrangement for training will be proposed in a long term basis.

### 5.3 Action Plan by Sectors

Sector	Project	Executive Body
Sector 1 Horticulture Production and Post-Harvest system	Integrated Marketing System in Central and Eastern Region (establishment of CC and NWM) Project 1: Central Region Project 2: Eastern Region with Pilot Projects such as: <ul style="list-style-type: none"> <li>• Quality control system demonstration</li> <li>• Auctioning system demonstration</li> <li>• Micro-credit system operation</li> <li>• Private agri-products processing demonstration</li> </ul>	MMC
Sector 2 Horticulture Marketing system		
Sector 3 Livestock Marketing system	Pilot Project for improvement of livestock market and slaughter slab	User groups (including butchers, meat processors)
Sector 4 Sanitary Control of Livestock Products	Pilot Project for strengthening of DFTQC's activities	DFTQC
Sector 5 Fish Marketing system	Pilot Project for the establishment of sustainable and efficient fish distribution (community based project)	Community groups (fishermen's groups)
Sector 6 Management system	<ol style="list-style-type: none"> <li>1. Establishment of relevant laws and regulations of market management system</li> <li>2. Strengthening of market management system at WM and CC.</li> <li>3. Expansion and strengthening of detailed activities of WM and CC.</li> <li>4. Management system of pilot projects <ol style="list-style-type: none"> <li>1) Management of horticulture model projects</li> <li>2) Management of projects in Sector 3, 4 and 5</li> </ol> </li> </ol>	NAMB or Steering Committee, MDC, MMC

**Remarks:**

1. MoAC to provide support to all action plans by sectors.
2. All of the projects will include training and education functions.

### 6. TECHNOLOGY TRANSFER

To address the weaknesses and development issues of the agricultural marketing system, and taking the output from the participatory approach workshops, the education and training plan was prepared as shown in the following table.

Technology transfer will be implemented through trainers training for Government officers, MMC members of CC, representatives of farmers and women at NWM and CC. Training for modernization of agricultural marketing system will also be conducted in foreign countries for MMC members of CC, representatives of farmers/women's organizations. Target groups will be executive bodies such as MoAC, NAMB, MDC, MMC, DFTQC, user and community groups, and beneficiaries such as MMC, local governments, farmers, women groups, traders and other related groups.

Contents of technology transfer for the main sectors are as follows:

## Education and Training Plan for the Agricultural Marketing Development in the Kingdom of Nepal

1. Integrated Agricultural Marketing System	Education & Training Plan	Donor's Technology Assistance
<p><b>Weakness and Development Issues of the Agricultural Marketing System</b></p> <p><b>1. Weakness of Agricultural Marketing System</b></p> <ol style="list-style-type: none"> <li>(1) Lack of the concrete agricultural products marketing policy</li> <li>(2) Deficiency of laws and institution/ organization systems</li> <li>(3) Limited participation opportunities for farmers in marketing</li> <li>(4) Lack of traders and farmers' coordination in marketing</li> <li>(5) Limited coverage area of commercial zone from the production area to the consumption area</li> <li>(6) Dispersion of consumption areas and narrow commercial zones</li> <li>(7) Deficiency of the import and export quality control system</li> <li>(8) Inadequate administration system of WM-CC</li> <li>(9) Lack of trained manpower in market management and agricultural products marketing system</li> <li>(10) lack of data base (products volume, marketing volume/price, volume of import/export)</li> </ol> <p><b>2. Output of Participatory Approach</b></p> <ol style="list-style-type: none"> <li>(1) Establishment of the integrated production and marketing system</li> <li>(2) Introduction of the education and training system for the improved agricultural marketing</li> <li>(3) Management under the clear-cut regulation of the collection centers (CC) and wholesale market (WM)</li> <li>(4) Establishment of Market Management Committee of the CC/WM, of which members should be selected as representatives from users groups</li> <li>(5) Establishment of the Autonomous body for market management</li> <li>(6) Support by the central and local government on the management of CC/WM</li> <li>(7) Establishment of the new collection centers and wholesale market with multipurpose and integrated functions</li> <li>(8) Importance of location of wholesale market which will be the less conflict areas with urban development use</li> </ol>	<p><b>1. Goals of education Training</b></p> <ol style="list-style-type: none"> <li>(1) Promotion of commercialized agricultural products through the education training</li> <li>(2) Establishment of commercial zone</li> <li>(3) Establishment of organized marketing structure</li> </ol> <p><b>2. Concept of Education Training</b></p> <ol style="list-style-type: none"> <li>(1) Policy level: Rising the knowledge and expansion of the experience of Nepal Agricultural Marketing Board (NAMB) or Steering Committee members</li> <li>(2) Establishment of commercial zone: Education training for the establishment of nationwide marketing system (the linkage among the production pockets, the collection points, the collection centers and the wholesale market)</li> <li>(3) Promotion of external trade of agricultural products : Education training for the improvement of quality of products and strengthening of the phyto-sanitary inspection</li> <li>(4) Education training for the integration progress of WM and the identification of the function of NWM/CC</li> <li>(5) Education training for the strengthening of market management organization</li> <li>(6) OJT through the demonstration by the following Pilot Projects                     <ol style="list-style-type: none"> <li>1) Horticulture :Project for The promotion of high quality products marketing and export at NWM/CC (Quality improvement system of domestic products, auction system, micro credit system)</li> <li>2) Improvement project for livestock and livestock products marketing system at NWM/CC and slaughter slab/sanitary control project of livestock products.</li> <li>3) Establishment of sustainable and efficient fish distribution (community based project)</li> </ol> </li> <li>(7) Education training for the fund management for sustainable training and education, and promotion of commercialized marketing</li> </ol> <p><b>3. Implementation Body in Nepal</b></p> <ol style="list-style-type: none"> <li>(1) National level: Ministry of Agriculture and Cooperative (MoAC), NAMB or Steering Committee, Marketing Development Committee (MDC), MMC (CC and WM), Department of Food Technology and Quality Control (DFTQC)</li> <li>(2) Local level: MOAAC department of district office, Local government</li> <li>(3) Project Site level: MMC and the project management body of CC/WM</li> </ol>	<p><b>1. Method of Donor's Technical Assistance</b></p> <ol style="list-style-type: none"> <li>(1) Education training for the establishment of the rule, management and monitoring in NWM/CC.</li> <li>(2) Expansion of the opportunity of using the micro credit system : Construction of CP for the petty farmers/women group /Training and supporting of the financial management for the education training project</li> <li>(3) Supporting of informal credit system organized by the farmers organization</li> <li>(4) Co-financing :Nepal Agricultural Development Bank (ADB, UNDP-RUPP project), small scale formal credit system like Grameen Bank and the use of Coop. Bank under establishment in MoAC at present</li> </ol> <p><b>2. Implementation Plan</b></p> <ol style="list-style-type: none"> <li>(1) Education training through the project in the Central region (only horticulture products)</li> <li>(2) Education training through the project targeted in the Eastern region, and at the Pilot Project for the improvement of livestock/livestock products marketing and fish marketing.</li> <li>(3) Long term education training covered 3 regions of western area</li> </ol>

## **6.1 Horticulture Production and Post Harvest System**

- (1) Knowledge and demonstration on agricultural marketing system
- (2) Planned production system to meet market demand and needs
- (3) Quality control and stable collection method
- (4) Establishment of marketing system at the production area through organizing of farmers and women
- (5) Use and management of CC
- (6) Participation in marketing activities at the wholesale market
- (7) Management ability to use micro credit system

## **6.2 Horticulture Marketing System**

- (1) Research and acquisition of marketing know-how
- (2) Development of data base at various stages of marketing
- (3) Consciousness of farmers, traders and consumers on quality and price
- (4) Open marketing system and pricing mechanism including auction system
- (5) Use and management of WM
- (6) Development of the related industries and their management technology
- (7) Modernization technology of marketing system

## **6.3 Livestock Marketing System and Sanitary Control System of Livestock Products**

- (1) Livestock market: market management, O & M, market information system, etc.
- (2) Slaughter slab: Technology transfer on hygienic meat production, use and management of facilities and equipment, consumers needs
- (3) Sanitary control of livestock products: Knowledge for policy making and technology, research and test technology development of research staff, knowledge on meat quality / influence on health / sanitary protection

## **6.4 Fish Marketing System**

- (1) Fishermen organization method
- (2) Cooperative activities for aquaculture development technology
- (3) Planned production and effective farm management system
- (4) Marketing promotion technology



- (5) Development of fisheries statistics

## **6.5 Law, Institution and Organization**

- (1) Law and institution on market management system: Establishment of MMC, participation of private sectors through farmers organization/market management, market management regulation, formulation of consensus on marketing system
- (2) Market management system of WM and CC: Management knowledge and know-how on marketing route, transaction system, pricing mechanism, licensing system, quality control system, market information system, garbage control system, security control system, financial management system, education and training system
- (3) Marketing modernization approach: Pilot operation of quality improvement system of domestic products and auction system, test operation of micro credit system

## **7. PROJECT EVALUATION**

Economic and financial evaluations were conducted for the recommended projects of Sector 1 and 2 of the Action Plan, namely, Integrated Marketing System in Central Region (Project 1), and in Eastern Region (Project 2). Project components comprise the establishment of the New Wholesale Market, model collection centers, Pilot projects, demonstration and training.

The purpose of this analysis is to investigate economic benefits and costs that will arise from the project implementation. An economic internal rate of return (EIRR) is used to appraise the feasibility of the project by comparing the case with the project and without the project implementation.

The financial evaluation took account of the project's financial cost and revenue to derive the income statement and cash flow tables. The Financial Internal Rate of Return (FIRR) was then calculated to show the financial viability of the project.

### **7.1 Evaluation of Integrated Marketing System in Central Region (Project 1)**

#### **7.1.1 Economic Evaluation**

- (1) The result of economic internal rate of return calculation shows an EIRR of 9.9%. The low EIRR does not fully reflect the economic benefits from the Pilot and education/ training activities project as the substantial benefits from the demonstration and training components of the project are not accounted for in the EIRR evaluation.
- (2) The benefits distribution with and without project analysis, showed that 40% of the benefits are distributed to the farmers in the 5 CC in the production areas and 60% to the users of the NWM, Kalimati and other wholesale

markets in the consumption area. Thus, the major economic benefit contribution is therefore from the NWM for the Project 1.

- (3) The benefits will accrue to the farmers in the production pocket (PP) coverage areas of the CC. The equitable distribution of benefits to the users of the NWM will depend on the establishment of the auction system and open market price mechanism.

### **7.1.2 Financial Evaluation**

- (1) The income before depreciation without interest is in the black. Revenue from market management will be enough for the operation, management and maintenance of the NWM and CC if depreciation is excluded.
- (2) It is not financially viable for the project to be financed by loan as the revenue from the project will not be sufficient to cover the loan interest payment nor the depreciation. With the exclusion of the pilot project which should be taken up by the government as a separate technology transfer project, the financial viability of the project will be further improved.

## **7.2 Evaluation of Integrated Marketing System in Eastern Region (Project 2)**

### **7.2.1 Economic Evaluation**

- (1) The result of economic internal rate of return calculation shows an EIRR of 3.9%. The EIRR analysis did not include the unaccountable benefits from the demonstration and training components of the project which is expected to be substantial thus contributing to a greater economic benefits from the project.
- (2) In the case of project cost increase or benefit decrease, or where project cost increase with benefit decrease, it is shown to be economically viable. However, due to the small handling volume of Eastern Region compared with the Central Region, the project in the Eastern Region should be of a limited scope to improve the local market and not introduce modernized marketing system; the CC for export should be a priority.
- (3) The economic benefits of the project is distributed 65% to the 4 CC in the production areas and 35% to the NWM in the consumption area. The major economic benefit contribution is therefore from the activities of the CC in the Project 2.
- (4) The promotion of export from the Eastern Region should be stressed with the establishment of the CC which will effectively contributed to the farmers' benefit.

### **7.2.2 Financial Evaluation**

Income before depreciation and maintenance is in the black which shows that the project is profitable. Revenue will be enough for the operation,

management and maintenance of the NWM and CC if depreciation is excluded without interest.

## **8. CONCLUSION AND RECOMMENDATION**

- (1) Establishment of an Apex body, Nepal Agricultural Marketing Board, under MoAC to establish consensus among persons concerned on agricultural marketing system, provide policy guidance and national overview. However, it would be more pragmatic strategy to begin with a Steering Committee rather than NAMB in the immediate run and to gradually evolve into a full fledged Apex body in the long run.
- (2) Establishment of Market Management Committee and market management regulation by participatory approach of beneficiaries.
- (3) Immediate implementation of the integrated regional agricultural network system: Establishment of the New Wholesale Market and the model collection centers in Central and Eastern Regions.
  - 1) Project 1 (Central Region): NWM in Kathmandu Metropolitan Area with CC in production areas.
  - 2) Project 2 (Eastern Region): NWM in Biratnagar Sub-Metropolitan City with CC in production areas.
- (4) Promotion of the projects in the other regional development plans for 3 western regions by a phase-wise approach to achieve the functional integration of the national agricultural marketing system.
  - 1) Western Region: Effective use by MMC of the existing markets at Pokhara, sanitary control through slaughter slab, and fish marketing system by rural community.
  - 2) Mid-Western Region: Upgrading of CC and promotion of high quality products at hill areas, strengthening of livestock markets and CC, integrated fish marketing.
  - 3) Far Western Region: Export promotion to India, seasonal livestock market promotion, and development of rural community fisheries projects.
- (5) Promotion of the proposed projects through the arrangement of financial resources and technology transfer.
- (6) Environment assessment: NWM/CC and the other proposed projects should be established to reduce negative environmental impacts caused by garbage, traffic congestion, transfer of the traditional land use and slaughtering of livestock.