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THE MASTER PLAN

September 1995

Nippon Koei Co., Ltd.
Pacific Consultants International

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Department of Trade and Industry
Republic of the Philippines

THE MASTER PLAN STUDY FOR CENTRAL LUZON DEVELOPMENT PROGRAM

FINAL REPORT

Volume I

Executive Summary Report

September 1995

Nippon Koei Co., Ltd.
Pacific Consultants International

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PREFACE

In response to a request from the Government of the Republic of the Philippines the Government of Japan decided to conduct a master plan study for Central Luzon Development Program and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the Philippines a study team headed by Dr. Tsuyoshi Hashimoto and composed of members of Nippon Koei Co., Ltd.and Pacific Consultants International from October, 1993 to August, 1995.

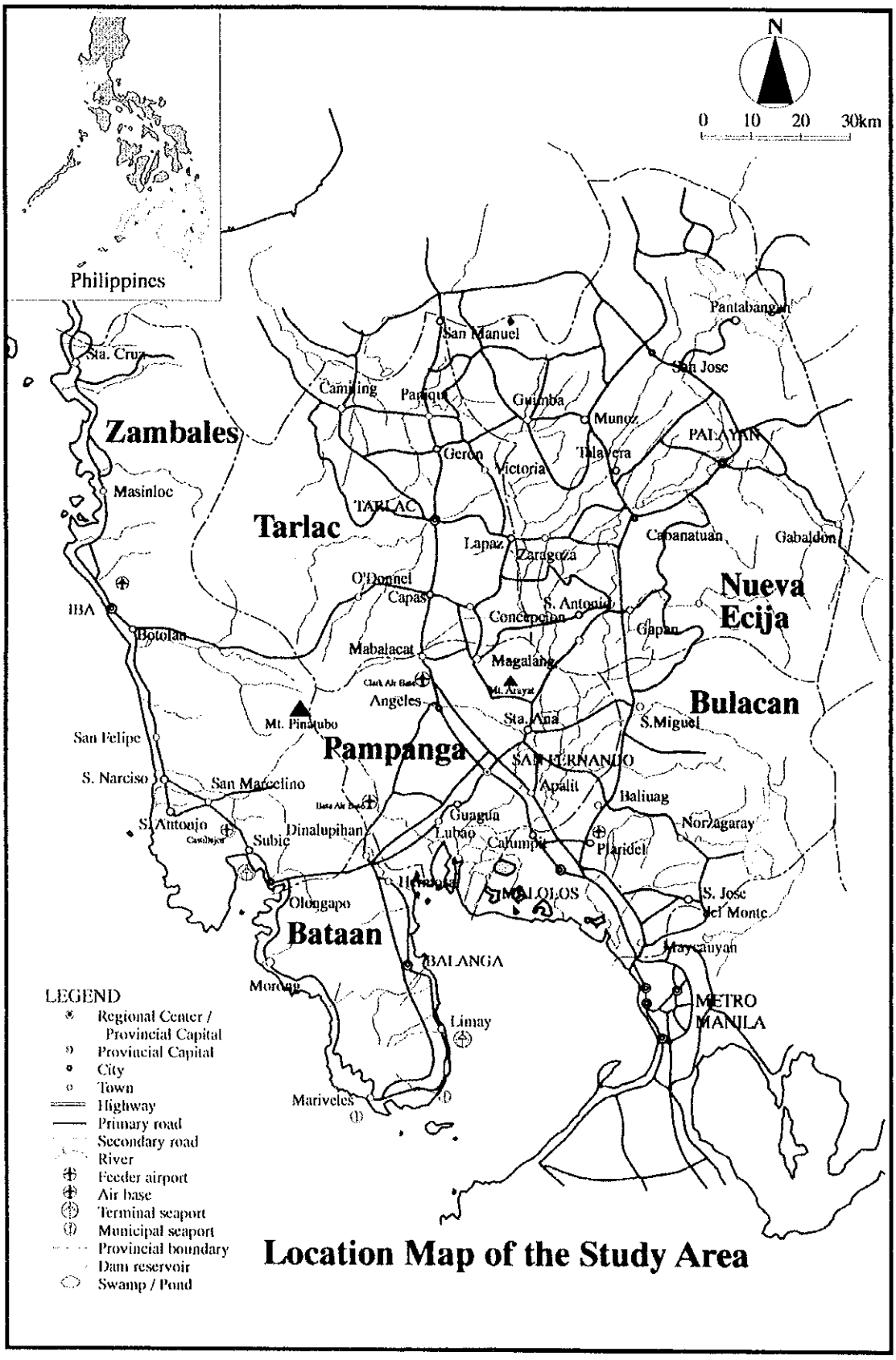
The team held discussions with the officials concerned of the Government of the Philippines, and conducted field surveys in the study area. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the project 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 Republic of the Philippines for their close cooperation extended to the team.

September, 1995

Kimio Fujita
President
Japan International Cooperation Agency



Location Map of the Study Area

Abstract

1. Background

The Central Luzon Development Program was conceived by the Board of Investments of the Department of Trade and Industry for balanced development of Central Luzon, overcoming recent calamities – both natural and man-made – represented by the Mt. Pinatubo eruption and the withdrawal of US military. The Philippine government requested the Japanese government for technical cooperation to prepare an integrated regional development master plan for the CLDP.

2. Objectives

The objectives of this technical cooperation are :

(1) to prepare an integrated regional development master plan with the target year of 2010 for the balanced agricultural and industrial, socio-economic and physical development of the Central Luzon region, out of which priority projects and programs shall be shortlisted; and

(2) to make recommendations necessary for the effective implementation of the master plan, including investment promotion measures and organizational/institutional arrangements.

3. Study Area

Central Luzon or Region III occupies a central part of the Luzon island just north of Metro Manila. It consists of the six provinces of Bataan, Bulacan, Nueva Ecija, Pampanga, Tarlac and Zambales. Central Luzon has an area of 18,230 km^2 corresponding to 6.1% of the total national land. Its population was 6,199,000 in 1990, accounting for 10.2% of the total population in the Philippines.

4. Regional Development Objectives and Strategy

Objectives of Central Luzon regional development have been established as follows:

(1) To contribute to the establishment of industrial and trade niches of the Philippines within the globalizing economies based on traditional value and available resources;

(2) To empower people through eradication of widespread poverty, provision for the basic human needs, and assurance of access to a wide range of opportunities; and

(3) To protect, create and restore the environment of sufficient diversity to support various socio-economic activities on a sustainable basis.

The following two-pronged strategy has been adopted to combine advantages of localization and globalization for "glocalization": the CLDP paradigm:

(1) To promote people/community-based development for socially and environmentally sound and sustainable development; and

(2) To drive internationalization for integrated and competitive local and regional socio-economies.

5. Development Frameworks

The socio-economic framework for Central Luzon regional development is to transform regional economic structure and to expand the economy by four times by the year 2010, Growth targets by sector are compared with national targets as shown.

Table 1. CLDP Socio-Economic Framework for Glocalization Compared with National Targets

(Unit: % per annum)

	CLDP under Glocalization	Philippine 2000
GDP/GRDP Growth		
Agriculture	4.5	4.0
Industry	9.2	9.1
Services	8.8	7.7
Total	8.2	7.4

The spatial development framework consists of (1) rationalization of land use, streamlining of urban hierarchy with functional division among larger urban centers and the National Triad Growth Centers, and strengthening of artery network.

6. Development Projects and Programs

The integrated regional development master plan for Central Luzon to the year 2010 consists of a set of projects and programs and related institutional measures. The projects/programs are classified into regional projects/programs, special programs and local projects/programs. They are listed below by category. All the regional projects and programs are shown in Figure 9.

(1) Regional Projects/Programs

Agri-industrial-trade support

(RP-1) Subic Port Development,
(RP-2) Subic Industrial Estate,
(RP-3) Greater Subic Tourism Core Development,
(RP-4) Subic-Looc Jet Foil Connection,
(RP-5) Hermosa Agro-Industrial Estate,
(RP-6) Clark International Aviation Complex,
(RP-7) Clark Industrial Estate and Dry Port Development,
(RP-8) Clark Field Amusement Park,
(RP-9) Main Line North Rehabilitation/Upgrading, and
(RP-10) BEPZ-SBMA Complementary Development.

Spatial transformation

(RP-11) New Intra-Regional Artery Establishment,
(RP-12) North Luzon Expressway Extension,
(RP-13) Manila Coastal Road,
(RP-14) San Fernando-Dinalupihan Road Improvement,
(RP-15) Iba-Tarlac Road,
(RP-16) Sierra Madre (Marginal) Highway,
(RP-17) Regional Telephone Services Improvement,
(RP-18) Optic Fiber Network,
(RP-19) Labrador-Hermosa Extra High Voltage Transmission Line,
(RP-20) Hermosa-Dasmariñas Extra High Voltage Transmission Line,
(RP-21) Balingtingon Reservoir Multipurpose Project, and
(RP-22) Casecnan Multipurpose Development.

Community development

(RP-23) Holistic Water Catchment Management Program,
(RP-24) Community-Based Manila Bay and Coastal Rehabilitation and Resource Management,
(RP-25) Provincial Cooperatives Savings and Loan Association,
(RP-26) Expanded Agrarian Reform Communities Livelihood and Cooperative Development,
(RP-27) Micro and Small Enterprises Livelihood Systems Development, and
(RP-28) Resource Center for People's Participiption in Local Governance and Development.

(2) Special Programs

(SP-1) Indigenous People Development Program,
(SP-2) Indigenous Communities Cooperative Economic Development,
(SP-3) Gender Development and Resource Center,
(SP-4) Community-Based Disaster Management Program, and
(SP-5) Storm and Flood Monitoring.

(3) Local Projects/Programs

Community initiatives

(CI-1) Community-Based Upland Development Program (Bataan),
(CI-2) Local Resource and Agri-Based Rural Industries Establishment (Bataan),
(CI-3) Cooperative-Managed Food Terminal (Bulacan),
(CI-4) Cooperative-Based Health Systems Development (Bulacan),
(CI-5) Sustainable Rice-Based Enterprise Development (Nueva Ecija, Pampanga),
(CI-6) Community-Based Integrated and Diversified Farming Promotion (Tarlac),
(CI-7) People's Postharvest and Trading Facilities (Tarlac),
(CI-8) Community-Based Resettlement and Livelihood Development (Zambales), and
(CI-9) Popular Leadership and Entrepreneurship Training (Six provinces).

Government initiatives with strong NGO/PO components

(GN-1) Muñoz Agro-Sciencre Community-Quinquepartite Networking,
(GN-2) Tissue Culture Laboratory,
(GN-3) Tropical Plants Multiplication and Distribution,
(GN-4) Farm Mechanization,
(GN-5) Multi-Storey Crop Diversification,
(GN-6) Crop-Livestock Integrated Farming,
(GN-7) Carabao-Base Dairy Development,
(GN-8) Community Coastal Fisheries Development,
(GN-9) Aquaculture Integrated Farming,
(GN-10) Masinloc-Oyon IPAS Conservation Program,
(GN-11) Tourism Communities Development,
(GN-12) Balingtingon Reservoir Resort,
(GN-13) Localization Initiatives in Forests Protection and Upland Management, and
(GN-14) Post MPC Agro-Industrial Rurban Community Program.

Refocused government supports

1) Rural development
(RU-1) Rural Water Supply and Sanitation Improvement,
(RU-2) Rural Energy Program,
(RU-3) Rural Roads Development and Management,
(RU-4) Rural Database Development,
(RU-5) Countryside Agro-Industrial Centers Development Program,
(RU-6) Seri-culture Promotion, and
(RU-7) Postharvest Operation Nucleus Development.

2) Agriculture
(AG-1) Integrated Organic Farming Promotion,
(AG-2) Integrated Upland Farming System Development,
(AG-3) Citrus Intercropping Pilot Development,

(AG-4) Angat Afterbay Regulator Dam (Bustos Diversion Dam) Rehabilitation,
(AG-5) Pampanga Delta Development Project-Irrigation Component,
(AG-6) Porac-Gumain River Irrigation System (PGRIS) Restoration,
(AG-7) Mapanuepe River Lake Irrigation,
(AG-8) Upper Tabuating Irrigation,
(AG-9) Aulo Small Water Impounding Project (SWIP),
(AG-10) Small River Irrigation/Impounding Projects (SRIPs),
(AG-11) North Lawis (Palongohan) Irrigation,
(AG-12) Tarlac Satellite Irrigation,
(AG-13) Communal Irrigation,
(AG-14) Pilot Pump Irrigation,
(AG-15) Backyard Animal Production Enhancement Program,
(AG-16) Provincial Tilapia Hatchery,
(AG-17) Grouper Cage Culture,
(AG-18) Fishery Common Service Facilities Establishment,
(AG-19) Regional Agricultural Training and Extension Center, and
(AG-20) Regional Cooperatives Development Training Institute.

3) Urban development
(UR-1) Integrated Urban Development Program,
(UR-2) Urban Land Readjustment Program,
(UR-3) Urban Renewal and Industrial Modernization,
(UR-4) San Fernando-Angeles Metropolitan Area Development,
(UR-5) Bulacan Central Water Supply,
(UR-6) Olongapo City Water Supply Improvement,
(UR-7) LWUA Water Supply, and
(UR-8) Bypasses Construction.

4) Industry and trade
(IN-1) Industrial Clusters International Partnership Program,
(IN-1) Strategic Overseas Workers Management Program,
(IN-3) World Class Designer Invitation Program,
(IN-4) Tripartite R &D Promotion Program,
(IN-5) Skills Expert System Development,
(IN-6) Industrial Clusters Integrated Modernization Program,
(IN-7) Regional World Trade Center (ECLUZON),
(IN-8) Central Luzon Research Triangle,
(IN-9) Techno-Communicator Development Program,
(IN-10) Provincial Industrial Testing Center,
(IN-11) International Design Academy,
(IN-12) Lifestyle Research and Information Center,
(IN-13) Tourism-Local Industry Complex,
(IN-14) Mining Area Development and Use,
(IN-15) Bulacan Wholesale and Distribution Center, and
(IN-16) Regional Integrated Distribution Promotion.

5) Social services
(SO-1) Bataan National Schools of Arts and Trade Upgrading,

(SO-2) Bataan Teachers' College Upgrading,
(SO-3) Acquisition and Upgrading of Teaching Tools,
(SO-4) Elementary Science Schools Establishment,
(SO-5) Functional Division Educational Management Information System (EMIS),
(SO-6) Acquired Competencies and Excellence in Sports,
(SO-7) Human Resources Development and Training Center,
(SO-8) Integrated Training, Livelihood and Organization Development Program for Mt. Pinatubo Resettlement Areas,
(SO-9) Public Health Services Improvement,
(SO-10) Hospitals Upgrading,
(SO-11) Regional Herbal Processing Plant,
(SO-12) Integrated Family Planning and Child Survival Program,
(SO-13) Construction of Day Care Centers and Health Clinics, and
(SO-14) Computerization of LGU Database.

6) Environment
(EN-1) Rattan Plantations Development and Management,
(EN-2) Bamboo Plantations Development and Management,
(EN-3) Pollution Control and Prevention Center,
(EN-4) Solid Waste Management Improvement Pilot Project,
(EN-5) Candaba Swamp Conservation Program,
(EN-6) Sta. Cruz Marine Conservation Program,
(EN-7) Luzon Sea Coastal Resources Management,
(EN-8) Subic Environmental Development Program,
(EN-9) Land Resources Information System Development,
(EN-10) Eco-Community Network,
(EN-11) Comprehensive Regional Environmental Management Improvement Program, and
(EN-12) World University of the Environment.

7. Institutional Measures

The implementation of the CLDP master plan calls for increased participation of people in development planning and administration. In line with the devolution effected by the Local Government Code of 1991, NGO/PO participation at LGU levels should be increased and institutionalized. For this purpose, the following measures are recommended.

(1) Barangay profiling to be entrusted to NGOs/POs by LGUs,

(2) Environmental impact assessment with NGO/PO participation and disclosure of all the relevant information,

(3) Social services to be improved by pooling local manpower and financial resources,

(4) Alternative mechanisms for marketing and financing by people themselves to be developed in stages, and

(5) Cooperative and livelihood development fund to be established to support a wider range of self-supporting activities by people.

8. Public Investment Requirements

The availability of public investment fund to be allocated to the CLDP has been projected and compared with public investment requirements by phase as follows.

Table 7. Public Investment Requirements for CLDP and Fund Availability

(Unit: US$ million)

	Phase I	Phase II	Phase III	Total
Public investment fund to be allocated to CLDP	840	2,280	3,200	6,320
Public investment requirements for CLDP	826	2,800	3,356	6,982

To reduce the public fund requirements, some projects should be implemented by the private sector such as industrial estates, telecommunication projects and possibly some road projects.

EXECUTIVE SUMMARY

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List of Abbreviations

AFTA	-	Asean Free Trade Area
APEC	-	Asian Pacific Economic Cooperation
ARCs	-	Agrarian Reform Communities
ASEAN	-	Association of South East Asian Nations
BEPZ	-	Bataan Export Proceesing Zone
BOI	-	Board of Investments
BSWM	-	Bureau of Soil and Water Management
CAR	-	Cordillera Autonomous Region
CDC	-	Clark Development Corporation
CENRO	-	Community Environment and Natural Resources Office
CFPI	-	Cooperative Foundation of the Philippines Inc.
CLDP	-	Central Luzon Development Program
CLSU	-	Central Luzon State University
DA	-	Department of Agriculture
DAR	-	Department of Agrarian Reform
DECS	-	Department of Education, Culture and Sports
DENR	-	Department of Environment and Natural Resources
DILG	-	Department of Interior and Local Government
DOH	-	Department of Health
DOLE	-	Department of Labor and Employment
DOST	-	Department of Science and Technology
DOT	-	Department of Tourism
DOTC	-	Department of Transportation and Communications
DPWH	-	Department of Public Works and Highways
DSWD	-	Department of Social Welfare and Development
DTI	-	Department of Trade and Industry
EIA	-	Environmental Impact Assessment
EPZ	-	Export Processing Zone
EU	-	European Union
GDP	-	Gross Domestic Products
GIS	-	Geographic Information System
GNP	-	Gross National Product
GO	-	Government Organizations
GRDP	-	Gross Regional Domestic Products
GVA	-	Gross Value Added
HAIE	-	Hermosa Agro-Industrial Estate
IAs	-	Industrial Associations
IE	-	Industrial Estate
IRA	-	Internal REvenue Allotment
JICA	-	Japan International Cooperation Agency
LGU	-	Local Government Unit
LMU	-	Land Management Units
LWUA	-	Local Water Utilities Administration
MPC	-	Mount Pinatubo Commission
MSC	-	Manila-Subic-Clark
NAFTA	-	North American Free Trade Area
NCR	-	National Capital Region
NEDA	-	National Economic Development Authority
NFA	-	National Food Authority
NGO	-	Non-Government Organization
NIA	-	National Irrigation Administration
NIC	-	Newly Industrialized Country
NIPAS	-	National Integrated Protected Area System
NSO	-	National Statistics Office

NWRC	-	National Water Resources Council
PENRO	-	Provincial Environment and Natural Resources Office
PO	-	People's Organization
POS	-	Point of Sale
PRRM	-	Philippine Rural Reconstruction Movement
RDC	-	Regional Development Council
RSCs	-	Regional Service Centers
SBMA	-	Subic Bay Metropolitan Authortiy
SEPZ	-	Special Economic and Freeport Zone
SEZ	-	Special Economic Zone
SME	-	Small and Medium Enterprise
SRS	-	Social Reconnaissance Survey

Abbreviations of Measures

Length		
mm	=	milimrter
cm	=	centimeter
m	=	meter
km	=	kilometer
mbgs	=	meter below grounf surface

Weight		
mg	=	miligram
g	=	gram
kg	=	kilogram
ton (MT)	=	metric ton
1 cavan	=	50 kilograms

Area		
cm^2	=	square centimeter
m2	=	square meter
Km2	=	square kilometer (sq. km)
ha	=	hectare

Volume		
cm^3	=	cubic centimeter (cu. m)
lit	=	liter
lb	=	pound
m3	=	cubic meter
MCM	=	million cubic meter

Other Measures		
%	=	percent
m^3 /s	=	cubic meter per second
lit /s	=	liter per second

Money		
P	=	Philippine Peso
¥	=	Japanese Yen
US$	=	US Dollor

Government of the Philippines Fiscal Year

From January 1 to December 31

EXECUTIVE SUMMARY

1. INTRODUCTION

In response to the request by the Philippine government, the Japanese government has decided to extend technical cooperation for preparing an integrated regional development master plan for the Central Luzon Development Program (CLDP). The Japan International Cooperation Agency (JICA), responsible for technical cooperation of the Japanese government, agreed on its implementing arrangement with the Board of Investments (BOI) of the Department of Trade and Industry (DTI), the co-counterpart agency of the Philippine government together with the Regional Development Council (RDC) for the Central Luzon region (Region III).

A team of consultants of Nippon Koei Co., Ltd. and Pacific Consultants International has been nominated by JICA to implement this technical cooperation. Works started in October 1993 for some 20 months.

The objectives of the technical cooperation as agreed upon between DTI-BOI and JICA are the following:

(1) to prepare an integrated regional development master plan with the target year of 2010 for the balanced agricultural and industrial, socio-economic and physical development of the Central Luzon region, out of which priority projects and programs shall be shortlisted; and

(2) to make recommendations necessary for the effective implementation of the master plan, including investment promotion measures and organizational/institutional arrangements.

This technical cooperation has two unique features. First, selected non-governmental organizations (NGOs) have participated in the planning process from the very beginning to effect a bottom up approach to regional development planning within the framework of official development assistance (ODA). Second, a new development paradigm has been pursued on the balance between economic growth, social development, and environmental quality.

The CLDP paradigm is presented in Chapter 2 as a vision for the long-term development of Central Luzon. Substantive contents of the paradigm are contained in Chapters 3 through 6. Institutional measures to increase public participation in the development planning and administration are presented in Chapter 6 together with development projects and programs.

2. CENTRAL LUZON DEVELOPMENT PARADIGM

2.1 Central Luzon's Position and Challenge

Central Luzon or Region III occupies a central part of the Luzon island just north of Metro Manila. It consists of the six provinces of Bataan, Bulacan, Nueva Ecija, Pampanga, Tarlac and Zambales. Central Luzon has an area of 18,230 km^2 corresponding to 6.1% of the total national land. Its population was 6,199,000 in 1990, accounting for 10.2% of the total population in the Philippines.

Central Luzon in national socio-economy

Relative position of Central Luzon in the national socio-economy may be summarized as follows.

(1) Relatively advanced region with the gross regional domestic products (GRDP) contributing to 9.0% of the gross domestic products (GDP),

(2) Leading industrial area within the National Industrial Core Region, together with Metro Manila and part of Region IV,

(3) Rice bowl of the Philippines with highly established agriculture as the mainstay of the regional economy, and

(4) Region with rich human resources better educated, more organized and trainable.

Central Luzon in national spatial development

Central Luzon holds an important position in the national spatial development as summarized below.

(1) More urbanized and more rapidly urbanizing region,

(2) Receiving area of spillover from Metro Manila,

(3) Receiving area for in-migration from northern regions, and

(4) More concentrated urbanization pattern.

Challenge for Central Luzon

The Philippines is gearing up toward becoming a newly industrialized country by the year 2000 under the Philippine 2000. The Medium-Term Philippine Development Plan 1993-98 envisions the growth of GDP at the average annual rate of 7.4% during the Plan period. The Philippine 2000 is also embodied with the principles of sustainable development, people empowerment and better quality of life for, in short, growth with redistribution.

To respond to the Philippine 2000, Central Luzon is expected to grow faster than the national average. The Medium-Term Plan sets the growth target for GRDP of Central Luzon at 8.5% per annum on the average during 1993-98. A real challenge for Central Luzon is how to attain such high growth without causing environmental degradation and social disruption. This would call for pursuing a new development paradigm.

2.2 Glocalization with Two-pronged strategy

A new development paradigm would have to pay equal attention to economic, social and environmental aspects. First, it would be supported by economic efficiency so that Central Luzon would be competitive in increasingly competitive and borderless economies in the world. Second, it would be based on the people or community initiative for social development to realize equitable development to benefit local people. Third, it would incorporate proper environmental management to ensure development within the resource capacity.

To satisfy these conditions collectively, a two-pronged strategy is conceived, consisting of the following components:

(1) To promote people/community-based development for socially and environmentally sound and sustainable development; and

(2) To drive internationalization for integrated and competitive local and regional socio-economies.

The first component means the utilization of indigenous resources by and for the benefit of local communities and people for localization. The second component utilizes the industrial/trade anchors to induce re-vitalization of local economies for glocalization. Advantages of these may be combined to define the most desirable development alternative, to be called glocalization. The glocalization will aim at attaining the highest economic growth possible within the resource or environmental capacity through the use and management of development resources by and for local people and communities.

2.3 CLDP Paradigm

Conditions for CLDP paradigm

The CLDP paradigm would pursue the best balance between economic growth, social development, and environmental quality. It would be supported not only by specific development activities to benefit local people and communities and to protect/enhance environmental quality but also by a mechanism/procedure to allow such activities to be

planned and implemented. In other words, the CLDP paradigm would have to address both HOW to plan and implement development and WHAT to be planned.

Related to HOW to plan and implement development, the CLDP paradigm calls for increased participation of people in development planning and administration. The recent devolution provides good opportunities to increase and institutionalize the participation to strengthen development planning and administration at LGU levels. NGOs/POs hold a key to realize this. More substantial NGO/PO participation at LGU levels should be realized first for various social services.

In parallel, efforts to build up alternative mechanisms to allow people to serve themselves should be strengthened in steps on a project-wise basis. First, people should become main actors in production activities. For projects to introduce new crops or new agricultural activities, farmers should be organized to become more effective recipients of technical extension and other support services by government agencies as well as to negotiate better with traders and processors. Second, people should be involved increasingly more in post production operations. More storage, marketing and even processing facilities should be owned, managed and operated by farmers/fishfolks.

These people-based activities can be promoted on a project-wise basis. The Government is expected to support these activities directly and indirectly through the provision of credit facilities, technical extension and guidance, applied research, and improved infrastructure. NGOs/POs would be instrumental for community organizing and support in production activities and post production operations.

These people-based activities would become fully sustainable and self-reliant, only when finance is also dealt with by organized people. People-based finance can start again with the provision of social services. For other activities, people-based finance can be tested first for specific projects. Ultimately, it would develop to cover most substantive investments to enhance land productivity and further to install post production facilities.

In the CLDP paradigm, HOW and WHAT aspects are thus inseparable. Alternative mechanisms or procedures are built into many individual projects and programs. Most CLDP projects related to production activities especially in rural areas are people-based to be supported by LGUs and NGOs/POs.

Government's roles are no less important for the CLDP paradigm than for the Philippines 2000 paradigm. They consist of public investments in key infrastructure facilities and appropriate policy measures to encourage private investments. Public investments should be devoted to two kinds: one to transform the spatial development structure of the region,

overcoming inherent land and water resources related constraints, and the other to help restore environmental quality and bio-diversity.

Characterization of CLDP Paradigm

Through the pursuit of the CLDP paradigm, Central Luzon will be transformed into the following.

(1) World leader in people/community-based development activities,

(2) World center for environmental education,

(3) Showcase of recycle-oriented rural activities and bio-diversity preserving organic agriculture,

(4) Industrial heartland of the Philippines with diversified industrial structure,

(5) World center for fashion and interior design related industries,

(6) International transshipment hub serving Southeast Asian countries with free seaport and airport, and

(7) Communication center between Filipino people and other peoples of different backgrounds through conference, tourism and related service activities.

3. DEVELOPMENT OBJECTIVES AND STRATEGY

3.1 Regional Development Objectives

Development objectives for Central Luzon have been established in line with the ideas of the CLDP paradigm. They represent economic efficiency for international competitiveness, social development or people/community-based development, and environmental management to ensure growth within environmental or resource capacity, and are expressed as follows:

(1) To contribute to the establishment of industrial and trade niches of the Philippines within the globalizing economies based on traditional value and available resources;

(2) To empower people through eradication of widespread poverty, provision for the basic human needs, and assurance of access to a wide range of opportunities; and

(3) To protect, create and restore the environment of sufficient diversity to support various socio-economic activities on a sustainable basis.

3.2 Objectives and Strategy for Economic Development

3.2.1 Agriculture

(1) Objectives for agricultural development

Objectives for agricultural development in Central Luzon are established in line with the regional development objectives, representing economic, social and environmental aspects. The economic aspect has an added dimension due to a Central Luzon's position as a rice bowl of the Country.

1) To increase paddy production to maintain at least 100% self-sufficiency and contributes as much as possible to other regions' requirements;

2) To improve income of farmers, fishfolks and rural laborers by enhancing agricultural and fishery productivity and expanding raw materials base for simple processing in rural areas;

3) To generate sufficient employment opportunities in rural areas to minimize out-migration and social disruption; and

4) To contribute to the diversification of region's economy and biosphere.

(2) Strategy for agricultural development

1) Enhancement of agricultural productivity through:

   (a) crop diversification in favour of high value-added crops and those for export and processing within the region,

   (b) mixed farming combining paddy and vegetables/pulses (tomato, onion, eggplant, squash, okra, mungbean, soybean and peanut),

   (c) integrated farming combining crop cultivation and livestock/poultry/fishery,

   (d) multi-storey farming combining coffee, cacao and cashew as well as mango and banana with vegetables and corn, and

   (e) intensification of paddy production through double cropping under irrigation, increased fertilizer application in favour of organic fertilizer, and distribution of certified seed especially where irrigation is provided.

2) Organization of farmers for the new agricultural activities listed above, contract farming in better terms with agro-processing enterprises, joint procurement and marketing, and even joint ownership of some post harvest facilities.

3) Promotion of sustainable agriculture as part of sound land and water resources management such as agro-forestry and organic agriculture; the latter can accelerate natural regeneration of productive capacity of lands affected by the Mt. Pinatubo eruption and subsequent lahar.

4) Effective utilization of primary products with minimal wastes through strengthening of marketing systems including production linkages.

5) Improvement of backyard livestock raising through expansion of feed base, establishment of breeding stations, improvement of artificial insemination centers and extension for the state-of-art technology.

6) Acceleration of the agrarian reform with a broader coverage for land transfer to improve the credit-worthiness of individual farmers and provide incentives for them to invest into their lands to enhance agricultural productivity.

7) Fishery rationalization oriented more to domestic markets through:

   (a) protection/enhancement of fishery resources in Manila Bay and China sea coastal zones based on comprehensive resources assessment,

   (b) restoration of coastal and Manila Bay environment, and

(c) adoption of appropriate technologies for both inland and captive fishery.

3.2.2 Industry

(1) Objectives for industrial development

Objectives of industrial development in Central Luzon are established in line with its vision as an industrial heartland.

1) To establish industrial niches within the globalizing economies with free trade zones and other supportive facilities and functions, using Central Luzon's locational advantages, existing agglomeration of various industries and indigenous resources;

2) To promote agro-industrial rurban (rural urban) communities through localization of the economy with strengthened linkages between agriculture and industry; and

3) To contribute to the improvement of human environment through minimization of pollution loads to natural environment and provision of improved physical environment.

(2) Spatial strategy for industrial development

1) Promotion of international strategic alliances including:

   (a) establishment of "growth quadrangle" linking Hongkong, South China and Taiwan with Central Luzon, and

   (b) strengthened linkages with other ASEAN countries, USA, Japan and Australia leading to the formation of an industrial heartland in Central Luzon.

2) Formation of the Metro Manila-Subic-Clark triad where the Subic Bay and the Clark Field would shoulder in steps Metro Manila's transshipment functions, while Metro Manila would specialize in higher order urban functions.

3) Strengthening of production linkages with Northern Luzon through processing of primary products from Northern Luzon increasingly more within Central Luzon.

4) Development of additional industrial lands in Tarlac and Nueva Ecija to integrate Central Luzon provinces and Northern Luzon more directly and strongly with Subic-Clark, and also in Bulacan along with urban renewal and industrial modernization.

(3) Sector strategy for industrial development

1) Country- and product-specific export development in line with the Medium-Term Philippine Export Development Plan for resources-based products (aqua-products, processed fruits and marble), consumer products (garments, furniture, gifts and housewares, ceramics and jewelry), industrial products (electronic products, metal components and parts, and computer software), and leather and leather goods.

2) Expansion of indigenous resources such as various industrial crops, livestock, rattan and bamboo, and agricultural wastes and by-products.

3) Creation of domestic markets through tourism development to provide an effective market outlet for agro-products and handicrafts, and other inter-industry linkages such as cashew oil for leather goods and furniture industries, and rice bran oil for cosmetics.

4) Specialization and subcontracting of such functions as transportation and business services particularly of small and medium scale enterprises (SMEs) for cost reduction and formation of integrated industrial clusters.

5) Establishment of industrial associations by SMEs' specified groups for joint procurement and marketing and solving common problems, and enhancement of cooperative activities to take advantage of privileges granted to cooperatives and their own distribution systems.

3.2.3 Tourism and trade

(1) Objectives for tourism and trade development

Objectives of tourism and trade development in Central Luzon represent also economic, social and environmental aspects as follows:

1) To provide sources of income and employment opportunities to local people in rural and urban areas;

2) To enlighten people through participation in various aspects of tourism and trade development and communication with a wide range of people from outside; and

3) To contribute to the improvement of images and environmental quality of Central Luzon.

(2) Basic strategy for tourism

1) Promotion of market-oriented tourism rather than resource-based tourism, capitalizing on Central Luzon's strategic location aiming at new target markets of Metro Manila residents and international tourists from East Asia.

2) Revision of spatial pattern of Central Luzon tourism taking account of the following:

   (a) collaboration with CALABARZON to establish a resort belt,

   (b) location of new leisure facilities to meet expanding needs of Metro Manila, and

   (c) developing new status and functions of the Subic Bay Metropolitan Area.

3) Strengthening of inter-industry linkages to maximize tourism impact on regional economy.

(3) Components of tourism development strategy

1) Creation of man-made attractions and tourist facilities to augment and complement natural attractions;

2) Targeting at family market which is promising due to low transportation costs and short travel time and better security in the region than in Metro Manila;

3) Formulation of West Luzon resorts belt to enhance competitiveness particularly in the international market, linking with sea transport between the Ternate-Nasugbu area in CALABARZON through Ternate or Nasugbu and the western part of Bataan and Zambales through Subic;

4) Creation of satellite resorts from Subic with the revision of roles of Olongapo City more as a service town rather than a resort town providing convention and exposition facilities, entertainment and shopping attractions to the satellite resorts;

5) Intensive but physically unobtrusive development with sufficient investment in environmental infrastructure through coordinated efforts of LGUs, local communities and tourism enterprises;

6) Resort areas equipped with more commercial functions for shopping and entertainment for more lively resort atmospheres;

7) Promotion of convention tourism to tap corporate market and to reduce seasonality of tourist visits;

8) Introduction of tourist attractions with "tropical rural life" as the principal concept to reinforce links between tourism and agriculture/fishery;

9) Development of local industry-based tourism to differentiate Central Luzon from other destinations and to use tourism as a marketing channel for local products; and

10) Promotion of local cuisine (e.g. Pampanga cuisine) to lure out domestic tourists to Central Luzon and also to improve a very poor image of the Philippines as a gourmet destination.

(4) Strategy for trade and related services

1) Division of roles with specialization within the distribution system to reduce marketing costs, and shouldering in step of the Metro Manila's physical distribution function.

2) Development of the primary wholesale function to collect products or products information, find buyers and feed back market information to producers through:

   (a) establishment of integrated distributors with transportation, warehousing, financing and primary wholesale functions, and/or

   (b) establishment of a trade center run by the public or the third sector.

3) Establishment of a physical distribution center with a truck terminal, wholesale market, processing facilities and warehouses; it would also have intermediary and transshipment functions for products from Northern Luzon.

4) Development of retail trade and various services associated with tourism development.

3.3 Objectives and Strategy for Social Development

(1) Objectives for social development

Social objectives for Central Luzon are established to support economic development, to express social concerns, and to improve environmental management. This dual structure of overall and sector objectives mutually supporting one another would ensure better the observance of balance between these three aspects.

1) To ensure all the people access to basic education, primary health care and sanitation, and shelters as prerequisites to their participation in various economic activities;

2) To enhance individual and collective capability of people and awareness on gender and development by strengthening various community organizations and providing training and education; and

3) To establish community-based resource management for environmentally sound and sustainable resource use for the benefit of people/communities.

(2) Strategy for social development

Social welfare

1) Assistance for livelihood development of the socially disadvantaged or displaced through skills training, community organizing, and capital assistance.

2) Enhancement of potentials of youth and children through community-based development activities, and enhancement of women's participation in all spheres of development and governance.

3) Target specific training for social welfare workers at the provincial level.

Health

1) Strengthening/upgrading of rural health units as the community health centers mainly for comprehensive primary health care services targeting at the poor with community-based volunteer health workers to be strengthened as community health managers and involvement of local communities and NGOs/POs in the delivery of basic health services.

2) Upgrading of existing hospitals as area-wide health centers for curative health care services, each of which is linked to the community health centers.

3) Health education at the community health centers, and medical researches focusing on traditional and indigenous medical measures.

4) Improvement of water supply, toilet facilities and solid waste management with priorities to safe water supply and marginalized areas.

Education

1) Improvement of accessibility to the primary education through provision of road access and transportation and also of survival rates through social programs to cater for marginalized families,

2) Improvement of quality of education through in-service training and teacher development, provision of audio-visual materials, and non-formal education by the participation of parents, communities and NGOs to complement formal education.

3) Curricula improvement to match business demands, and an information-education-communication program to influence choices of students for more market-oriented courses.

4) Strengthening of non-formal education with increased NGO participation.

Poverty alleviation

1) Institutionalization of barangay profiling to enhance LGUs capability to identify needs, formulate programs and assess impact, tapping experiences of NGOs.

2) Allocation of comparatively more resources to the marginalized sector for basic human needs such as basic education, primary health care and sanitation, and shelter.

3) Provision of incentives for the business sector to establish in depressed barangays and participate in providing basic social infrastructure and services.

Resettlement and livelihood development

1) Capacity building focusing on key leaders of each resettlement site for skill training, community organizing, and business development to create a viable new barangay community.

2) Planning and implementation for the provision of additional facilities by participatory approach.

3) Supports for livelihood development depending on characteristics of resettlement sites and resettlers such as the following:

   (a) training and improvement of access roads for urban resettlers,

   (b) establishment of viable multi-storey and integrated farming for upland resettlers that will fit to their culture and value,

   (c) extension for new crops/crop varieties, cropping patterns, and alternative systems of production for farmer-resettlers, including organic agriculture on lahar affected lands, and

   (d) re-planning of resettlement with dominant urban workers in line with the identified urban/industrial lands.

3.4 Objectives and Strategy for Environmental Development

(1) Objectives for environmental development

Environmental objectives for Central Luzon have three components representing economic, social and environmental aspects as follows.

1) To support various economic activities by providing a sustainable base of rich, diverse and renewable resources and to promote environmentally sound agro-industrial development;

2) To provide safe, healthy and comfortable living environment for local people through community-based approach to natural resources management; and

3) To restore and preserve bio-diversity as an inherited asset of human beings and a sort of insurance against unforeseable future changes as well as part of the life support system of people and communities.

(2) Strategy for environmental development

Pollution control enforcement

1) Industrial location in line with land use plans such that the same kind of polluting factories would locate in the same area with common wastewater treatment facilities.

2) Enforcement of penalties on violators of environmental laws and regulations by increasing expertises, human resources, fund and equipment of the Department of Environment and Natural Resources (DENR).

3) Technical and financial assistance to SMEs in installing pollution control facilities.

4) Strict implementation of an environmental impact assessment (EIA) through stiffer penalties against violations of the environmental compliance certificate (ECC) and dissemination of information on the EIA system.

5) Training of candidates for Pollution Control Officers required for private establishments by DENR or DTI.

Improvement of urban environment

1) Establishment of guidelines to prioritize the provision of urban infrastructure in a step-wise manner.

2) Establishment of service coverage of collection, types of treatment, and methods of disposal of solid wastes depending on urbanization characteristics of municipalities.

Environmental monitoring

1) Strengthening of monitoring capacity of DENR-III through the establishment of a Regional Environmental Monitoring Center with staff training and data base development.

2) Restructuring of the existing Training Center for Forest Conservation in Nueva Ecija with a new course on environmental monitoring.

3) Introduction of new methods of analysis on water and air quality consisting of precise analysis and summary analysis for wider coverage at smaller costs.

Cultivation of environmental awareness

1) Combined utilization of various means of communication to disseminate environmental information.

2) Establishment of a world-class center for environmental education capitalizing on existing resources such as the Candaba swamp, the Subic rainforest, and indigenous peoples, and promotion of eco-tourism as a tool for environmental education.

3) Establishment of an Eco-Community Network to facilitate the communication between communities, government agencies, and the industrial sector.

4. DEVELOPMENT FRAMEWORKS AND SCENARIO

4.1 Socio-Economic Framework

A socio-economic framework has been worked out for the Central Luzon regional development to the year 2010 under the Glocalization scenario. The framework specifies the level of development expected in the target year by selected socio-economic indices projected in a mutually consistent way.

The GRDP of Central Luzon is projected to increase from ₱ 94 billion (at 1990 price) in 1990 to ₱ 458 billion by 2010 at the average annual rate of 8.2% with changes in sector structure as illustrated in Figure 1. Expected growth performance of the Central Luzon regional development to the year 2010 is compared in Table 1 with growth targets of the current Medium-Term Development Plan.

Figure 1 GRDP Projection for Central Luzon

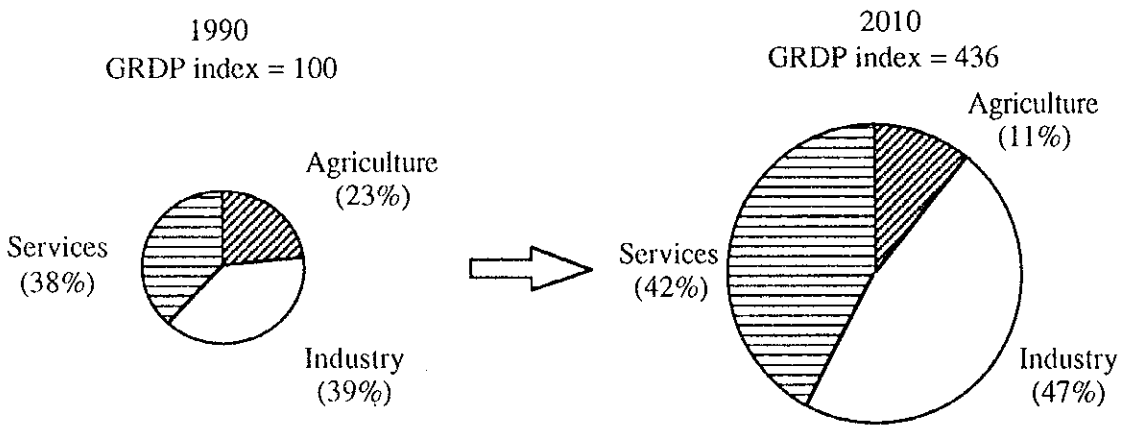


Table 1. CLDP Socio-Economic Framework for Glocalization Compared with National Targets

(Unit: % per annum)

	CLDP under Glocalization	Philippine 2000
GDP/GRDP Growth		
Agriculture	4.5	4.0
Industry	9.2	9.1
Services	8.8	7.7
Total	8.2	7.4

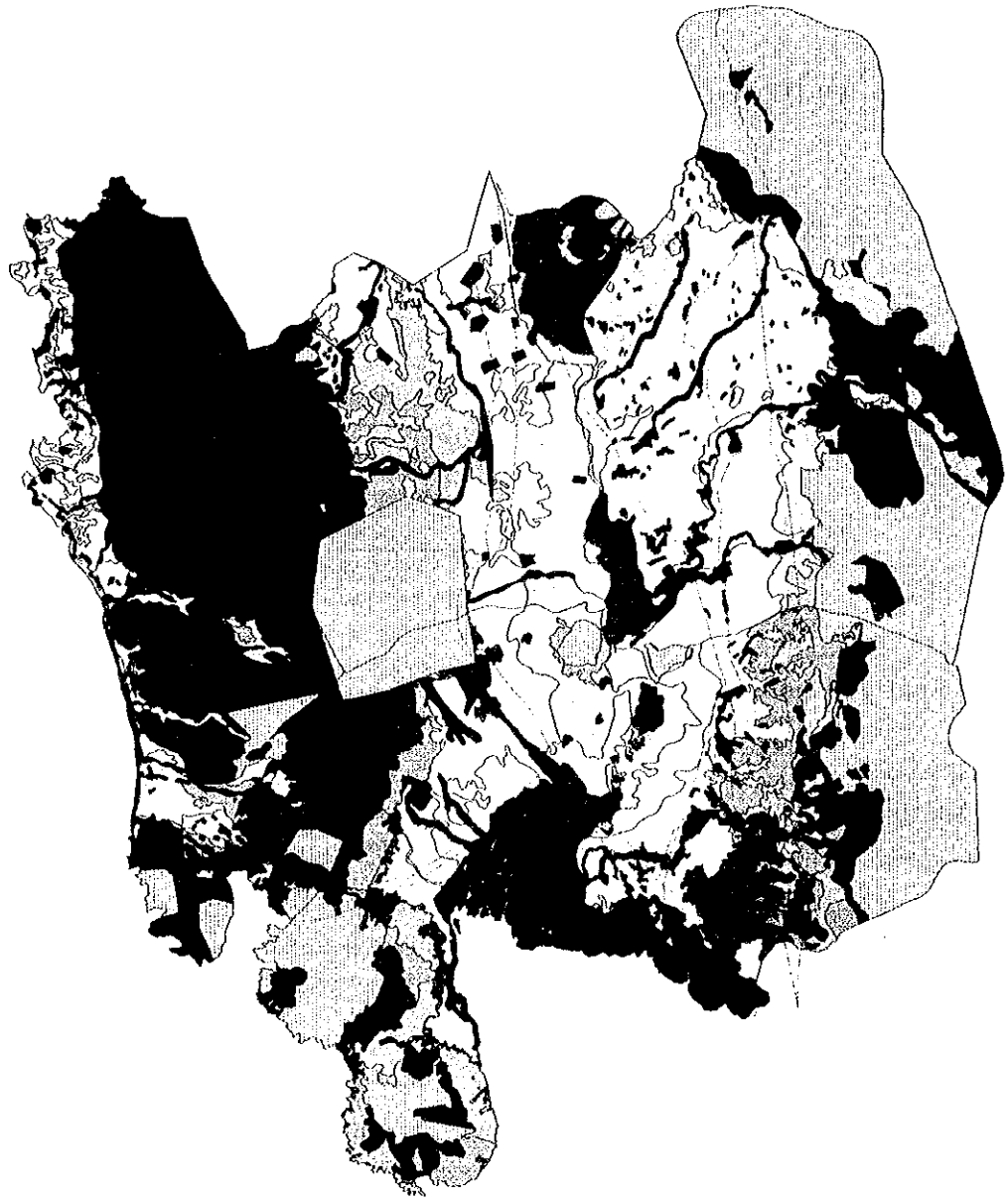
4.2 Spatial Framework

Land use framework

Land suitability has been evaluated to identify potential lands for eight crop groups: lowland paddy, grains, vegetables, industrial crops, managed pasture/agro-forestry, tree crops and fishponds. The result has been compared with the present land use, and proposed land use developed in line with basic concepts of the Glocalization scenario as shown in Figure 2. The proposed land use plan is presented in Figure 3.

Figure 2. Correspondance between Present and Proposed Land Use

legal status	A & D LANDS						PRODUCTION FOREST	PROTECTION FOREST
pedoecological zone	WARM LOWLANDS				WARM COOL UPLANDS		WORM COOL HILLYLANDS	COOL HIGHLANDS
existing land use	IRRIGATED PADDY	RAINFED PADDY	GRASS-LANDS	DIVERSIFIED CROPS	DIVERSIFIED CROPS	GRASS-LANDS	FOREST OR GRASSLANDS	FORESTS
potential land use	IRRIGATED PADDY	PADDY, CORN, VEGETABLE & DIVERSE COMMERCIAL CROPS			DIVERSE UPLAND & COMMERCIAL	MANAGED PASTURE	AGROFORESTRY & TREE CROPS	PROTECTION AREAS
proposed land use under glocalization	IRRIGATED PADDY	MIXED FARMING	COMMER-CIAL CROPS	DIVERSIFIED CROPS	MULTI-STOREY FARMING	MANAGED PASTURE	AGROFORESTRY & TREE CROPS	PROTECTION AREAS



Road

Provincial Boundary

Lowland Prime Lands
- Irrigated Paddy
- Rainfed Mixed Farming (Paddy & Vegetables)
- Rainfed Diversified Crops
- Diversified Commercial Crops & Tree Crops

Upland Prime Lands
- Diversified Upland Crops, Tree Crops & Commercial Crops
- Managed pasture Land also Moderately to Marginally Suitable for Some Commercial Crops & Tree Crops

Fishing Areas

Protection Areas

Not Suitable for Agriculture

Production Forest
- Moderately/Marginally suitable for Tree Crops & Managed Pasture
- Not Suitable for Crop Cultivation

Miscellaneous

Figure 3 Proposed Land Use in 2010 in Glocalization Scenario

Potential urban and industrial lands have been identified by the following criteria:

1) areas of slope less than 8% (lowland) and/or slope less than 18% (lowland and upland),

2) areas having accessibility within 15 km from major urban centers, within 7.5 km from secondary urban centers, within 4 km along major highways, or within 2 km along secondary highways,

3) non-prime agricultural lands not susceptible to severe flooding and not within vulnerable coastal areas, and

4) areas not covered by lahar or prone to lahar hazard or siltation threat.

The identified potential urban and industrial lands are distributed in the region as shown in Figure 4. The potential areas by province are summarized in Table 2. The total potential urban and industrial area is 37,272 ha, consisting of 5,390 ha in lowland and 31,881 ha in upland. This corresponds to 56% of the existing urban and industrial areas.

Table 2 Existing and Potential Urban/Industrial Areas

(Unit: ha)

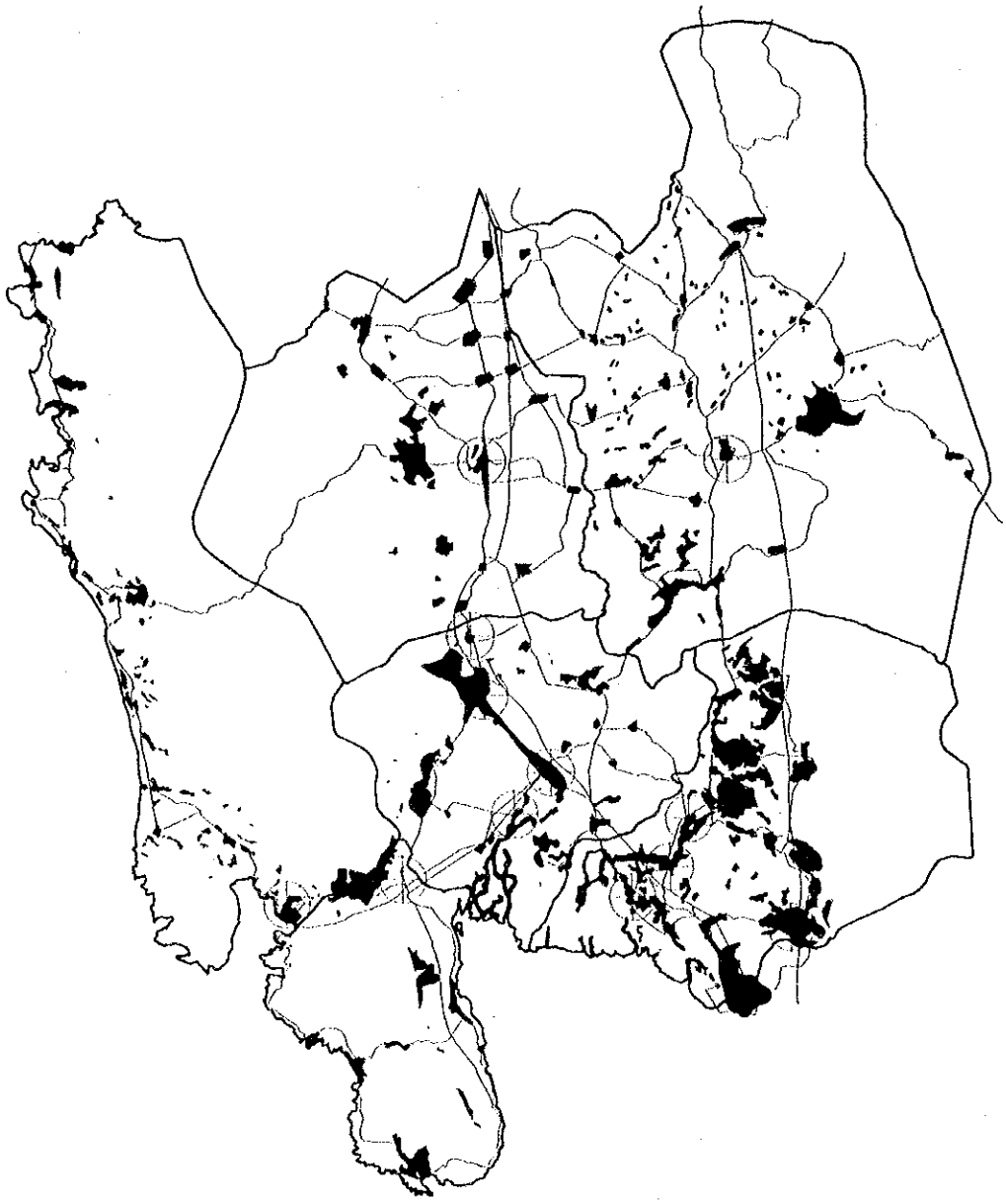
CODE	NUEVA ECLIA	TARLAC	ZAMBALES	PAMPANGA	BULACAN	BATAAN	CENTRAL LUZON
POTENTIAL AREAS							
Lowland (<8%)	2,660	0	1,644	1,000	77	9	5,390
Upland (8-18%)	2,509	4,573	3,822	2,141	14,255	4,581	31,881
TOTAL	5,170	4,573	5,466	3,141	14,332	4,590	37,272
EXISTING AREAS	14,403	7,415	6,863	11,813	23,383	2,490	66,367

Source: GIS analysis by the JICA Study Team

Urban hierarchy

Three broad areas are identified in Central Luzon for accelerated urbanization based on existing distribution of urban population and infrastructure facilities. They are called the National Triad Growth Centers. The Subic Bay Metropolitan Area covers Olangapo City and its neighboring areas. The San Fernando-Angeles Metropolitan Area extends along the Manila North Road and the Northern Luzon Expressway from San Fernando, through Angles City to Mabalacat. The Bulacan conurbation is the area directly affected by the spill-over from Metro Manila.

A hierarchical structure of urban centers in Central Luzon has been analyzed based on present distribution of population and urban centers, distribution of manufacturing and service



Major Urban Centers

Road

Provincial Boundary

Pinatubo Resettlement Areas

Potential Urban/Industrial Areas (Lowland & Upland)

Existing Builtup and Industrial Areas

Figure 4 Potential Urban/Industrial Areas

establishments, land capability, existing infrastructure and urban facilities. A proposed urban hierarchy is shown in Figure 5. Characteristics of urban centers in upper tiers of the hierarchy are presented in Table 3.

Table 3. Characterization of Urban Centers in Upper Tiers of Urban Hierarchy for Central Luzon.

Hierarchy	Urban Center	Characteristics/Functions
Regional Center	San Fernando	Regional and Provincial administration, industrial area with food & beverage, furniture & fixture etc., regional distribution center.
Sub-Regional Centers	Cabanatuan City	Primary trade center, education center with higher education institutes.
	Olongapo City	International trade and communication centers, industrial area with light industries, secondary tourism center.
	Malolos	Provincial administration, financial center, cultural and secondary tourism center.
Major Urban Centers	Angeles City	International trade center, industrial center with footloose industries.
	Tarlac	Provincial administration, agro-industrial center, agricultural distribution center.
	Palayan City	Provincial administration, orchard city, agro-processing center, gateway to Aurora.
	San Jose City	Secondary trade center, gateway to Cagayan Valley.
	Gapan	Secondary trade center
	Dinalupihan	Non-industrial services center, secondary trade center.
	Balanga	Provincial administration, agricultural distribution center.
	Marives	Agro-Industrial Growth Center (designated).
	Iba	Provincial administration, coastal tourism and fishery center.
	Baliuag	Agro-processing center
	Meycauayan	Food processing center

Artery network

A future artery network for Central Luzon is proposed in line with the National Triad Growth Centers and the proposed urban hierarchy (Figure 6). Inter-regional arteries for Central Luzon are basically north-south roads linking Northern Luzon to Metro Manila. The main artery will continue to be the Manila North Road and the North Luzon Expressway with its extension. It has a secondary artery branching off at Tarlac and leading to the Lingayan Gulf area. The alternative artery is provided by the Maharlika highway. In addition, a new inter-regional artery is conceived along the foot of the Sierra Madre mountains for better balanced regional development, providing also an alternative link with the Metro Manila urban transport system.

Intra-regional arteries for Central Luzon are main roads connecting those urban centers at the upper tiers of the proposed hierarchy. They are mostly existing roads to be improved or

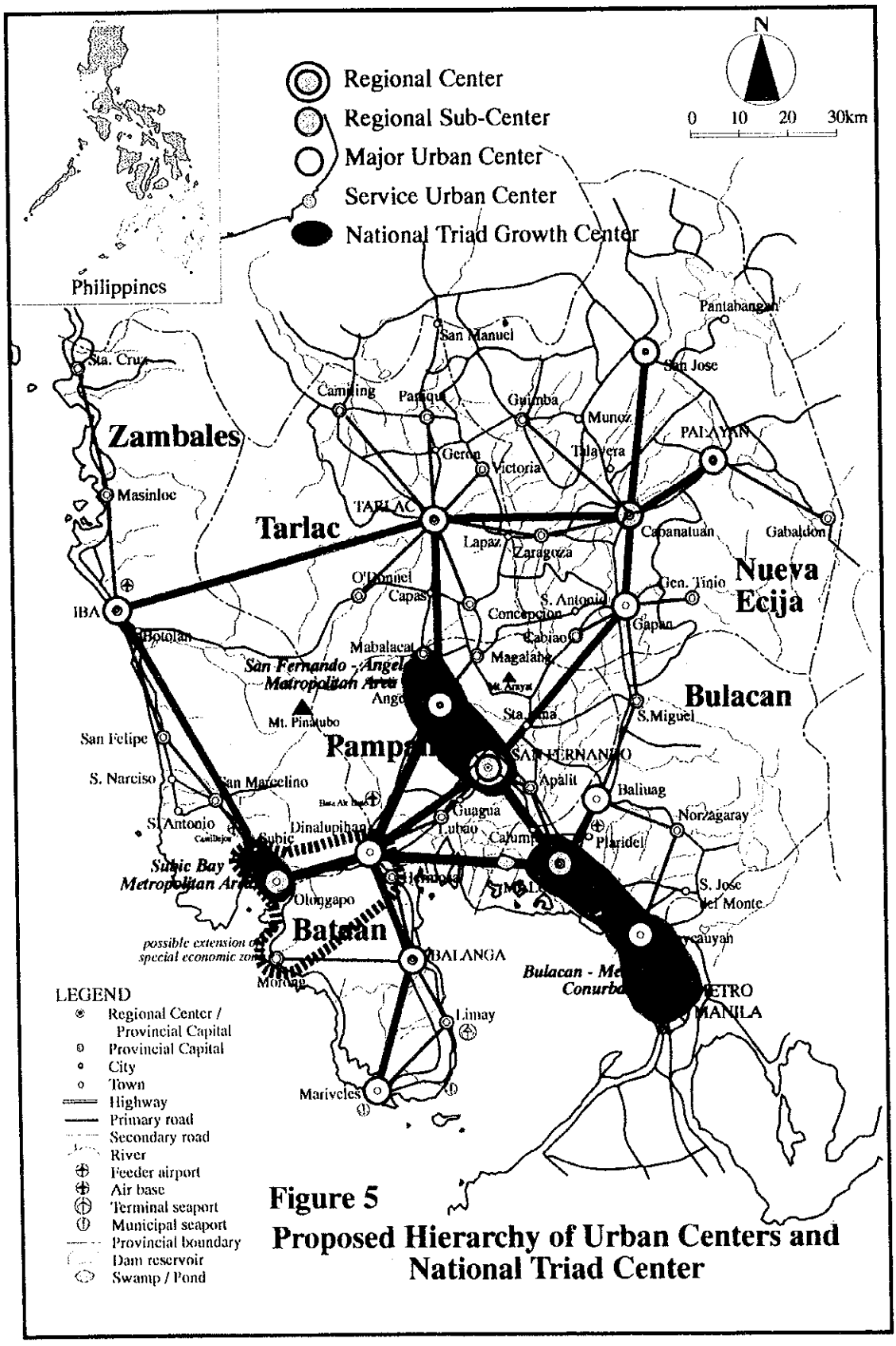


Figure 5
Proposed Hierarchy of Urban Centers and National Triad Center

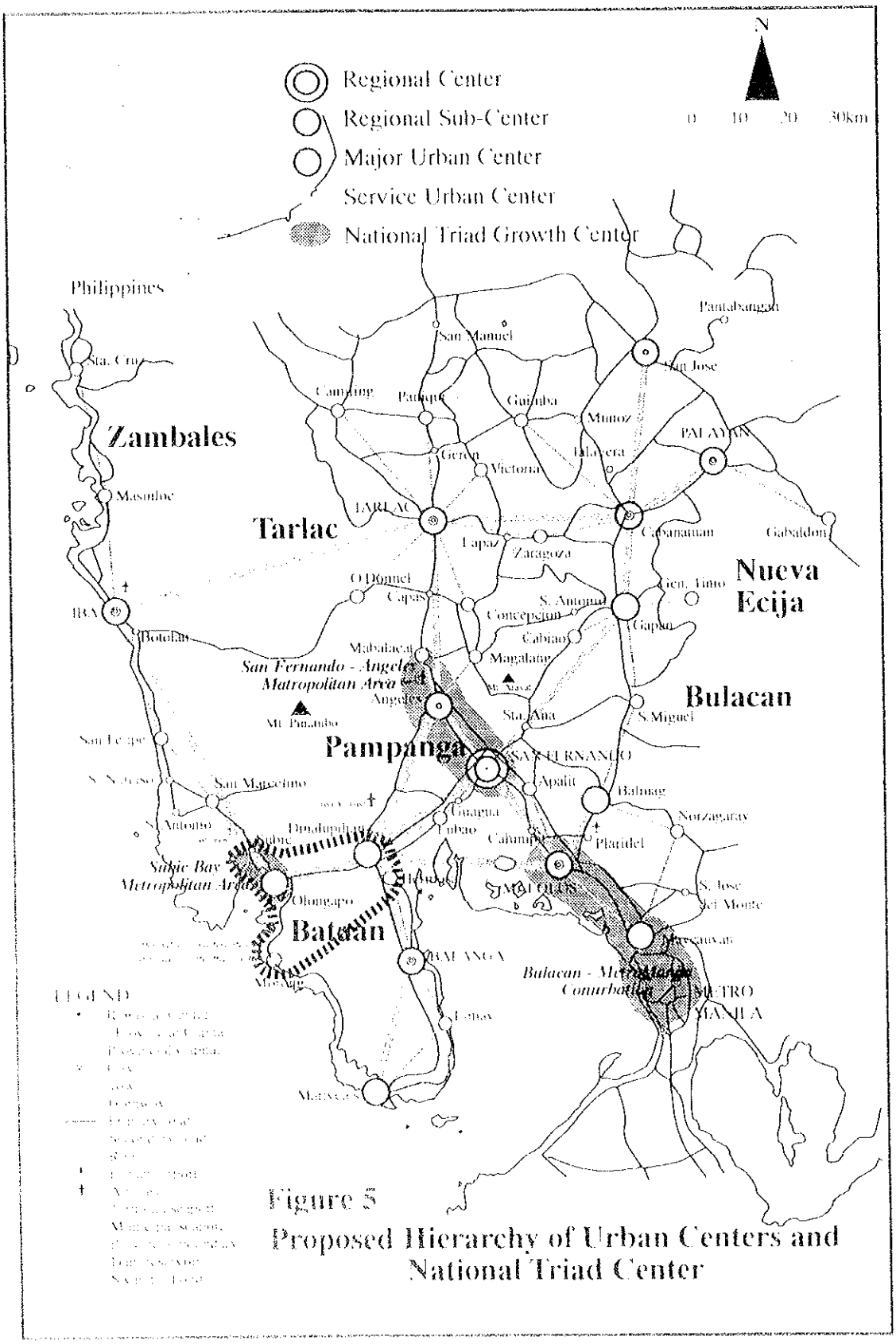


Figure 5
Proposed Hierarchy of Urban Centers and National Triad Center

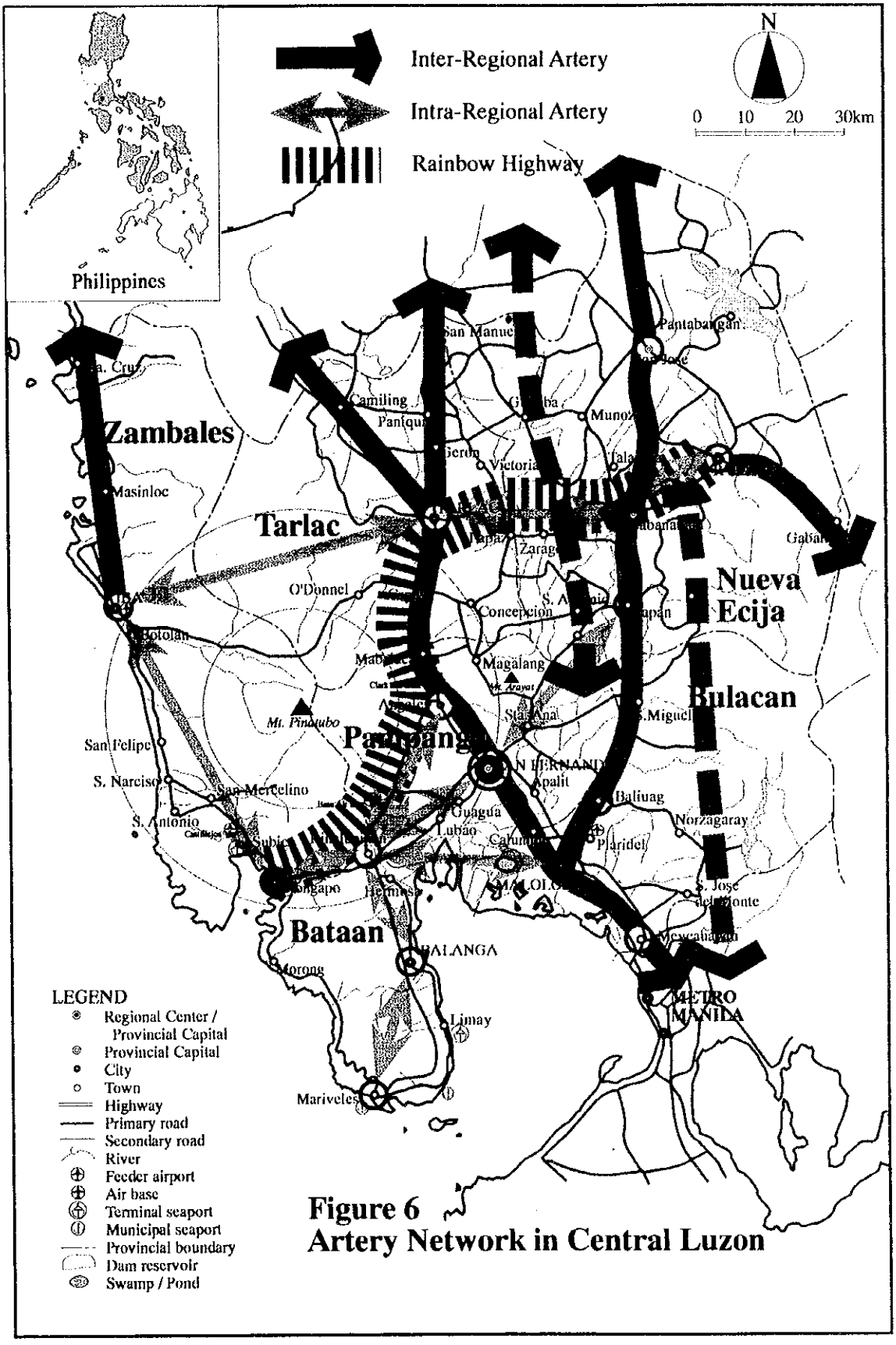


Figure 6
Artery Network in Central Luzon

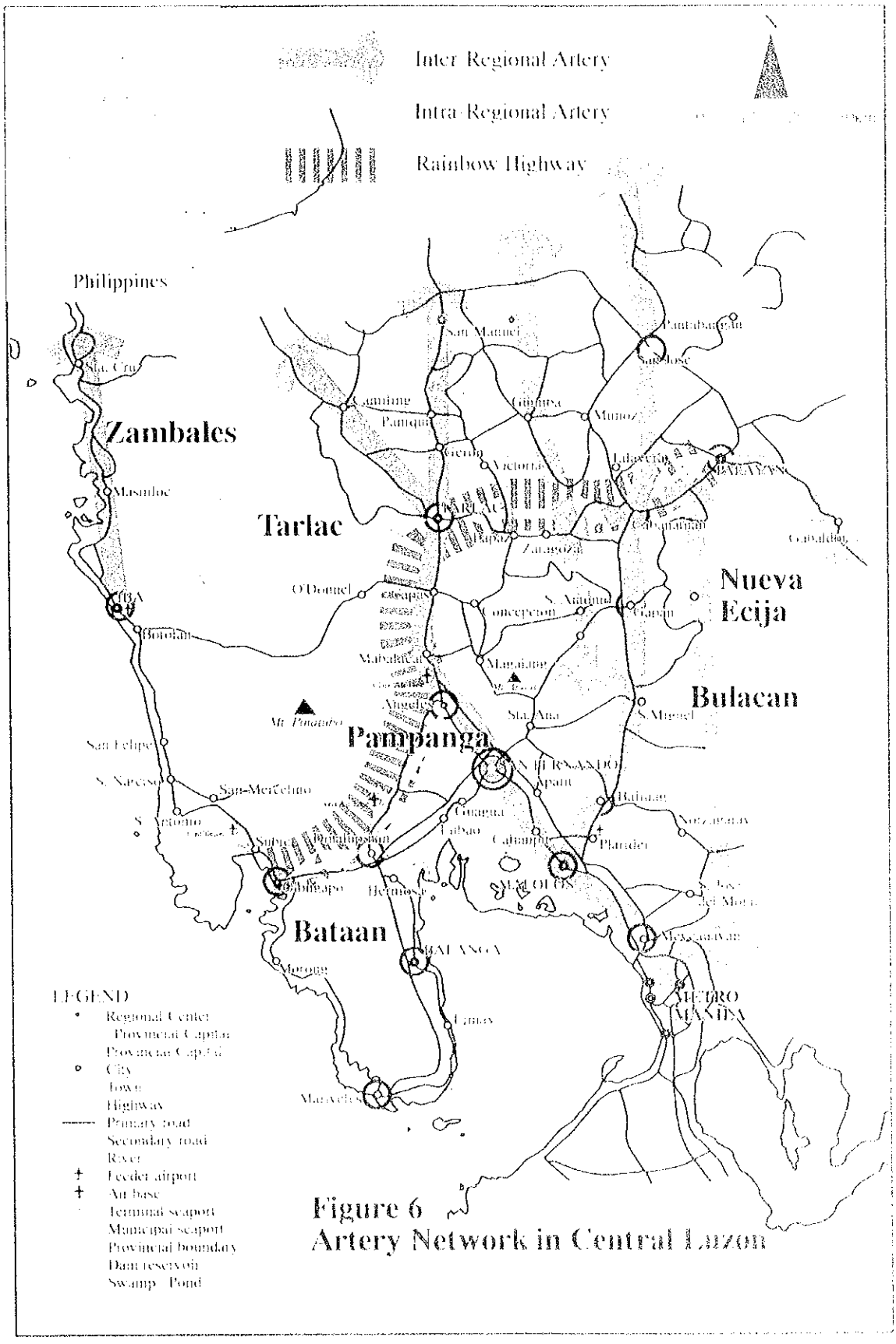


Figure 6
Artery Network in Central Luzon

upgraded. A new intra-regional highway called the Rainbow Highway is proposed to link effectively five provinces except Bulacan and four cities except San Jose City. This highway would help to direct dominant flow of goods and movement of people away from Metro Manila and contribute to the establishment of a sort of identity of Central Luzon.

Population distribution

The population in Central Luzon has been projected to the year 2010 by municipality separately for urban and rural populations. Results are summarized in Table 4 by province, and the projected urban population in the National Trial Growth Centers is given in Table 5.

Table 4. Projected Urban and Rural Population in 2010 by Province and Comparison with 1990 Population

(1990-2010 growth rate p.a. in parenthesis)

	1990			2010		
	Urban	Rural	Total	Urban	Rural	Total
Bataan	317,528	108,275	425,803	680,000 (3.91)	114,000 (0.26)	798,000 (3.19)
Bulacan	1,199,906	305,313	1,505,219	2,446,000 (3.62)	270,000 (0.61)	2,716,000 (3.00)
Nueva Ecija	511,549	801,131	1,312,680	1,119,000 (3.99)	799,000 (0.01)	1,918,000 (1.91)
Pampanga	1,079,806	452,809	1,532,615	2,356,000 (3.75)	427,000 (0.29)	2,783,000 (3.03)
Tarlac	256,594	603,114	859,708	597,000 (4.31)	669,000 (0.52)	1,266,000 (1.95)
Zambales	365,690	197,302	562,992	832,000 (4.20)	186,000 (0.29)	1,018,000 (3.00)
Central L.	3,733,797	2,467,944	6,199,017	8,034,000 (3.91)	2,465,000 (0.00)	10,499,000 (2.67)

Table 5. Urban Population in National Triad Growth Centers in 2010

	Constituents	Urban Population	
		1990	2010
Subic Bay Metropolitan Area	Olongapo City, Subic	229,000	545,000
with extension	Dinalupihan, Hermosa, Morong	312,000	744,000
San Fernando-Angeles Metropolitan Area	San Fernando, Angeles City, Mabalacat, St. Thomas, Mexico, Guagua	686,000	1,568,000
Bulacan Conurbation	15 Municipalities in Bulacan	923,000	1,899,000

Water demand-supply balance

Water demand in Central Luzon has been projected by municipality and for domestic, industrial and irrigation uses in line with the socio-economic framework and the projected population distribution. Combined with the analysis on water resource endowments, water demand-supply balance has been worked out. Results are illustrated in Figures 7 and 8. Serious deficits of irrigation water are foreseen in the upper catchment areas of the Pampanga river, mainly in Nueva Ecija, and also on the left bank of the lower reaches of the Pampanga river. Some deficits of domestic and industrial water are observed in several municipalities in Bulacan, San Fernando and Mariveles.

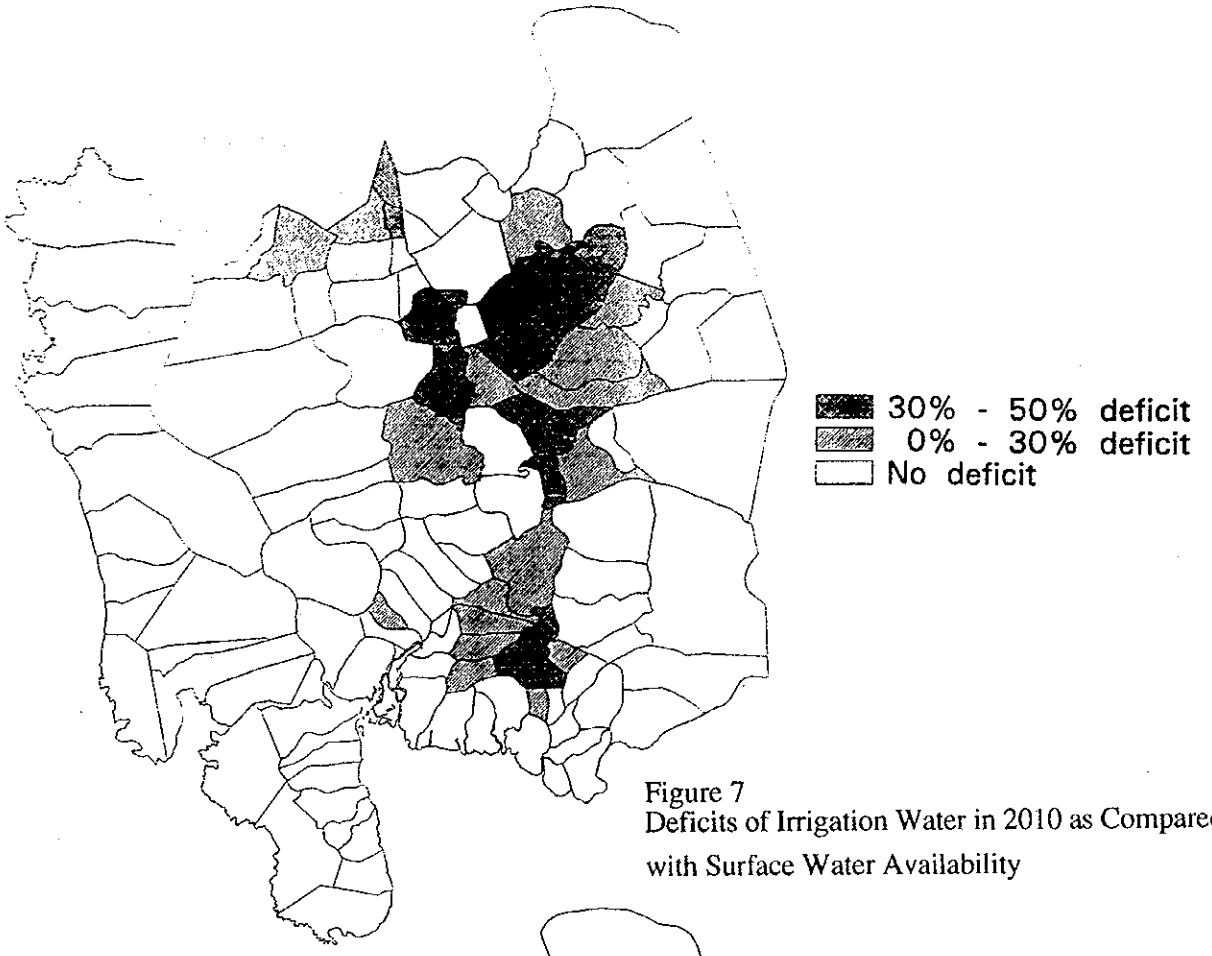


Figure 7
Deficits of Irrigation Water in 2010 as Compared with Surface Water Availability

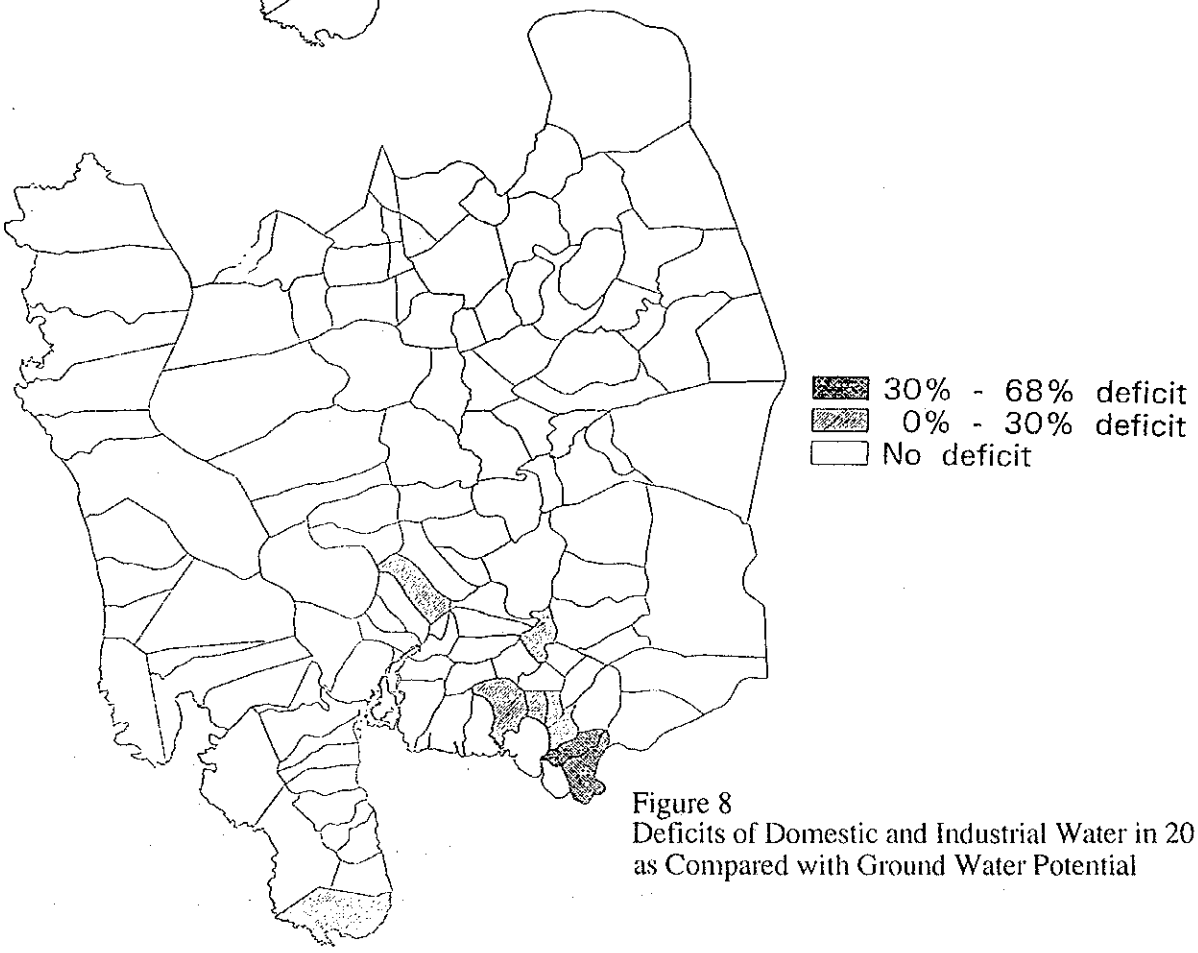


Figure 8
Deficits of Domestic and Industrial Water in 2010 as Compared with Ground Water Potential

4.3 Development Scenario with Phasing

Regional development of Central Luzon along the Glocalization scenario will be realized in steps, as the resources base including financial capacity expands and related institutional development takes place over time. To plan for the regional development accordingly, the planning period up to the year 2010 is divided into three phases: Phase I up to 1998, Phase II for 1999 - 2004, and Phase III for 2005 - 2010. Expected performance of Central Luzon in each phase is described below.

(1) Phase I (upto 1998)

Socio-economy

Renewed initiative will be taken for mixed farming, multi-storey farming, and integrated farming of various forms to diversify crops without sacrificing rice production. Keys are to accelerate the agrarian reform, to disseminate established technology to small farmers, and to organize them into more efficient and credible actors.

Applied research in agriculture will be geared to the development of alternative systems of production such as citrus-based and hedgerow intercropping, cattle breeding and feeding systems, and agricultural wastes/by-products utilization systems. Agricultural mechanization will proceed, but the importance of carabao will increase for various purposes including an essential component of integrated farming and dairy.

A basis for steady growth of industry during this phase will be consumer goods and construction materials industries along with increase in income levels as well as existing handicraft and agro-processing industries. Additional growth will be provided by more footloose industries and various spillover industries from Metro Manila. The Special Economic Zone will be expanded to form a network to meet a wider range of requirements by various industries and to promote linkages among them. A few more exclusive industrial areas will be established to accommodate enterprises of specific countries.

Supports to SMEs will be strengthened and systematized. More common service facilities for SMEs will be established, including processing and waste treatment or recycling facilities, showrooms, and welfare facilities for employees. Other services will also be extended such as conduit finance, documentation for export and maintenance services as well as joint procurement and marketing.

In addition to steady growth of consumers-oriented services along with income increase, new types of service activities will emerge. They include services to support the industry/trade anchors catering for needs and tasks of visitors/investors from East Asia and their Philippine counterparts, and services related to new agricultural, industrial, and tourism activities. The

latter are associated with the establishment of a few services centers such as bus terminal, truck terminal and market post for non-grain products, and the initial development of weekend resorts (both coastal and mountain) and man-made tourism attractions for visitors from Metro Manila.

Non-industrial services to support SMEs will develop such as wholesales that feed back market needs working as a market coordinator, and transport industry that enables small lot consignments. Export services for SMEs will also be established.

Spatial development

Spatial development during this phase will be prescribed to an extent by damages due to the Mt. Pinatubo eruption and continuing lahar threat. More efforts will be directed to restoration of selected existing irrigation schemes, selective rehabilitation/protection of road sections, bridges and rivers, and establishment of resettlement sites with complete support facilities.

In parallel, investments into key infrastructure facilities will support the establishment of the National Triad Growth Centers. They include initial implementation of the highway link between Subic and Clark, the Clark International Aviation Complex with a new passenger terminal, telecommunications and utilities for Subic and Clark, and urban renewal in the Metro Manila spillover areas in Bulacan.

With the provision of upgraded service facilities, functional division among major urban centers will start to be clarified. In anticipation of this, a land use master plan will be prepared for the San Fernando - Angeles Metropolitan area, and urban planning capacity building will be initiated for a few selected urban centers.

Social services for human development

This phase will lay solid foundation for alternative delivery systems for social services based on more active community participation and supports to devolved social services staff. For health in particular, a new community-based health services system will be introduced first in a provincial hospital and other health centers. Also, devolved government hospitals will be improved to serve low income people better.

Improvement in education curricula will be geared up to meet evolving needs of the business sector. Also improved teaching tools such as computers and audio-visual equipment will be more widely used particularly in the science and technology area.

Rapid expansion of day care facilities will be initiated with the participation of local people in planning and construction. Devolved social workers will be re-oriented with training to adapt to new work environment.

Complete support facilities will be provided to all the resettlement areas for Mt. Pinatubo evacuees, including support to organize the resettled people through training of community leaders as well as skills training. Including resettlement areas, renewed focus on the marginalized people/communities will be clarified by the Government.

(2) Phase II (1999 - 2004)

Socio-economy

New crops and production schemes initiated during Phase I will be expanded to cover larger areas. For some crops, production will reach such levels that will justify the establishment of processing facilities in full scale within the region.

Cattle breeding operations will become viable supported by expanded feed base with better use of agricultural wastes and byproducts, silage production, and managed pasture as well as breed improvement and disease control measures. Major irrigation schemes will be implemented to enhance rice productivity. Vegetables and other crops will also benefit from supplemental irrigation.

Further crop diversification will be supported by the fully established network linking research institutes and field offices of government agencies and NGOs. Extension and market information will be effectively disseminated through the network.

More postharvest facilities will be owned, managed and operated by organized farmers. Their activities will extend further to joint procurement of agricultural input, and self-financing for investments into land productivity enhancement. In totality, alternative trading and financial systems will be gradually formed.

This phase is for technological innovation and internationalization. Improved products quality will be the main theme across all the subsectors. Industrial structure will be transformed as more domestic industries are linked with multi-national enterprises in the Special Economic and Freeport Zone.

New agro-industries will establish based on expanded raw materials production. Also resources recycling industries or industries processing agricultural wastes/byproducts will develop supported by BOI incentives. Handicraft and other traditional industries will be upgraded to become viable economic units. Tourism will provide additional market outlets for their products.

Integrated industrial clusters will start to be formulated through forward and backward linkages centering around strategic industries in Central Luzon. One kind of cluster may be called the total fashion industry and encompasses leather goods, jewelry, garments and metal

craft industries. The other kind may be called the total interior design industry and includes leather goods, GTH, furniture, pottery/marble, and metal craft industries.

Non-industrial services will expand their business, including transport, wholesale and export services. The trucking industry will fully establish with network of services and terminals distributed throughout the region.

Weekend resorts and man-made tourism attractions will develop further. Some upgraded facilities will attract international tourists as well, such as a large-scale amusement park.

Spatial development

Basic infrastructure to support the National Triad Growth Centers will be mostly completed. The Clark International Aviation Complex will become fully operational, the shortest link between Subic and Clark completed, and container facilities at Subic and Clark installed. Initial rehabilitation of the Main Line North will allow passenger services to/from the Clark airport. Waste and wastewater treatment facilities will be initially provided in selected areas within the National Triad Growth Centers.

Links between the 15 urban centers at upper tiers of the urban hierarchy will be completed except the link between Tarlac and Iba. Inter-regional links will be strengthened with Pangasinan, Aurora and Cagayam Valley. Land use planning for the 15 urban centers will be completed.

Social services for human development

The community-based health services system will be well established during this phase. A cooperative health fund will be established and made accessible by increasing number of people.

Education curricula will continue to be improved with increasing emphasis on developing enterpreneurship or original skills and ability. Value education at the primary and secondary levels will, on the one hand, reinstate traditional value, and on the other contribute to creation of new value fitting to open and borderless world. Delivery of various social services will be facilitated by a telecommunication network as well as wider use of audio-visual and other advanced tools.

Resettlement areas will be established as viable barangay communities. Poverty incidence will be reduced to below 10% by the end of this phase. Day care centers will be provided in practically all the barangays.

(3) Phase III (2005 - 2010)

Socio-economy

Intensive agricultural land use will be well established under multi-storey farming, mixed farming, integrated farming and rice double cropping. Full utilization of primary products will characterize the agriculture in Central Luzon with recycling, integration and processing of wastes and byproducts.

Direct export of high value crops from the Clark airport will become common. Products include cut flowers, fresh/chilled vegetables and fruits. Hydroponics and other forms of industrial agriculture will be introduced.

Alternative trading and financial systems based on cooperatives will become dominant facilities to support the majority of farmers. As a result, farmers will become main actors in production and marketing as well as in contract arrangements with large processors.

Industrial and trade niches will be well established for strategic export industries. Foreign investments will continue to flow in attracted more by amenities and human resources of high quality as well as social and political stability. Industrial estates will be equipped also with various amenity facilities.

The integrated industrial clusters will be established. Central Luzon will enjoy a reputation for high quality products of the total fashion and the total interior design industries. Central Luzon will become a world center for these industries with functions of design-related education, research and life style trend setting.

Continuous technological innovation and skill upgrading will maintain the competitive edge. For this, testing and R & D functions will be expanded, and provincial testing and R & D centers will be established.

Central Luzon will establish its fame as an international conference area with first class facilities. Well established beach and mountain resorts will complement this function.

International trade-related services will become common such as offshore banking and international communications. A full range of non-industrial services within the region will support both small and large enterprises.

Rural services delivery will be supported by a local eco-community network. The network will cover not only extension and marketing information but also information related to social services, community activities, and resources and opportunity availability.

Spatial development

The intra-regional artery network will be completed as high grade, multi-modal transport links. All the 38 urban centers at upper tiers of urban hierarchy will be effectively linked. The information highway will be established along the intra-regional arteries, and serve with branch lines the 15 urban centers at upper most tiers. Inter-regional links will be strengthened from the 15 urban centers.

Road links will be established for all the rural service centers. Strong hierarchical structure of urban centers will be formed with functional division among them not only to complement different urban centers but also to serve their rural hinterlands collectively.

Social services for human development

With the full establishment of the community-based health services system covering majority of people, self-reliant mind for improving health conditions will prevail among people. Primary preventive health care will be more important, which will incorporate traditional methods and wisdom.

The private sector will become more important in the education system responsive to market demands. Public education institutes will be specialized in advanced concerns on environment, international relationships and laws, human rights including gender and inter-generation issues, and others.

Poverty will be mostly eradicated. Communications with various peoples of different backgrounds at different levels and in different fields will provide a wide range of opportunities for further human development.

5. DEVELOPMENT PROJECTS, PROGRAMS, AND INSTITUTIONAL MEASURES

The Central Luzon regional development to the year 2010 would be supported by a set of projects and programs and related institutional measures. The latter are presented in Chapter 3 by sector. This chapter presents projects and programs classified broadly into regional projects/programs, special programs and local projects/programs, and institutional measures related to development planning and administration. Profiles of all the projects and programs are contained in Volume 8: Project Report. All the regional projects and programs are shown in Figure 9.

5.1 Regional Projects/Programs

(1) Agri-industrial-trade support

Projects/programs in the agri-industrial-trade support category concentrate physically in the National Triad Growth Centers, but they would support a wide range of activities throughout the region. The Subic Bay Metropolitan Authority area and the Clark Field under the Clark Development Corporation are the industrial-trade anchors, that would be effectively utilized for the development of the entire Central Luzon. These agencies have their own development plans, and the Master Plan makes additional proposals.

Subic Metropolitan Area with surroundings

Anchor projects for the Subic Metropolitan Area and its surroundings where the Special Economic Zone may be extended include the following:

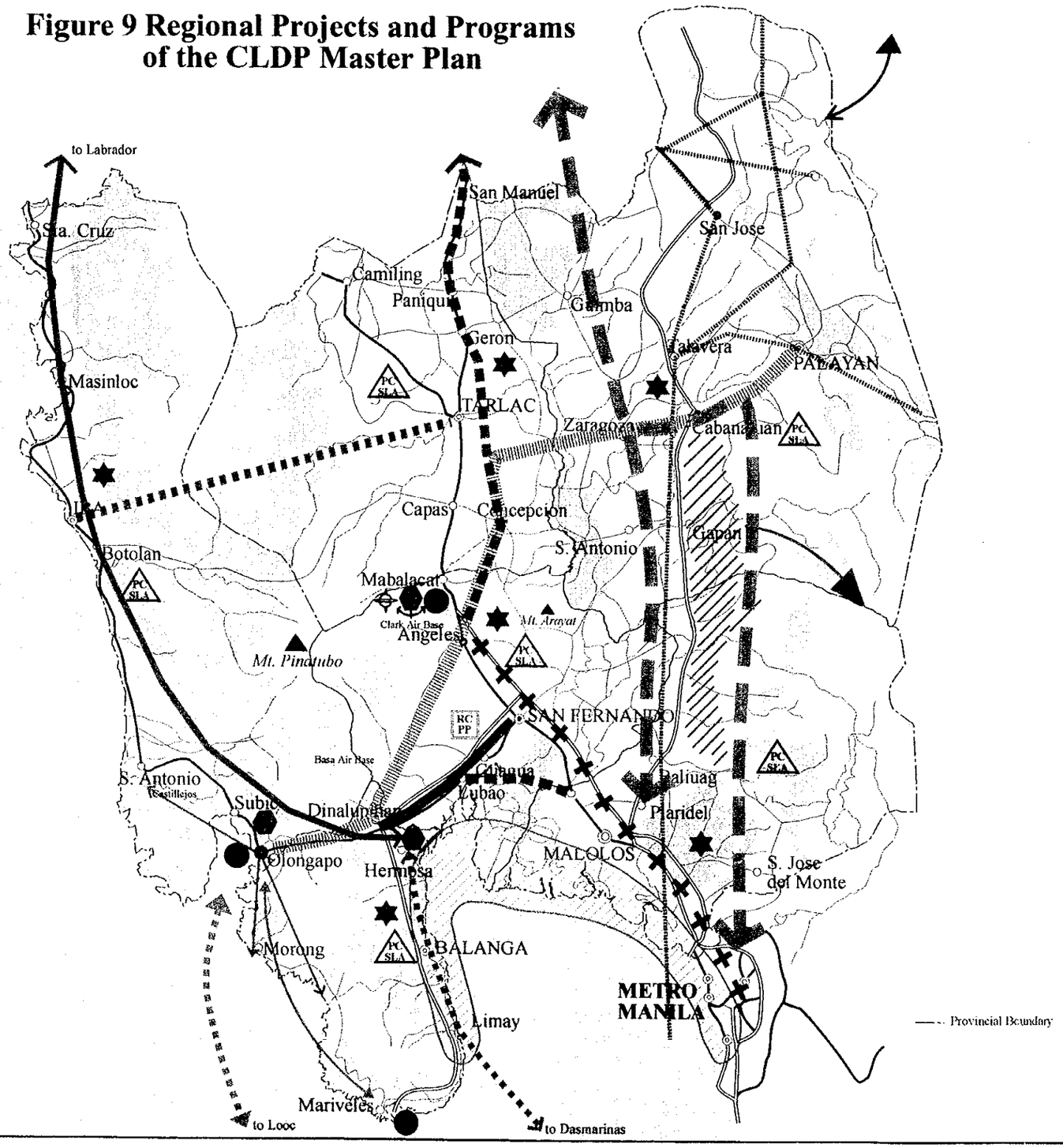
(RP-1) Subic Port Development,
(RP-2) Subic Industrial Estate,
(RP-3) Greater Subic Tourism Core Development,
(RP-4) Subic-Looc Jet Foil Connection, and
(RP-5) Hermosa Agro-Industrial Estate.

San Fernando-Angeles Metropolitan Area

Anchor projects for the San Fernando-Angeles Metropolitan Area include the following:

(RP-6) Clark International Aviation Complex,
(RP-7) Clark Industrial Estate and Dry Port Development,
(RP-8) Clark Field Amusement Park, and
(RP-9) Main Line North Rehabilitation/Upgrading.

Figure 9 Regional Projects and Programs of the CLDP Master Plan



REGIONAL PROJECTS/PROGRAMS

Agri-Industrial-Trade Support

- (RP- 1) Subic Port Development
- (RP- 2) Subic Industrial Estate
- (RP- 3) Greater Subic Tourism Core Development
- (RP- 4) Subic-Looc Jet Foil Connection
- (RP- 5) Hermosa Agro-Industrial Estate
- (RP- 6) Clark International Aviation Complex
- (RP- 7) Clark Industrial Estate and Dry Port Development
- (RP- 8) Clark Field Amusement Park
- (RP- 9) Main Line North Rehabilitation/upgrading
- (RP-10) BEPZ-SBMA Complemental Development

Spatial Transformation

- (RP-11) New Intra-Regional Artery Establishment
- (RP-12) North Luzon Expressway Extension
- (RP-13) Manila Coastal Road
- (RP-14) San Fernando-Dinalupihan Road Improvement
- (RP-15) Iba-Tarlac Road
- (RP-16) Sierra Madre(Marginal) Highway
- (RP-17) Regional Telephone Service Improvement
- (RP-18) Optic Fiber Network
- (RP-19) Labrador-Hermosa Extra High Voltage Transmission Line
- (RP-20) Hermosa-Dasmarinas Extra High Voltage Transmission Line
- (RP-21) Balintingon Reservoir Multipurpose Development
- (RP-22) Caseenan Multipurpose Development

Community Development

- (RP-23) Holistic Catchment Management Program
- (RP-24) Community-Based Manila Bay and Coastal Rehabilitation and Resorce Management
- (RP-25) Provincial Cooperative Savings and Loan Association
- (RP-26) Agrarian Reform Communities Livelihood and Cooperative Development
- (RP-27) Micro and Small Enterprises Livelihood Systems Development
- (RP-28) Resource Center for People's Participation in Local Governance and Development

LAND USE

Lowland Prime Lands

- Irrigated Paddy
- Rainfed Mixed Farming (Paddy & Vegetables)
- Rainfed Diversified Crops
- Diversified Commercial Crops & Tree Crops

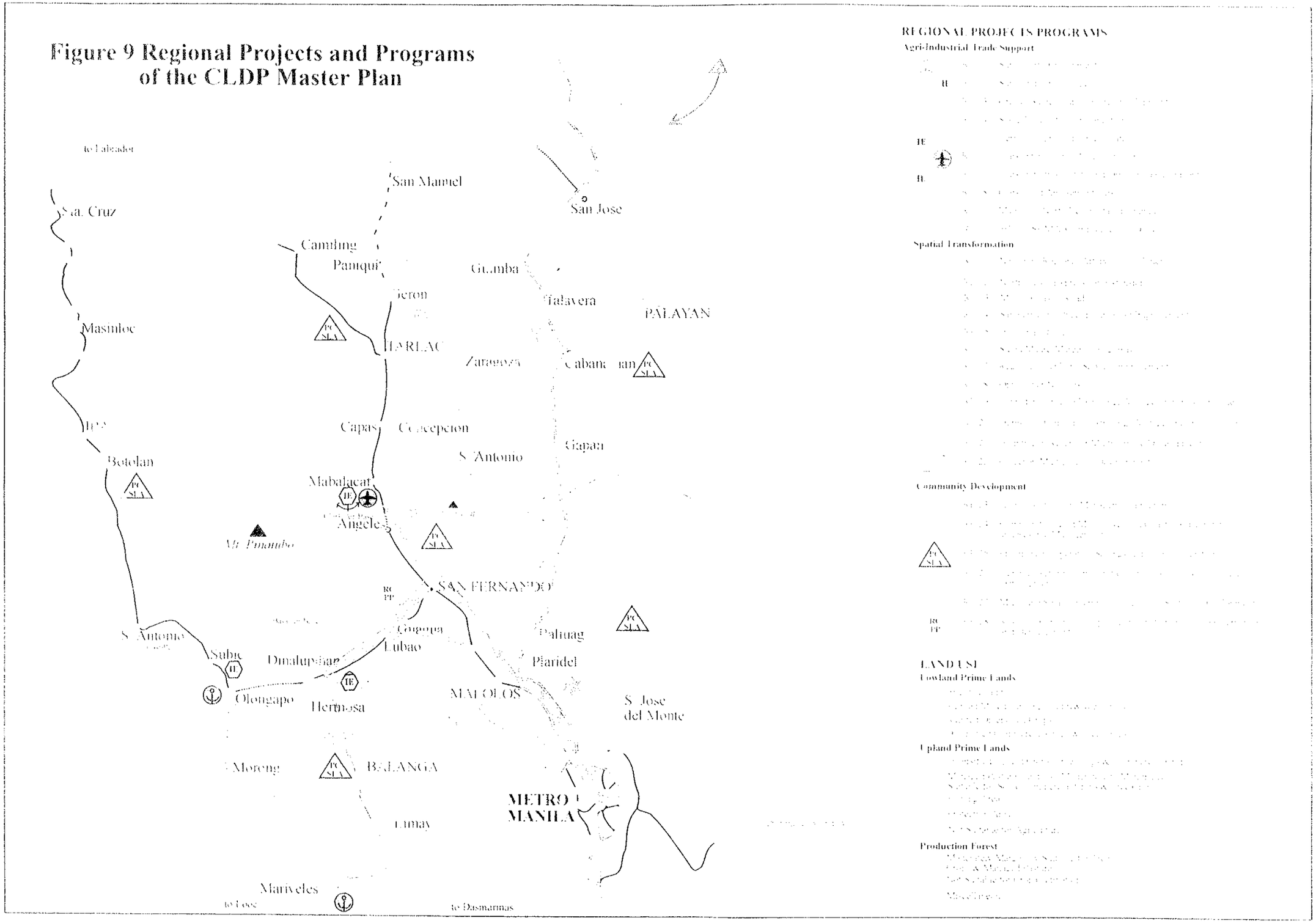
Upland Prime Lands

- Diversified Upland Crops, Tree Crops & Commercial Crops
- Managed Pasture Land also Moderately to Marginally Suitable for Some Commercial Crops & Tree Crops
- Fishing Areas
- Protection Area
- Not Suitable for Agriculture

Production Forest

- Moderately/Marginally Suitable for Tree Crops & Managed Pasture
- Not Suitable for Crop Cultivation
- Miscellaneous

Figure 9 Regional Projects and Programs of the CLDP Master Plan



Bulacan conurbation

The Metro Manila conurbation area in Bulacan would be supported mainly by the urban sector projects of the Master Plan. The Urban Renewal and Industrial Modernization Program would be applied first in Phase I to Meycauayan, which is subject to most rapid urbanization and has some polluting industries. Those industries in the already urbanized area would be relocated to areas outside where they would be re-established with upgraded technology and common facilities for waste and wastewater treatment. Areas to be made available by the relocation would be developed for various amenity facilities.

The Integrated Urban Development Program would be applied among others to Malolos. The Urban Land Readjust Program would also be implemented initially for urban municipalities in Bulacan.

Bataan Export Processing Zone

To develop the existing Bataan Export Processing Zone (BEPZ) further and induce more balanced socio-economic development of the Bataan peninsula, links between BEPZ and SBMA may be strengthened. A study should be conducted first under the following program to characterize BEPZ and SBMA in view of locational conditions for industrial development including environmental aspects, and to plan for the phased development of roads (Mariveles - Bagac, Morong - Subic) and other infrastructure:

(RP-10) BEPZ-SBMA Complementary Development.

(2) Spatial transformation

An important spatial development strategy for the CLDP Master Plan is to transform spatial structure of the region to overcome inherent land and water related constraints. Regional projects in this category consist of roads, telecommunications, power transmission and multi-purpose water resources development as listed below:

(RP-11) New Intra-Regional Artery Establishment,
(RP-12) North Luzon Expressway Extension,
(RP-13) Manila Coastal Road,
(RP-14) San Fernando-Dinalupihan Road Improvement,
(RP-15) Iba-Tarlac Road,
(RP-16) Sierra Madre (Marginal) Highway,
(RP-17) Regional Telephone Services Improvement,
(RP-18) Optic Fiber Network,
(RP-19) Labrador-Hermosa Extra High Voltage Transmission Line,
(RP-20) Hermosa-Dasmariñas Extra High Voltage Transmission Line,

(RP-21) Balingtingon Reservoir Multipurpose Project, and
(RP-22) Casecnan Multipurpose Development.

(3) Community development

The following six projects/programs are essential for effecting community-based approach to the Central Luzon regional development:

(RP-23) Holistic Water Catchment Management Program,
(RP-24) Community-Based Manila Bay and Coastal Rehabilitation and Resource Management,
(RP-25) Provincial Cooperatives Savings and Loan Association,
(RP-26) Expanded Agrarian Reform Communities Livelihood and Cooperative Development,
(RP-27) Micro and Small Enterprises Livelihood Systems Development, and
(RP-28) Resource Center for People's Participiption in Local Governance and Development.

5.2 Special Programs

Special programs focus on three issues characteristic of Central Luzon: (1) indigenous people issues, (2) gender concerns, and (3) disaster preparedness and response. The following five programs are included:

(SP-1) Indigenous People Development Program,
(SP-2) Indigenous Communities Cooperative Economic Development,
(SP-3) Gender Development and Resource Center,
(SP-4) Community-Based Disaster Management Program, and
(SP-5) Storm and Flood Monitoring.

5.3 Local Projects/Programs

(1) Community initiatives

The following nine projects/programs have been formulated based on proposals by the NGOs involved in the Master Plan Study. All of them are expected to be initiated during Phase I in respective provinces as designated. Each project/program reflects characteristics of the concerned province, but may be implemented subsequently in other provinces as well.

(CI-1) Community-Based Upland Development Program (Bataan),
(CI-2) Local Resource and Agri-Based Rural Industries Establishment (Bataan),

(CI-3) Cooperative-Managed Food Terminal (Bulacan),
(CI-4) Cooperative-Based Health Systems Development (Bulacan),
(CI-5) Sustainable Rice-Based Enterprise Development (Nueva Ecija, Pampanga),
(CI-6) Community-Based Integrated and Diversified Farming Promotion (Tarlac),
(CI-7) People's Postharvest and Trading Facilities (Tarlac),
(CI-8) Community-Based Resettlement and Livelihood Development (Zambales), and
(CI-9) Popular Leadership and Entrepreneurship Training (Six provinces).

(2) Government initiatives with strong NGO/PO components

Additional projects/programs have strong social development components to be supported by NGO/PO participation, although they will be implemented by government initiatives. They consist of five projects to support technological development for agricultural diversification, two projects related respectively to livestock and fishery, four environmental projects/ programs, and one program to support agro-industrial activities particularly in Mt. Pinatubo related resettlement sites.

Agricultural diversification

The following projects will contribute to crop diversification and agricultural modernization through research, extension and other support services:

(GN-1) Muñoz Agro-Sciencre Community-Quinquepartite Networking,
(GN-2) Tissue Culture Laboratory,
(GN-3) Tropical Plants Multiplication and Distribution,
(GN-4) Farm Mechanization, and
(GN-5) Multi-Storey Crop Diversification.

Livestock

The following projects will promote new types of livestock activities based on applied research:

(GN-6) Crop-Livestock Integrated Farming, and
(GN-7) Carabao-Base Dairy Development

Fishery

The following projects will adopt new approaches to fisheries development:

(GN-8) Community Coastal Fisheries Development, and
(GN-9) Aquaculture Integrated Farming.

Environment

The following projects will promote environmental conservation, and sound and sustainable tourism activities:

(GN-10) Masinloc-Oyon IPAS Conservation Program,
(GN-11) Tourism Communities Development,
(GN-12) Balingtingon Reservoir Resort, and
(GN-13) Localization Initiatives in Forests Protection and Upland Management.

Resettlement

The following project will address needs in the Mt. Pinatubo related resettlement sites after the Mt. Pinatubo Commission (MPC) is dissolved in 1998:

(GN-14) Post MPC Agro-Industrial Rurban Community Program.

(3) Refocused government supports

Other local projects/programs are classified further into six sectors: (1) rural development, (2) agriculture, (3) urban development, (4) industry and trade, (5) social services, and (6) environment. These projects/programs represent revised focuses of various government agencies to support the CLDP paradigm. Some of them have social development components with NGO/PO participation.

Rural development

The following projects will provide infrastructure supports for various rural activities:

(RU-1) Rural Water Supply and Sanitation Improvement,
(RU-2) Rural Energy Program,
(RU-3) Rural Roads Development and Management, and
(RU-4) Rural Database Development.

In addition to various livelihood projects included in the community development component of regional projects/programs and the other categories of local projects/programs, the following represent new type of government supports:

(RU-5) Countryside Agro-Industrial Centers Development Program,
(RU-6) Seri-culture Promotion, and,
(RU-7) Postharvest Operation Nucleus Development.

Agriculture

The following new types of farming will be developed in different geographic areas of the region:

(AG-1) Integrated Organic Farming Promotion,
(AG-2) Integrated Upland Farming System Development, and
(AG-3) Citrus Intercropping Pilot Development.

The selected irrigation schemes will be developed/rehabilitated during Phase I:

(AG-4) Angat Afterbay Regulator Dam (Bustos Diversion Dam) Rehabilitation,
(AG-5) Pampanga Delta Development Project-Irrigation Component,
(AG-6) Porac-Gumain River Irrigation System (PGRIS) Restoration,
(AG-7) Mapanuepe River Lake Irrigation,
(AG-8) Upper Tabuating Irrigation,
(AG-9) Aulo Small Water Impounding Project (SWIP),
(AG-10) Small River Irrigation/Impounding Projects (SRIPs), and
(AG-11) North Lawis (Palongohan) Irrigation.

The following projects combine the implementation of urgent irrigation schemes and a study to formulate additional schemes:

(AG-12) Tarlac Satellite Irrigation,
(AG-13) Communal Irrigation, and
(AG-14) Pilot Pump Irrigation.

The following four projects will support livestock and fishery activities by small farmers and fishfolks:

(AG-15) Backyard Animal Production Enhancement Program,
(AG-16) Provincial Tilapia Hatchery,
(AG-17) Grouper Cage Culture, and
(AG-18) Fishery Common Service Facilities Establishment.

The following two projects will contribute to increasing agricultural productivity through better training and extension services:

(AG-19) Regional Agricultural Training and Extension Center, and
(AG-20) Regional Cooperatives Development Training Institute.

Urban development

The urban development component contains eight major projects. They are mostly composite projects or study projects to derive more individual urban projects.

(UR-1) Integrated Urban Development Program,
(UR-2) Urban Land Readjustment Program,
(UR-3) Urban Renewal and Industrial Modernization,
(UR-4) San Fernando-Angeles Metropolitan Area Development,
(UR-5) Bulacan Central Water Supply,
(UR-6) Olongapo City Water Supply Improvement,
(UR-7) LWUA Water Supply, and
(UR-8) Bypasses Construction.

These projects will serve collectively urban centers in the National Triad Growth Centers and other urban centers in line with the urban hierarchy and functional division proposed by the Master Plan.

Industry and trade

The industry and trade component will provide soft and hard infrastructure to support strategic industries of the CLDP paradigm and facilities for technology upgrading. The following projects/programs will be implemented by phase.

Phase I:

(IN-1) Industrial Clusters International Partnership Program,
(IN-1) Strategic Overseas Workers Management Program,
(IN-3) World Class Designer Invitation Program,
(IN-4) Tripartite R &D Promotion Program,
(IN-5) Skills Expert System Development,

Phase II:

(IN-6) Industrial Clusters Integrated Modernization Program,
(IN-7) Regional World Trade Center (ECLUZON),
(IN-8) Central Luzon Research Triangle,
(IN-9) Techno-Communicator Development Program,

Phase III:

(IN-10) Provincial Industrial Testing Center,
(IN-11) International Design Academy, and
(IN-12) Lifestyle Research and Information Center.

In addition, the following projects address specific areas of industry and trade.

(IN-13) Tourism-Local Industry Complex,
(IN-14) Mining Area Development and Use,
(IN-15) Bulacan Wholesale and Distribution Center, and
(IN-16) Regional Integrated Distribution Promotion.

Social services

The social services component consists of 14 projects broadly classified into five projects for education, two for human development and training, five for health and social welfare, and one to assist LGUs. Many projects/programs in other categories support also the development of capability of people and the improvement of their conditions and status, and thus contribute to social development.

The following projects will improve education facilities and quality:

(SO-1) Bataan National Schools of Arts and Trade Upgrading,
(SO-2) Bataan Teachers' College Upgrading,
(SO-3) Acquisition and Upgrading of Teaching Tools,
(SO-4) Elementary Science Schools Establishment, and
(SO-5) Functional Division Educational Management Information System (EMIS).

The following projects will diversify training opportunities in various fields:

(SO-6) Acquired Competencies and Excellence in Sports,
(SO-7) Human Resources Development and Training Center, and
(SO-8) Integrated Training, Livelihood and Organization Development Program for Mt. Pinatubo Resettlement Areas.

Five projects will improve health service delivery and facilities for health and social welfare activities as follows:

(SO-9) Public Health Services Improvement,
(SO-10) Hospitals Upgrading,
(SO-11) Regional Herbal Processing Plant,
(SO-12) Integrated Family Planning and Child Survival Program, and
(SO-13) Construction of Day Care Centers and Health Clinics.

The following project will strengthen the on-going efforts of the Integrated Capability Building on Local Governance, assisted by USAID and CIDA,

(SO-14) Computerization of LGU Database.

Environment

The following projects will support various economic activities either by expanding the raw material base for processing or facilitating pollution control by industries:

(EN-1) Rattan Plantations Development and Management,
(EN-2) Bamboo Plantations Development and Management,
(EN-3) Pollution Control and Prevention Center, and
(EN-4) Solid Waste Management Improvement Pilot Project.

Conservation programs cover four critical environmental assets in Central Luzon as follows:

(EN-5) Candaba Swamp Conservation Program,
(EN-6) Sta. Cruz Marine Conservation Program,
(EN-7) Luzon Sea Coastal Resources Management, and
(EN-8) Subic Environmental Development Program.

The following four projects will provide soft infrastructure for environmental management:

(EN-9) Land Resources Information System Development,
(EN-10) Eco-Community Network,
(EN-11) Comprehensive Regional Environmental Management Improvement Program, and
(EN-12) World University of the Environment.

5.4 Indicative Investment Schedule

An indicative investment schedule for all the projects and programs proposed in the CLDP Master Plan is shown in Table 6. The availability of public investment fund to be allocated to the CLDP has been projected based on observed ratios of all public investment to GNP in recent years, investment shares by the Central Luzon provinces, and expected GNP growth. Public investment requirements for the CLDP exceed the fund availability for all the three phases as shown in Table 7. To reduce the public fund requirements, some projects should be implemented by the private sector such as industrial estates, telecommunication projects and possibly some road projects.

Table 6. Indicative Investment Schedule of the Central Luzon Development Program (1/3)

1. Regional Projects/Programs (Unit: US$ million)

Code No.	Project/Program Title	Agencies	Status	Investment		
				Phase I	Phase II	Phase III
(RP-1)	Subic Port Development	SBMA	P	20	50	30
(RP-2)	Subic Industrial Estate	SBMA	P	25	134	29
(RP-3)	Greater Subic Tourism Core Development	DOTC, SBMA	N		10	
(RP-4)	Subic-Looc Jet Foil Connection	Private	N	-	-	-
(RP-5)	Hermosa Agro-Industrial Estate	DTI	P	4	7	
(RP-6)	Clark International Aviation Complex	DOTC, CDC	P	55	300	120
(RP-7)	Clark Industrial Estate and Dry Port Development	CDC, Private	N	15	80	65
(RP-8)	Clark Field Amusement Park	Private	N	-	-	-
(RP-9)	Main Line North Rehabilitation/upgrading	DOTC	P	40	260	150
(RP-10)	BEPZ-SBMA Complementary Development - Mariveles-Bagac and Morong-Subic roads, Mariveles port etc	BEPZ, SBMA	N	5	*	*
(RP-11)	New Intra-Regional Artery Establishment	DPWH	N	50	100	50
(RP-12)	North Luzon Expressway Extension	DPWH	P	40	99	
(RP-13)	Manila Coastal Road	DPWH	P	5	*	*
(RP-14)	San Fernando-Dinlupihan Road Improvement	DPWH	N	10	14	
(RP-15)	Iba - Tarlac Road	DPWH	P	10	250	2,000
(RP-16)	Sierra Madre (Marginal) Highway - Bulacan and Mt. Arayat East section	DPWH	N	10	127	299
(RP-17)	Regional Telephone Services Improvement	DOTC	P	14	30	50
(RP-18)	Optic Fiber Network	DOTC	N		65	67
(RP-19)	Labrador-Hermosa Extra High Voltage Transmission Line	NPC	P	55	147	
(RP-20)	Hermosa-Dasmarinas Extra High Voltage Transmission Line	NPC	P		80	39
(RP-21)	Balintingon Reservoir Multipurpose Development	NIA	P	10	270	
(RP-22)	Casecnan Multipurpose Development	-	P	5	*	*
(RP-23)	Holistic Water Catchment Management Program	LGUs, PENRO	N	5	*	*
(RP-24)	Community-Based Manila Bay and Coastal Rehabilitation and Resource	Inter-agency	N	2	*	*
(RP-25)	Provincial Cooperative Savings and Loan Association	NGOs, Cooperatives	N	5	15	20
(RP-26)	ExpandedAgrarian Reform Communities Livelihood and Cooperative Development	NGOs, DAR, LGUs	N	20	50	50
(RP-27)	Micro and Small Enterprises Livelihood Systems Development	Inter-agency	N	2	*	*
(RP-28)	Resource Center for People's Participation in Local Governance and Dev't.	Inter-agency	N		3	*
	Sub-total			407	2,091	2,969

2. Special Programs

Code No.	Project/Program Title	Agencies	Status	Investment		
				Phase I	Phase II	Phase III
(SP-1)	Indigenous People Development Program	NGOs, LGUs	N	2	*	*
(SP-2)	Indigenous Communities Cooperative Economic Development	NGOs, Cooperatives	N	2	*	*
(SP-3)	Gender Development and Resource Center	NGOs, LGUs	N	2	*	*
(SP-4)	Community-Based Disaster Management Program	NGOs, DSWD	N	2	*	*
(SP-5)	Storm and Flood Monitoring	PAGASA	N	2	8	
	Sub-total			10	8	-

3. Local Projects/Program

Code No.	Project/Program Title	Agencies	Status	Investment		
				Phase I	Phase II	Phase III
3 Community initiatives						
(CI-1)	Community-Based Upland Development Program (Bataan)	DENR,LGUs,NGOs	N	6	12	
(CI-2)	Local Resource and Agri-Based Rural Industries Establishment (Bataan)	Coop's, LGUs	N	3	3	
(CI-3)	Cooperative-Managed Food Terminal (Bulacan)	Coop's, NGOs	N	4	5	
(CI-4)	Cooperative-Based Health Systems Development (Bulacan)	NGOs, LGUs	N	15	23	
(CI-5)	Sustainable Rice-Based Enterprise Development(Nueva Ecija,Pampanga)	NGOs, Coop's	N	2	3	
(CI-6)	Community-Based Integrated and Diversified Farming Promotion(Tarlac)	NGOs, Coop's	N	2		
(CI-7)	People's Postharvest and Trading Facilities (Tarlac)	Coop's, NGOs	N	3		
(CI-8)	Community-Based Resettlement and Livelihood Development (Zambales)	NGOs, LGUs	N	4	10	
(CI-9)	Popular Leadership and Entrepreneurship Training (Six provinces)	NGOs, Coop's	N	6		
	Sub-total			45	56	

* P: planned by sector agencies, N: newly formulated

Table 6. Indicative Investment Schedule of the Central Luzon Development Program (2/3)

(Unit: US$ million)

Code No.	Project/Program Title	Agencies	Status	Investment		
				Phase I	Phase II	Phase III
3 Government initiatives with strong NGO/PO components						
(GN-1)	Munoz Agro-Science Community-Quinguepartite Networking	Inter-agency	N	2	*	*
(GN-2)	Tissue Culture Laboratory	DA, DOST	N	2	*	
(GN-3)	Tropical Plants Multiplication and Distribution	DENR	N		3	*
(GN-4)	Farm Mechanization	LGUs, Coop's	N	2	4	
(GN-5)	Multi-Storey Crop Diversification	Inter-agency	N	2	*	*
(GN-6)	Crop-Livestock Integrated Farming	Inter-agency	N	2	*	*
(GN-7)	Carabao-Based Dairy Development	PCC, Coop.	N	2	4	
(GN-8)	Community Coastal Fisheries Development	BEAR, LGUs	N	2	2	
(GN-9)	Aquaculture Integrated Farming	BEAR	N		3	10
(GN-10)	Masinloc-Oyon IPAS Conservation Program	DOT, DENR	N	2	*	
(GN-11)	Tourism Communities Development	LGUs, DOT	N		3	*
(GN-12)	Balintingon Reservoir Resort	DOT, NIA	N		5	
(GN-13)	Localization Initiatives in Forest Protection and Upland Management	DENR, LGUs	N		3	*
(GN-14)	Post MPC Agro-Industrial Rurban Community Program	DTI, NGOs	N	2	*	*
	Sub-total			20	27	10
3 Refocused government supports						
-1 Rural development						
(RU-1)	Rural Water Supply and Sanitation Improvement	LGUs, DPWH, LWUA	N	5	10	20
(RU-2)	Rural Energy Program	DOE,NPC,NEA	N		10	15
(RU-3)	Rural Roads Development and Management	DPWH, LGUs	N	5	15	30
(RU-4)	Rural Database Development	NEDA	N		5	
(RU-5)	Countryside Agro-Industrial Centers Development Program	DTI, LGUs	N	20	46	
(RU-6)	Seri-Culture Promotion	LGUs, DA	N		3	*
(RU-7)	Postharvest Operations Nucleus Development	NAPHIRE, LGUs	N	5	15	20
	Sub-total			35	104	85
-2 Agriculture						
(AG-1)	Integrated Organic Farming Promotion	LGUs	N	5	15	20
(AG-2)	Integrated Upland Farming System Development	LGUs, NIA	N		15	20
(AG-3)	Citrus Intercropping Pilot Development	LGUs, DA	N		4	
(AG-4)	Angat Afterbay Regulator Dam (Bustos Diversion Dam)Rehabilitation	NIA	P	16		
(AG-5)	Pampanga Delta Development Project-Irrigation Component	NIA	P	37	87	
(AG-6)	Porac-Guman River Irrigation System Restoration	NIA	P	2	*	
(AG-7)	Mapanuepe River Lake Irrigation	NIA	P	2	4	
(AG-8)	Upper Tabuating Irrigation	NIA	P	7		
(AG-9)	Aulo Small Water Impounding Project (SWIP)	NIA	P	2	5	
(AG-10)	Small River Irrigation Projects	NIA	P	2	4	
(AG-11)	North Lawis (Palongahon) Irrigation	NIA	P	3	*	
(AG-12)	Tarlac Satellite Irrigation	NIA	N	2	*	
(AG-13)	Communal Irrigation	NIA, LGUs	P	5	15	20
(AG-14)	Pilot Pump Irrigation	NIA	N	2	3	10
(AG-15)	Backyard Animal Production Enhancement Program	BAI, LGUs	N	5	10	
(AG-16)	Provincial Tilapia Hatchery	LGUs, NFFTRC	N	2		
(AG-17)	Grouper Cage Culture	LGUs, Coop's	N		4	
(AG-18)	Fishery Common Service Facilities Establishment	LGUs, BFAR	N	20	20	
(AG-19)	Regional Agricultural Training and Extension Center	ATI	N	2	*	
(AG-20)	Regional Cooperatives Development and Training Institute	CDA	N		3	*
	sub-total			114	189	70
-3 Urban development						
(UR-1)	Integrated Urban Development Program	LGUs, NEDA	N	20	60	60
(UR-2)	Urban Land Readjustment Program	LGUs	N		10	20
(UR-3)	Urban Renewal and Industrial Modernization	LGUs, DTI, DENR	N	20	40	40
(UR-4)	San Fernando-Angeles Metropolitan Area Development	LGUs, NEDA	N	5	*	*
(UR-5)	Bulacan Central Water Supply	LWUA	P	40	32	

* P: planned by sector agencies, N: newly formulated

Table 6. Indicative Investment Schedule of the Central Luzon Development Program (3/3)

(Unit: US$ million)

Code No.	Project/Program Title	Agencies	Status	Investment		
				Phase I	Phase II	Phase III
(UR-6)	Olongapo City Water Supply Improvement	LWUA	P	14		
(UR-7)	LWUA Water Supply	LWUA	P	9	20	30
(UR-8)	Bypass Construction	DPWH	P	9	40	
	sub-total			117	202	150
-4 Industry, trade and services						
(IN-1)	Industrial Clusters International Partnership Program	Coop's, LGUs	N	2		
(IN-2)	Strategic Overseas Workers Management Program	POEA, DOLE,DTI	N	2		
(IN-3)	World Class Designer Invitation Program	Private, DTI	N	2		
(IN-4)	Tripartite R & D Promotion Program	DTI, DOST	N	2		
(IN-5)	Skills Expert System Development	ITDI, DTI	N	2		
(IN-6)	Industrial Clusters Integrated Modernization Program	Private	N	2		
(IN-7)	Regional World Trade Center (ECLUZON)	DTI, Private	N		5	
(IN-8)	Central Luzon Research Triangle	DOST, DTI, LGUs	N		2	
(IN-9)	Techno-Communicator Development Program	DTI, DOST	N		2	
(IN-10)	Provincial Industrial Testing Center	DTI, DOST, LGUs	N		3	
(IN-11)	International Design Academy	Private, DTI	N			10
(IN-12)	Life Style Research and Information Center	Private, DTI	N			5
(IN-13)	Tourism-Local Industry Complex	Private	N			-
(IN-14)	Mining Area Development and Use	DENR, DTI	N	2	*	*
(IN-15)	Bulacan Wholesale and Distribution Center	DPWH, DTI	N	2		
(IN-16)	Regional Integrated Distributors Promotion	DTI	N	2		
	sub-total			18	12	15
-5 Social services						
(SO-1)	Bataan National School of Arts and Trade Upgrading	DECS, DPWH	P	2		
(SO-2)	Bataan Teachers' College Upgrading	DECS, DPWH	P	2		
(SO-3)	Acquisition and Upgrading of Teaching Tools	DECS	N	4	5	
(SO-4)	Elementary Science Schools Establishment	DECS	N		5	
(SO-5)	Functional Division Educational Management Information System	DECS	N		3	
(SO-6)	Acquired Competencies and Excellence in Sports (ACES)	DECS	N		4	
(SO-7)	Human Resources Development and Training Center	NGOs, PSWDO, PDCC	N	5	26	
(SO-8)	Integrated Training, Livelihood and Organization Dev't.	LGUs, NGOs	N	2	*	
(SO-9)	Public Heath Services Improvement	IPHO, NGOs	N	5	8	
(SO-10)	Hospitals Upgrading	DOH, LGUs	N	12	15	25
(SO-11)	Regional Herbal Processing Plant	DOH	N		4	
(SO-12)	Integrated Family Planning and Child Survival Program	NGO, DOH, LGUs	N	2	*	
(SO-13)	Construction of Day Care Centers and Health Clinics	LGUs, NGOs	N	10	20	20
(SO-14)	Computerization of LGU Data Base	DOLE, LGUs	N		7	12
	sub-total			44	97	57
-6 Environment						
(EN-1)	Rattan Plantations Development and Management	CENRO, PENRO	N	2	*	
(EN-2)	Bamboo Plantations Development and Management	PENRO, LGUs	N	2	*	
(EN-3)	Pollution Control and Prevention Center	DTI, DENR	N	2	*	
(EN-4)	Solid Waste Management Improvement Pilot Project	DENR, LGUs	N	2		
(EN-5)	Candaba Swamp Conservation Program	DENR	N	2		
(EN-6)	Sta. Cruz Marine Conservation Program	DENR, LGUs	N		3	
(EN-7)	Luzon Sea Coastal Resources Management	DENR, BOF, LGUs	N		3	*
(EN-8)	Subic Environmental Development Program	DENR, SBMA	N	2		
(EN-9)	Land Resources Information System Development	NEDA, LGUs	N		5	
(EN-10)	Eco-Community Network	DENR	N	2	*	
(EN-11)	Comprehensive Regional Environmental Management Improvement Program	DENR, LGUs	N	2	*	
(EN-12)	World University of the Environment	Private	N		3	*
	sub-total			16	14	-
	Total			826	2,800	3,356

* P: planned by sector agencies, N: newly formulated

Table 7. Public Investment Requirements for CLDP and Fund Availability

(Unit: US$ million)

	Phase I	Phase II	Phase III	Total
Public investment fund to be allocated to CLDP	840	2,280	3,200	6,320
Public investment requirements for CLDP	826	2,800	3,356	6,982

5.5 Institutional Measures for CLDP Implementation

5.5.1 Alternatives for people's participation

The CLDP paradigm calls for increased participation of people in development planning and administration. Three broad alternatives are perceived for this:

(1) to expand NGO/PO representation in the existing development planning and administration mechanism,

(2) to introduce an alternative mechanism for development planning and administration based on NGOs and POs, and

(3) to streamline/strengthen development planning and administration of local government units (LGUs) with more active NGO/PO participation.

The alternative (1) means, for instance, to increase NGO membership in RDC. The alternative (2) may be pursued by many NGOs specialized in policy advocacy activities. The alternative (3) aims to reflect needs and intentions of local people better within the established mechanism of development planning and administration, rather than changing the latter.

It is realistic to make use of the established mechanism more effectively rather than introducing a new mechanism. The devolution effected by the Local Government Code of 1991 has expanded the opportunity to create stronger, more responsible, more responsive and accountable LGUs. To realize this, NGO/PO participation at LGU levels should be increased and institutionalized.

5.5.2 Measures for increased participation

(1) Barangay profiling

To strengthen development planning and administration at LGU levels with more active NGO/PO participation, barangay profiling may be institutionalized. It will cover needs

identification, program formation, and impact assessment, tapping ample experiences of NGOs in rapid appraisal, ecoscan and other participatory approaches. For the conduct of barangay profiling, procedure for self-selection among NGOs/POs should be clarified. Through the profiling, credibility and capability of NGOs/POs will be enhanced, and they should be accredited by official bodies (e.g. relevant councils).

(2) EIAs

Another main area where more active NGO/PO participation can contribute immediately to the strengthening of development planning and administration at LGU levels is a conduct of environmental impact assessment (EIA). For vigor and transparency of EIAs, extensive public hearings and discussions to determine social acceptability of development projects would be indispensable with NGO/PO participation and disclosure of all the relevant information.

(3) Social services

More substantial NGO/PO participation at LGU levels should be realized first for the delivery of social services. This is relevant since the participatory development aims at better distribution of development resources and social development addresses directly to the issue of distribution.

In particular, health services have been suffering from reduced budget allocation after the devolution. This trend cannot be reversed without strong input from the community side. An idea already implemented elsewhere is to establish a cooperative health fund and implement an NGO-cooperative health program by pooling local manpower and financial resources.

(4) Alternative mechanisms

Many NGOs have been making steady efforts through specific projects to build up alternative mechanisms to allow people to serve themselves as main actors in development or owners of development resources. Such efforts should be expanded in steps. First, it is quite natural for farmers and fishfolks to become actors of primary production processes that they engage in rather than dominated by large land owners, commercial fishery operators and traders/usurers. Second, they should gradually become actors in post-production operations so that their products would be properly priced and marketed. Ultimately, they should become actors also in financing so that a wide range of activities they conduct would be financially supported by themselves.

(5) Cooperative and livelihood development fund

To support more projects to establish essential facilities to be owned and managed by people, a cooperative and livelihood development fund may be established. The fund can be used also

to provide a start up capital in the form of concessional loans or equity financing for various entrepreneurial activities. Some developmental NGOs may even be encouraged to grow into entrepreneurs themselves serving people's needs.

The fund should be administered by a legitimate federation of NGO-cooperatives. As the fund is fully established, it may be used also for some surveys necessary for planned development activities. They may cover participatory social surveys for needs identification, environmental or resource inventory surveys, and feasibility studies of investment projects. They can produce useful input into the formal planning process at every LGU level.

6. ACTION PLAN

Activities to be undertaken subsequent to the completion of the CLDP Master Plan are (1) adoption and promotion of the Master Plan, (2) follow-up studies, and (3) further development of individual projects and implementation of identified priority projects. These activities are described.

6.1 Master Plan Adoption and Promotion

The bulk of development projects and programs proposed by the CLDP Master Plan can be implemented or further developed within the competence and policies of relevant sector agencies. However, the coordination of various development efforts by many agencies and timely implementation of anchor projects will have to be assured. For this purpose, Master Plan proposals will have to be discussed among related agencies, sector concerns and conflicts resolved, and the Master Plan should be formally adopted, if necessary with addenda.

The existing development administration centering around RDC-III will provide a mechanism for this Master Plan adoption. Since the Master Plan has been prepared through intensive consultation with member agencies of RDC-III as well as NGOs and local communities, most issues related to Master Plan proposals have already been resolved. In particular, most projects and programs proposed by the Master Plan have been practically endorsed by them. However, institutional arrangements to enhance public participation in development planning and administration, as proposed by the Master Plan, should also be discussed and adopted at RDC-III.

In parallel with these procedures, the Master Plan proposals should be disseminated widely to facilitate implementation through further cultivating public acceptance. The following will be particularly effective:

(1) implementation of orientation seminars to convey the Master Plan proposals to a wide range of people such as politicians, local government officials, NGO's, environmentalists and researchers as well as general public,
(2) preparation of publicity materials such as brochures and videos,
(3) drafting of promotion materials for selected priority projects/programs,
(4) launching of a series of TV programs combining video presentation, plan schematics and commentaries by various people, and
(5) organization of international donors meeting and investment promotion seminars by public-private cooperation.

The existing Communication Office of DTI-III and Central Luzon Investment Coordinating Council (CLICC) will continue to be instrumental in these activities. The Communication Office needs to be further supported with logistics and possibly also expatriate experts.

6.2 Follow-up Studies

The Master Plan has identified some specific aspects of Central Luzon regional development that should be looked into in more detail in the subsequent step. Four follow-up studies have been formulated to address to these aspects:

(1) Central Luzon Regional Mass Transport Development Study,
(2) Central Luzon Comprehensive Regional Energy Strategy Formulation Study,
(3) Central Luzon Comprehensive Irrigation Development and Management Study, and
(4) San Fernando-Angeles Metropolitan Area Development Study.

The CLDP Master Plan is community-based and people-oriented, and a spatial strategy of the CLDP is to change the dominant flow of goods and movement of people away from Metro Manila. Development of a mass transportation system is naturally an important component of this strategy. The Central Luzon Regional Mass Transport Development Study will address this issue, including railways and water transport.

In reconciling the localization and the globalization scenarios for the glocalization - the CLDP scenario, one of most acute issues has been an appropriate energy mix. On the one hand, major power development is necessary to support the globalization, and on the other, indigenous rural or local energy should be used as much as possible for the localization. The issue is complicated by the fact that major power development often involves social costs. The Central Luzon Comprehensive Regional Energy Strategy Formulation Study will investigate into possible mechanisms to balance costs and benefits or economic goods and externalities associated with energy development and use for the region as a whole.

The CLDP Master Plan has identified priority irrigation schemes to be implemented or rehabilitated from the Mt. Pinatubo derived lahar damages. Prioritization of other schemes will be subject to further analysis on costs and benefits in relation to lahar damages and cropping systems to be established. More importantly, management of irrigation facilities and water use needs to be improved, particularly since some areas will face shortages of irrigation water by the year 2010 as clarified by the Master Plan. The Central Luzon Comprehensive Irrigation Development and Management Study will deal with these issues.

The development of the National Triad Growth Centers is an important CLDP strategy. While development plans exist for Subic and Clark, urban development of the San Fernando-Angeles area needs to be carefully planned for orderly development. The San Fernando-Angeles Metropolitan Development Study will prepare an effective land use plan for the area,

formulate specific urban projects, and recommend measures to strengthen development planning and administration capacities of concerned local government units.

Terms of reference for these studies have been prepared as part of the Master Plan Study and contained in Volume 8: Project Report. Supports of international aid organizations are sought for these studies.

6.3 Project Development and Implementation

Most projects and programs proposed by the CLDP Master Plan are expected to be initiated during Phase I, as they have been formulated to address immediate needs of the region or to anticipate desirable changes in the more distant future. Many projects and programs are composite ones comprising also study components to develop more individual projects or schemes. Priority projects or schemes identified by the Master Plan should be implemented in the immediate future, while additional projects or schemes should be developed through such studies for subsequent implementation under the common concepts and strategy.

6.3.1 Regional projects and programs

Some regional projects/programs should be implemented in part by the private sector to reduce the public sector investment requirements. To identify priority regional projects/programs for more direct government supports, all the regional projects/programs are evaluated qualitatively. Evaluation criteria are (1) whether or not a project/program has been newly formulated, (2) conformity with the new development paradigm, and (3) economic viability as well as need for more direct government supports.

Evaluation results are summarized in Table 8. Two projects are identified as the highest priority: the New Intra-Regional Artery Establishment and the Expanded Agrarian Reform Communities Livelihood and Cooperative Development. Three more are identified as high priority: the Sierra Madre (Marginal) Highway, the Balintingon Reservoir Multipurpose Development and the Micro and Small Enterprises Livelihood Systems Development. Those projects/programs not requiring more direct government supports are not prioritized.

Of these priority projects, a preliminary feasibility analysis has been conducted on the New Intra-Regional Artery Establishment and the Sierra Madre (Marginal) Highway (Volume 8: Project Report). For the Balintingon Reservoir Multipurpose Development, a feasibility study is available, although it needs to be updated. For the Expanded Agrarian Reform Communities Livelihood and Cooperative Development, a comprehensive study should be carried out by DAR in close collaboration with NGOs to identify more agrarian reform communities (ARCs) and land-related issues for subsequent implementation, while the initial implementation is carried out for established ARCs. For the Micro and Small Enterprises Livelihood Systems

Table 8 Prioritization of Regional Projects/Programs

	Project/Program	Priority Criteria *				Priority assessment **
		A	B	C	D	
(RP-1)	Subic Port Development		√	√		
(RP-2)	Subic Industrial Estate		√	√		
(RP-3)	Greater Subic Tourism Core Development	√				
(RP-4)	Subic-Looc Jet Foil Connection	√				
(RP-5)	Hermosa Agro-Industrial Estate		√		√	Δ
(RP-6)	Clark International Aviation Complex		√		√	Δ
(RP-7)	Clark Industrial Estate and Dry Part Development		√	√		
(RP-8)	Clark Field Amusement Park	√	√	√		
(RP-9)	Main Line North Rehabilitation/Upgrading				√	
(RP-10)	BEPZ-SBMA Complementary Development		√		√	
(RP-11)	New Intra-Regional Artery Establishment		√	√	√	◎
(RP-12)	North Luzon Expressway Extension			√	√	Δ
(RP-13)	Manila Coastal Road				√	
(RP-14)	San Fernando-Dinalupihan Road Improvement	√		√		
(RP-15)	Iba-Tarlac Road				√	
(RP-16)	Sierra Madre (Marginal) Highway	√	√		√	o
(RP-17)	Regional Telephone Services Improvement			√		
(RP-18)	Optic Fiber Network	√	√			
(RP-19)	Labrador-Hermosa EHV Transmission Line			√	√	Δ
(RP-20)	Hermosa-Dasmarinas EHV Transmission Line				√	
(RP-21)	Balintingon Reservoir Multipurpose Development		√	√	√	o
(RP-22)	Casecnan Multipurpose Development				√	
(RP-23)	Holistic Water Catchment Management Program	√	√			
(RP-24)	Community-Based Manila Bay and Coastal Rehabilitation	√	√			
(RP-25)	Provincial Cooperative Savings and Loan Association	√	√			
(RP-26)	Expanded Agrarian Reform Communities Livelihood and Coop. Dev't	√	√	√	√	◎
(RP-27)	Micro and Small Enterprises Livelihood Systems Dev't	√	√		√	o
(RP-28)	Resource Center for People's Participation in Local Gov.	√	√			

* Priority Criteria
- A: Is the project/program newly formulated?
- B: Does it conform well with the new development paradigm?
- C: Is it economically highly viable?
- D: Does it need more direct government support?

** Priority assessment
- ◎ : Highest priority
- o : High priority
- Δ : Priority

Development, a feasibility study should be conducted by a consortium of NGOs supported by DTI. Immediate actions to be taken for all the regional projects and programs are summarized in Table 9.

6.3.2 Special programs

Four special programs are expected to be implemented by NGOs in cooperation with relevant government agencies. A consortium of concerned NGOs should be formed first for more detailed development of each program.

The Storm and Flood Monitoring is expected to be implemented immediately. PAGASA under DOST is the implementing agency, and the support of an international organization is expected.

6.3.3 Local projects and programs

(1) Community initiatives

All the nine projects and programs in this category are expected to be implemented by NGO initiatives in cooperation with relevant government agencies. Proponent NGOs are expected to prepare implementation programs. These projects/programs are of experimental nature, and should be initiated during Phase I in designated provinces respectively. Cooperating government agencies, to be identified by respective NGOs, should undertake fund sourcing including external sources.

(2) Government initiatives with strong NGO/PO components

For all the 14 projects and programs in this category, detailed project/program development should be conducted by government agencies in cooperation with NGOs/POs. Concept papers are available for some projects/programs, as contained in Volume 8: Project Report for the Crop-Livestock Integrated Farming.

(3) Refocused government supports

Most local projects in this category can be implemented by relevant sector agencies. For most of them, further project development including feasibility studies and design can be conducted also by the sector agencies.

Four programs in the industry, trade and services component are expected to be implemented by relevant industrial associations supported by DTI: the Industrial Clusters International Partnership Program, the World Class Designer Invitation Program, the Skills Expert System Development, and the Industrial Clusters Integrated Modernization Program. DTI may take

Table 9 Immediate Actions to be Taken for Regional Projects/Programs

	Project/Program	Immediate Actions
(RP-1)	Subic Part Development	• Further promotion for implementation by the private sector
(RP-2)	Subic Industrial Estate	• Further promotion for exclusive development for investing countries' firms
(RP-3)	Greater Subic Tourism Cone Development	• Planning for urban facilities and land use
(RP-4)	Subic-Looc Jet Foil Connection	• Preparation of concept paper for promotion to the private sector
(RP-5)	Hermosa Agro-Industrial Estate	• Clarification/streamlining of incentive measures
(RP-6)	Clark International Aviation Complex	• Study on complementary operation with the NAIA
(RP-7)	Clark Industrial Estate and Dry Part Development	• F/S of dry port development
(RP-8)	Clark Field Amusement Park	• Preparation of concept paper for promotion to the private sector
(RP-9)	Main Line North Rehabilitation/Upgrading	• Planning for phased implementation • Social impact analysis on residents along the route
(RP-10)	BEPZ-SBMA Complementary	• Study for characterization of BEPZ and SBMA industrial development and phased implementation of roads etc.
(RP-11)	New Intra-Regional Artery Establishment	• F/S
(RP-12)	North Luzon Expressway Extension	• Additional investigations and D/D for revised alignment
(RP-13)	Manila Coastal Road	• Study of sections as alternatives to lahar damaged roads
(RP-14)	San Fernando-Dinalupihan Road Improvement	• Delineation of sections for improvement
(RP-15)	Iba-Tarlac Road	• Improvement of upland sections in relation to resettlements
(RP-16)	Sierra Madre (Marginal) Highway	• F/S of the Bulacan section
(RP-17)	Regional Telephone Services Improvement	• Implementation for municipalities in Nueva Ecija
(RP-18)	Optic Fiber Network	• Master planning
(RP-19)	Labrador-Hermosa EHV Transmission Line	• Pre-implementation works
(RP-20)	Hermosa-Dasmarinas EHV Transmission Line	• No action during Phase I
(RP-21)	Balintingon Reservoir Multipurpose Development	• F/S update
(RP-22)	Casecnan Multipurpose Development	• Comprehensive environmental inventory by participatory approach
(RP-23)	Holistic Water Catchment Management Program	• Master planning with community organizing
(RP-24)	Community-Based Manila Bay and Coastal Rehabilitation	• Review of the Fishery Sector Program
(RP-25)	Provincial Cooperative Savings and Loan Association	• Setting up of PCSLAs with member organizing
(RP-26)	Expanded Agrarian Reform Communities Livelihood and Coop. Dev't	• Implementation for identified ARCs and comprehensive study
(RP-27)	Micro and Small Enterprises Livelihood Systems Dev't	• F/S by a consortium of NGOs
(RP-28)	Resource Center for People's Participation in Local Gov.	• Detailed program development by a NGO consortium

the initiative in preparing a concept paper for promotion of each program to the respective industrial association. For integrated implementation of programs/projects related to design industry-strategic industry of the CLDP, a concept paper has been prepared and contained in Volume 8: Project Report.

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