No. 2

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DEVELOPMENT STRATEGY INSTITUTE (DSI)
MINISTRY OF PLANNING AND INVESTMENT (MPI)
THE SOCIALIST REPUBLIC OF VIET NAM

THE STUDY
ON
THE INTEGRATED REGIONAL SOCIO-ECONOMIC
DEVELOPMENT MASTER PLAN
FOR
THE KEY AREA OF THE CENTRAL REGION
OF
THE SOCIALIST REPUBLIC OF VIET NAM

FINAL REPORT
EXECUTIVE SUMMARY

MARCH 1997

PACIFIC CONSULTANTS INTERNATIONAL
SANYU CONSULTANTS INC.
INTERNATIONAL DEVELOPMENT CENTER OF JAPAN

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The following foreign exchange rate is applied in the study:

US$ 1.00 = 11,000.00 Vietnamese Dong (as of October 1996)

Preface

In response to a request from the Government of the Socialist Republic of Viet Nam, the Government of Japan decided to conduct a study on the Integrated Regional Socio-Economic Development Master Plan for the Key Area of the Central Region of the Socialist Republic of Viet Nam and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA composed a study team headed by Mr. Itaru MAE, Pacific Consultants International, and sent the study team to Viet Nam several times between November 1995 and November 1996. The study team had a series of discussions with the officials concerned of the respective governments and the representatives of private organizations, and conducted necessary surveys at the study area. Through further studies in Japan, the present report was prepared. I hope this report will contribute to the promotion of the plan and to the enhancement of friendly relations between Viet Nam and Japan.

I wish to express my sincere appreciation to all the people concerned for their close cooperation extended to the study team.

March, 1997

Kimio Fujita
President
Japan International Cooperation Agency

March 1997

Mr. Kimio Fujita

President
Japan International Cooperation Agency
Tokyo, Japan

Letter of Transmittal

Dear Sir:

We are pleased to officially submit herewith the final report of "The Study on the Integrated Regional Socio-economic Development Master Plan for the Key Area of the Central Region of the Socialist Republic of Viet Nam".

This report compiles the results of the study which was undertaken in the Socialist Republic of Viet Nam, from November 1995 to March 1997 by the Study Team, jointly organized by Pacific Consultants International, Sanyu Consultants Inc. and International Development Center of Japan.

We would like to express our deep appreciation and sincere gratitude to all those who extended their kind assistance and cooperation to the Study Team, particularly the officials concerned of the Development Strategy Institute, Ministry of Planning and Investment, the Socialist Republic of Viet Nam, and other members of the Viet Nam's Counterpart Team.

We also acknowledge and appreciate greatly the excellent support given by your agency and the Embassy of Japan in the Socialist Republic of Viet Nam.

We sincerely hope that this report will be of help for the socio-economic development of the country as a whole. This report would be able to contribute really to Viet Nam's people and socio-economic development in the future.

Very truly yours,

Itaru Mae

Team Leader
The Study Team for the Study on the Integrated Regional Socio-economic Development Master Plan for the Key Area of the Central Region of the Socialist Republic of Viet Nam

INTRODUCTION

This is the Executive Summary of the Final Report of the study on the Integrated Regional Socio-Economic Development Master Plan for the Key Area of the Central Region of the Socialist Republic of Viet Nam, which was conducted by the Japan International Cooperation Agency (JICA) over the period from November 1995 to March 1997.

The Key Area of the Central Region which is referred to as "the Study Area", comprises four provinces, i.e. Quang Tri, Thua Thien -Hue, Quang Nam -Da Nang, and Quang Ngai.

The Final Report is presented in six main separate volumes and the two separate Sector Reports as indicated below.

Vol. 1 : Executive Summary

Vol. 2 : Main Text (Master Plan 2010)

Vol. 3 : Part One - Pre-feasibility Study for Highland Industrial Crops and Reforestation Promotion Program

Part Two - Pre-feasibility Study for Integrated Rural Community Development Program

Vol. 4 : Pre-feasibility Study for Dung Quat Industrial Development Project

Vol. 5 : Pre-feasibility Study for Tourism Infrastructure Improvement and Tourism Promotion Zone Development Project

Vol. 6 : Pre-feasibility Study for Hue -Da Nang Inter-city Highway Construction and Secondary Road Improvement Project

Sector Report 1 : Sector Development Plan for Agriculture, Forestry, Fishery, Industry and Tourism

Sector Report 2 : Sector Development Plan for Infrastructure, Social Development and Environment

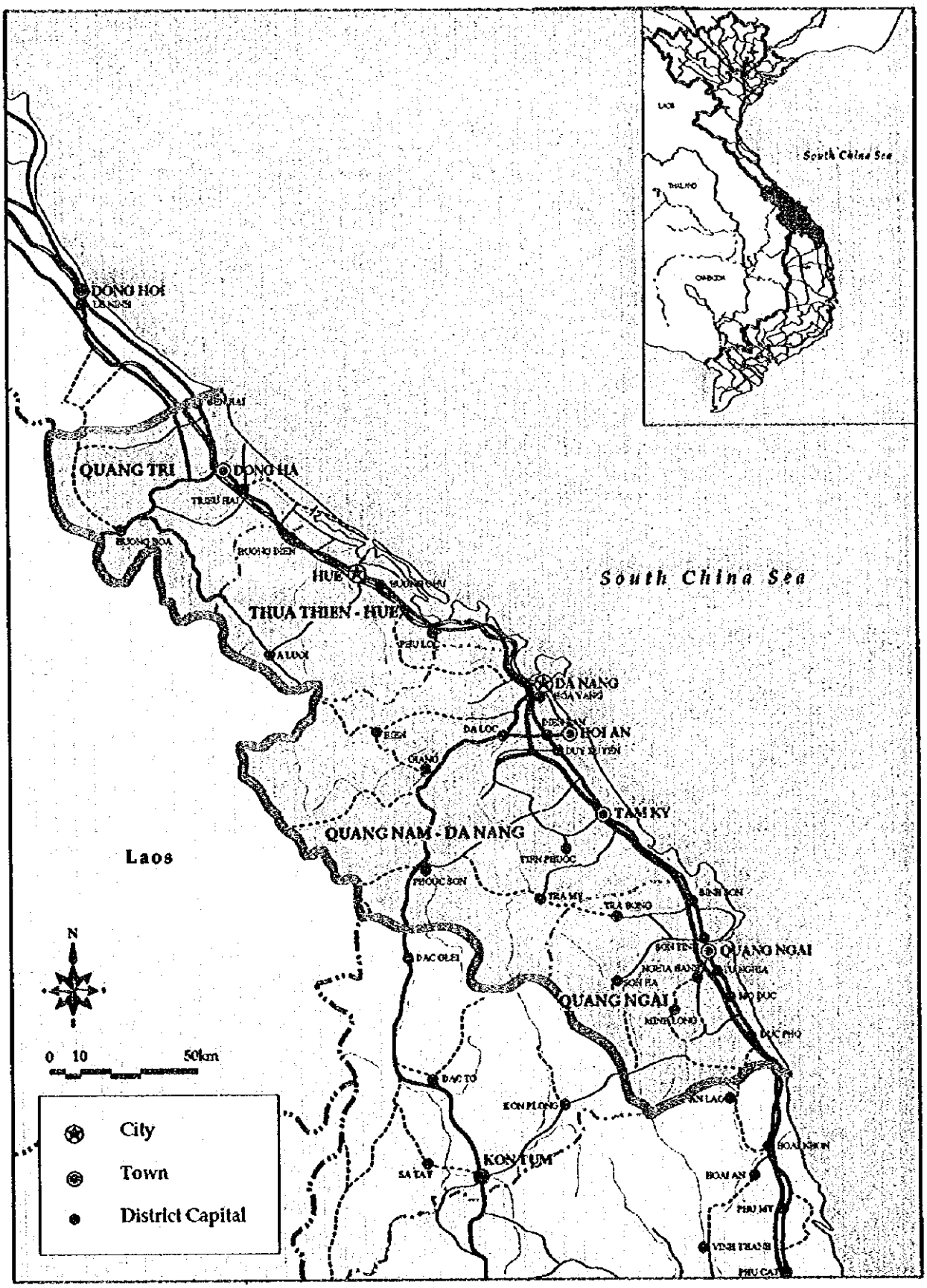
As a result of the Study, it is firmly believed that judging from the national economic unification aspect, the Central Region will face formidable socio-economic challenges at the turn towards the 21st century, in order to extricate itself from the economically underdeveloped situation, thus contributing not only to improving the socio-economic environment of the people's life in the Central Region, but also to alleviating the widening regional disparities between the North and the South of the Country.

The Central Region stands at an early stage of socio-economic development, thus in tremendous needs for intensive mobilization and integration of resources in order to achieve its accelerated growth. To meet the needs requires appropriate leadership of provincial governments as well as positive support from the central government in terms of institutional and financial arrangements.

It is sincerely hoped that the Final Report will be helpful for formulating a consensus within the administration concerning the supreme importance of the accelerated socio-economic growth of Central Viet Nam and for orienting the government efforts towards the successful preparation and implementation of the projects and programs recommended in this Final Report.

March 1997, Tokyo

Map of the Study Area



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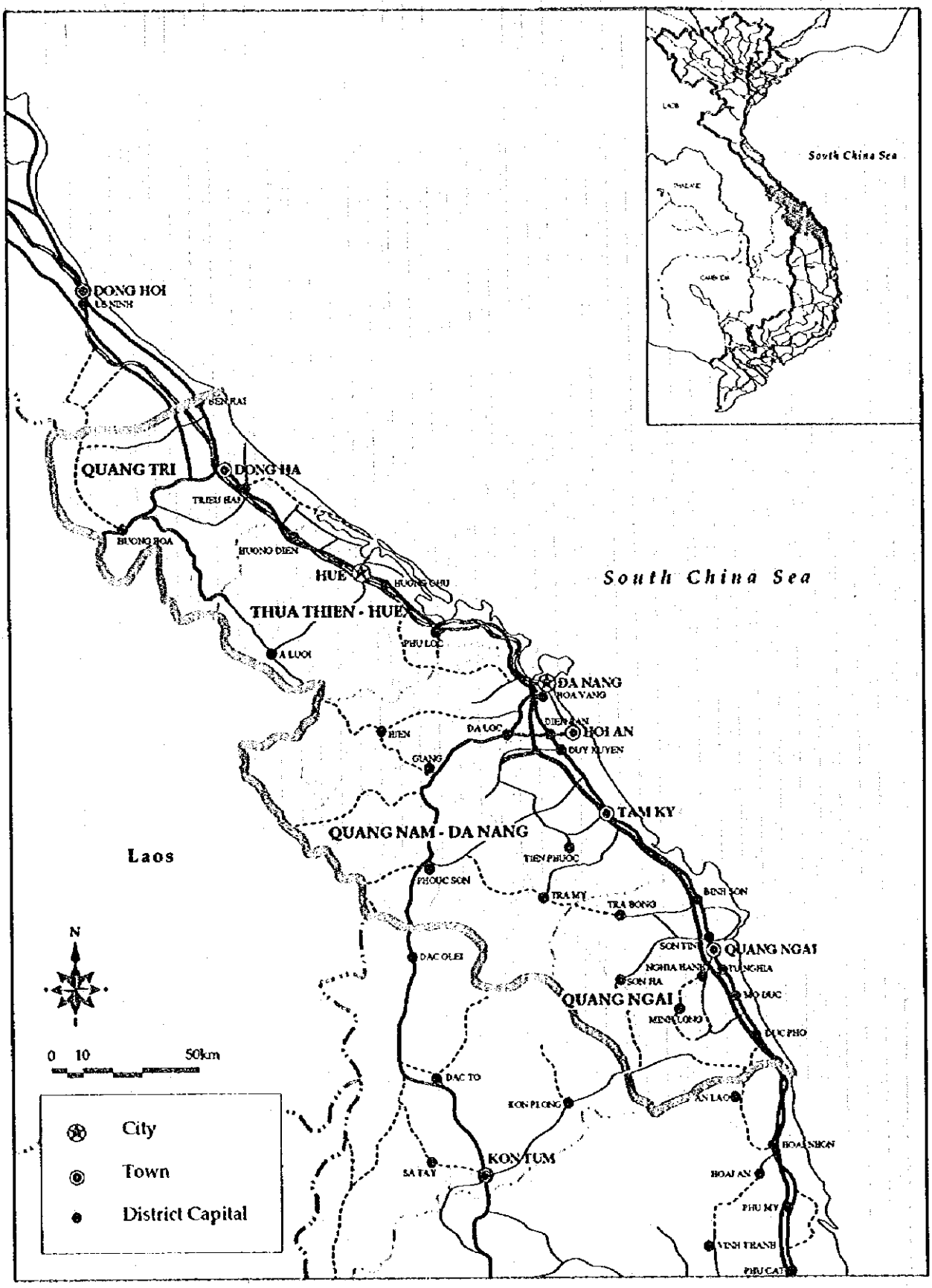

OUTLINE OF THE STUDY

Background of the Study

Viet Nam's economy has been growing rapidly under the "Doi Moi (renovation)" policy, which was adopted by the GOV (Government of Viet Nam) with a view to achieve the economic target of a per capita income of over US$ 500 by the year 2000. However, regional economic disparities within the country have widened in the course of rapid national economic growth. In fact, the Ho Chi Minh City centered South Region has been growing faster, thus widening the disparity with the Ha Noi centered North Region, and the Central Region cannot keep pace with the rapid growth in the South and the North. Leaving the Central Region as an economically underdeveloped area would result in an economic discontinuity between the North and the South, thus jeopardizing the economic unification of the country. Therefore, achievement of accelerated economic growth of the Central Region is of national importance and significance in the context of the economic unification of the country.

Development Goals and Objectives

Development goals of the Central Region are discussed in three dimensions, i.e. in the international context, national context, and regional context. In order to achieve the goals, more definitive objectives are defined as follows:

- **In the international context:** Taking advantages of its geographical location, the Central Region should form an economic network with inland countries and regions in the Greater Mekong Sub-region (in the form of an Indochina East-West Trade Corridor), and assume a transshipment and trade processing center of the Sub-region.
  (1) Establishment of an international implementation regime,
  (2) Improvement of Highway No.9,
  (3) Construction of a new deep-sea port in the Chan May area, and
  (4) Creation of free trade zones in Quang Tri Province and Chan May.
- **In the national context:** The Central Region should achieve an accelerated economic growth to mitigate widening economic disparities among regions, thus contributing to the economic unification of the country.
  (1) Creation of a critical industrial mass in Dung Quat,
  (2) Development of the Hue -Da Nang tourism corridor,
  (3) Promotion of industrial and cash crops farming and reforestation in highland areas, and
  (4) Improvement of regional road network.
- **In the regional context:** The Central Region should pursue "development quality", which is socially and economically balanced and environmentally sustainable development.
  (1) Administrative capacity building of local governments,
  (2) Comprehensive water and environmental management,
  (3) Integrated rural community development, and
  (4) Development of human resources.

Development Plan by Key Sector

- **Agriculture Sector:** There remains some room for expanding arable land in the highland areas, where a variety of industrial crops can be planted. Reclamation activities should be fully consistent with environmental conservation, and involve ethnic minorities in reforestation management and in supply of industrial crops together with subsistence food crops and cash crops, thus enabling them to change the "slash and burn" farming system. Up to the year 2010, the current industrial crops acreage of about 52,000 ha will be expanded to 134,000 ha.
- **Industrial Sector:** Two growth poles should be strategically created to harness overall socio-economic development in the Central Region. One is the Dung Quat industrial development and the other is the Chan May area development as a transshipment and trade processing center of the Indochina East-West Trade Corridor. At the same time, small to

medium scale indigenous industries will be strengthened through appropriate support by the Government.

- **Tourism Sector:** As an immediate action program, tourism infrastructure will be improved centering along the Hue -Da Nang tourism corridor as the major tourist destination in the Central Region, followed by the development of tourism promotion zones with a view to attract mass tourism. Two TPZs will be developed, one is the Lang Co TPZ and the other is the Hoi An TPZ. It is expected that over two million foreign tourists will visit the Central Region by the year 2010.
- **Social Sector:** The social development in the Central Region should necessarily underline rural farmers residing in the highland areas as the target people. "Poverty alleviation plan", "construction and improvement of social infrastructure and provision of services", and "capacity building" will be implemented in the highland areas by means of a "participatory approach" by involving the people concerned in the development process.

6 Priority Projects /Programs for Pre-feasibility Study (Pre -F/S)

An evaluation was made to select 6 priority projects and programs taking into account the factors of (1) contribution to accelerated economic growth, (2) consistency with national policy, (3) quicker return of development effects and greater ripple effects, (4) building solid economic foundation in the mid and long term, (5) balanced and equitable development, (6) preparation for participation in liberalized international economy, (7) support for social development.

(1) Hue -Da Nang Inter-city Highway Construction Project (HDH)
(2) Secondary Road Improvement Project (SRI)
(3) Dung Quat Industrial Development Project (DQI)
(4) Tourism Infrastructure Improvement and Tourism Promotion Zone Development Project (TII & TPZ)
(5) Highland Industrial Crops and Reforestation Promotion Program (HIC)
(6) Integrated Rural Community Development Program (RCD)

The pre-F/S revealed that all the above 6 projects and programs are justified from the social and economic aspects. However, the three projects, HDH, DQI and TPZ, have limited commercial viability if their capital investments and repayment thereof are to be included in the project cash flow. These 6 projects and programs are expected to be virtually completed by the year 2005, as they are the important stimulator for subsequent socio-economic development in the Central Region.

Preliminary Implementation Plan

- The establishment of a "Central Region Development Committee (CRDC)" is recommended as the agency responsible for the overall implementation management, since the selected projects and programs are of area wide and complicated nature in need of extensive coordination between the central and local governments, among local governments, and with people involved in them.
- For the proper operation and maintenance of HDH, DQI and TPZ, corporations should be established respectively, which are self-financed with the revenues or charges generated from their operations.
- Besides the selected 6 priority projects and programs, there are many other projects and programs deemed important, among others, the following four should be given priority consideration. (1) Highway No.9 Improvement Project, (2) Master Plan Study for Development of a New Chan May Industrial City, (3) New Chan May Port Development Project, and (4) Master Plan Study for Comprehensive Water Resource Management of the Huong River Basin. Among these, draft TORs (Terms of References) for (2), (4) and (5) are included in the Final Report, and other short-listed ones are included in the form of "project profiles".

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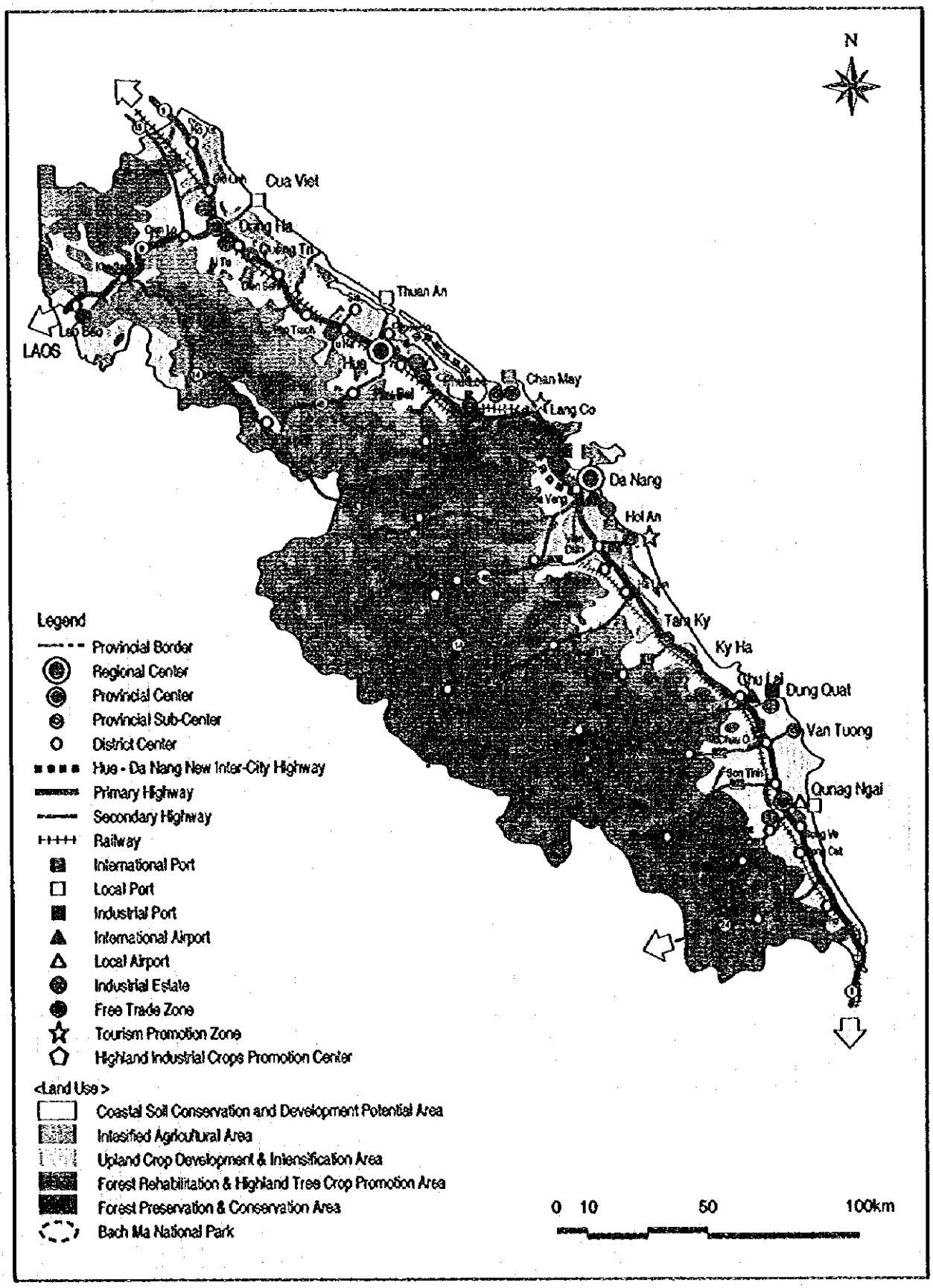
(Master Plan of the Key Area of the Central Region)



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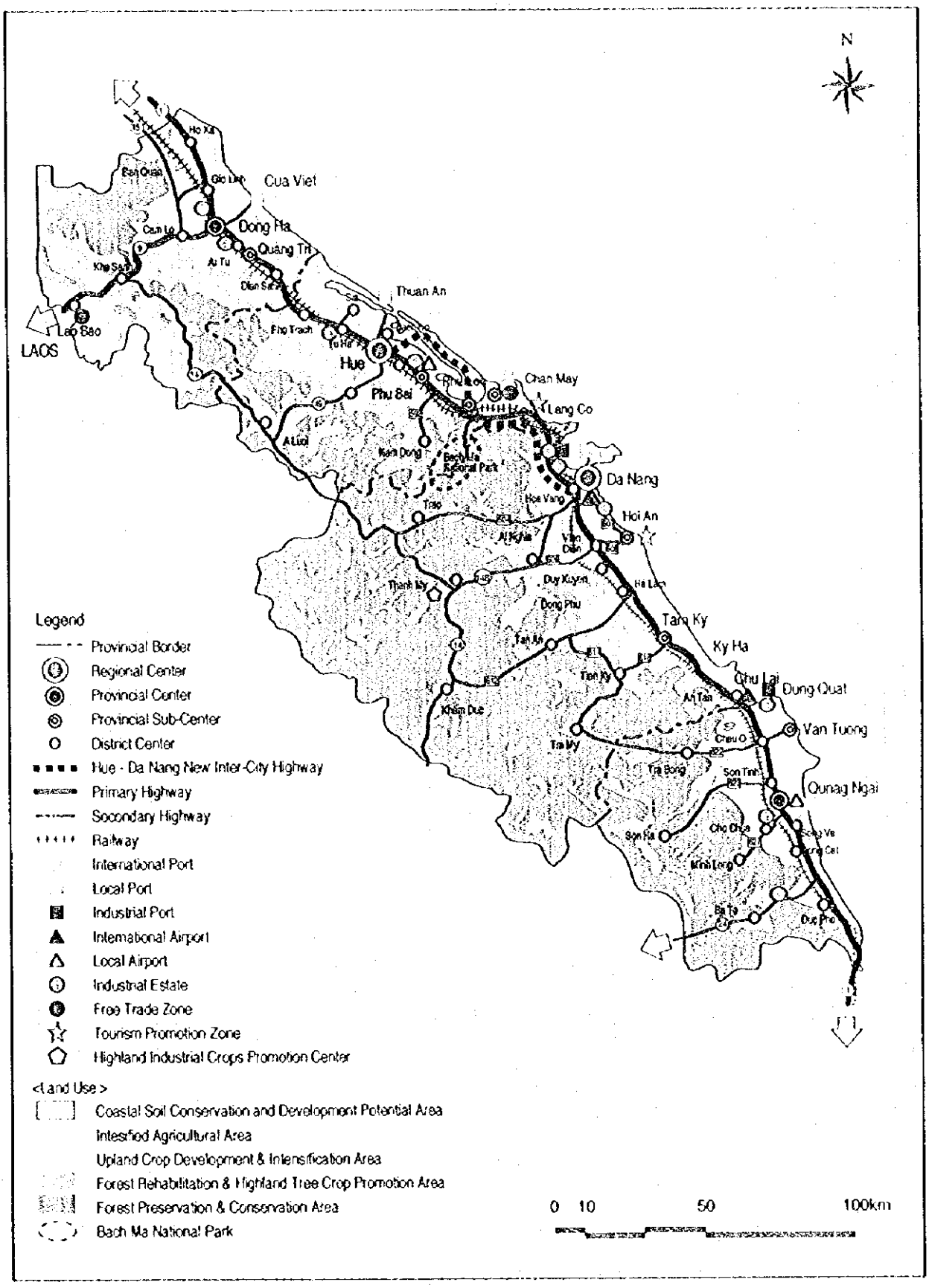


1. SYNOPSIS OF DEVELOPMENT ISSUES

INTERNATIONAL ISSUES

- Viet Nam joined ASEAN (Association of South-East Asian Nations) in 1995 and AFTA (ASEAN Free Trade Area) in 1996, already accepting to adopt CEPT (Common Effective Preferential Tariff Scheme) from the year 2006. CEPT regulates the reduction of import tariffs for industrial products (including agro-industrial products) to less than 5 percent for trade within the ASEAN region. It is also expected that Viet Nam will join WTO (World Trade Organization) and APEC (Asian Pacific Economic Cooperation) in the near future, which will inevitably involve Viet Nam in the framework of global economic liberalization and competition. In addition, as can be seen from the ISO (International Organization for Standardization) series 9000 and 14000, quality assurance and environmental friendliness are growing international concerns with its serious impacts on industrial production and international trade as well.

- This implies that regardless of import-substitution or export-oriented industries, only truly competitive industries meeting international quality standards and appropriate environmental concerns can survive in the future market. In this context, the coming ten years will be very much important for Viet Nam to strengthen and prepare its industries so that they can participate effectively in the forthcoming fiercely competitive and liberalized markets.

- Associated with Viet Nam's movement towards participation in the international economic framework, sub-regional cooperation will also become an important issue, of which the development concept of the "Greater Mekong Sub-region (GMS)" will have a profound impact on the socio-economic development of Viet Nam, particularly on the Central Region.

NATIONAL ISSUES

- There is a growing economic disparity between the North and the South in the country. Leaving the Central Region as an economically underdeveloped area would result in an "economic discontinuity" between the North and the South, thus jeopardizing the economic unification of the country. In this context, the socio-economic development of the Central Region is of national importance and significance, and as such, it should be a strategic issue and, to a greater extent, political subject as well.

- Due to its limited availability of resources along with rather confined land and high population, Viet Nam, as launched by the government, must pursue the development path towards "modernization and industrialization". In this context, reshaping its existing industrial structure, which is heavily dependent upon the agricultural sector (about 30% of GDP (Gross Domestic Product) and 70% of employment) is essential by placing much more emphasis on the growth of the industrial sector (including mining, energy, and construction), whilst exerting sustaining effective efforts to enhance the productivity of the agricultural sector.

REGIONAL (CENTRAL VIET NAM) ISSUES

- The centralized approval system of development plans tends to overload the central government, thus making it difficult to respond in a timely manner to changes in local investment needs. Furthermore, the centralized decision-making mode does not provide a structure, which allows stakeholders to participate in mobilization of resources as well as in identification of local needs and priorities, although such structure is essential requirement for the sustainability of development projects.

- There exists a tendency that each provincial government tends to pursue its development efforts without proper coordination with or integration of its neighboring provinces. Functional integration of the Central Region by achieving reasonable assignment of development functions among the provinces is important from the aspect of making the best use of available regional resources.

- Diversification of agricultural products and reinstating ever reducing forest coverage by utilizing unused land (which accounts for 15% of the study area) is a key issue for enhancement of the agricultural sector productivity and for rehabilitation of the natural environment. Based on the analyses on the land use potentials, more than one million hectares need intensive rehabilitation or reforestation in the hill and mountain area. Reforestation and production of industrial /cash crops in unused land in the hill and mountain area is the most important issue from the aspects of environmental conservation, rural economic development, and poverty alleviation particularly for those newly transmigrated and aboriginal ethnic minorities.

- The agricultural sector has a number of constraints such as (1) petty size of farm land per agricultural household, (2) underdeveloped farm infrastructure, (3) frequent and heavy damages from natural calamities, (4) limited non-farm income sources, and (5) limited availability of farm inputs and backward marketing system. On the one hand, agricultural intensification in paddy fields by means of improved agricultural inputs and managerial systems is essential for food self-sufficiency, but on the other hand, crop diversification and reforestation by utilizing unused land in the hill and mountain area is also essential for sustainable agriculture development in the Central Region.

- The manufacturing sector is in a very early stage of industrialization having the characteristics of (1) not yet integrated industrial structure, (2) underdeveloped back and forward linkages, (3) mostly small and cottage industries, (4) local raw materials processing base, (5) simple production process using proven technology, and (6) domestic and regional market oriented. The Central Region needs to pursue its industrialization process; on the one hand, by establishing principal industrial cores by inducing inflow of FDI (Foreign Direct Investment), and on the other hand, by guiding and encouraging indigenous industries so that they can also participate effectively in the forthcoming liberalized and competitive market in terms of both price and quality.

- The Central Region is a disaster-prone area annually attacked by typhoons with serious flood damages, and in the dry season, by intrusion of saline water from the sea due to the sharp drop of the river water levels. The rivers in the Central Region should be comprehensively managed from their water sheds down to estuaries including environmentally sensitive lagoons.

- Major social issues of the existing conditions of Viet Nam can be summarized in four points; (1) alleviation of poverty, (2) need for improving the social structure, (3) need for improving social services, and (4) need for improving environmental protection. These issues are typically seen in the rural communes in the study area. Particularly when considering the needs for equitable development, ethnic minorities living in the highland area should be highlighted for improvement of their living environment.

- Addressing the absolute inadequacy of infrastructure is of primary importance to achieve the socio-economic activities in the study area, inter alia, the local road network is essential to integrate the urban and the rural economy so that the Central Region can achieve a balanced socio-economic growth in its entirety. In addition, deep-sea ports, railway facilities, international airport in Da Nang, telecommunication systems, municipal sanitary infrastructure, and so on, should be improved or developed within a reasonable time frame. Municipal infrastructure development in Hue and Da Nang will have particular importance in that they will play central roles as nucleus regional cores providing necessary urban services for both manufacturing and service industries.

GOAL 1: ***Taking advantages of its geographical location, the Central Region should form an economic network with inland countries and regions in the Greater Mekong Sub-region (GMS), assuming gateway functions as a regional economic center in GMS.***

SCENARIO:

Priority consideration should be given to the creation of a New **Indochina East-West Trade Corridor** which links Myanmar, Thailand, Laos, and Central Viet Nam with highways and telecommunications network. The Trade Corridor will greatly contribute to the cross-border movement of persons, goods, and information in the GMS with the result of equitable economic development of the countries involved. The economic development of the GMS countries will improve the political stability and security of the Indochina Sub-region as a whole, which naturally will have favorable impacts on the socio-economic development of Central Viet Nam.

OBJECTIVES:

- **Institutional Building:** The first and foremost important objective is to establish an **International Implementation Organization** specifically responsible for coordinated infrastructure development among the countries involved, including highways, bridges including the one over the Mekong, and a deep-sea port in Central Viet Nam. The Organization will also be responsible to establish a legal and institutional framework for the effective and efficient operation and maintenance of the Corridor.
- **Improvement of Highway Linkage:** The success of the Trade Corridor will be physically dominated by the conditions of highway linkages between the countries involved. In Viet Nam, **Highway No.9** should be adequately improved to ensure convenient transportation of freights to be generated along the Corridor.
- **Construction of a New Deep-sea Port:** In order to assume the terminus functions of the Corridor, it is mandatory to construct a **New Deep-sea Port** at an appropriate location in Central Viet Nam. The Port will function as an international commercial port having the functions of a transshipment hub and processing trade center.
- **Creation of a New Industrial City:** The terminus functions will require the creation of a new industrial city with the new deep-sea port and its ancillary **Free Trade and Transit Zone (FTTZ)** having the functions of storing, processing, assembling, trading, and distributing functions.

GOAL 2: ***The Central Region should achieve an accelerated economic growth to mitigate widening economic disparities among regions, thus contributing to the economic unification of the nation country.***

SCENARIO:

The agriculture-dominated existing industrial structure should be reshaped by placing much more emphasis on the industrial and service sectors, whilst enhancing the agricultural sector productivity by adopting intensified and diversified farming in paddy fields and by encouraging industrial /cash crops farming in highland areas. The regional industrialization process should pursue two parallel paths; on the one hand, one or two growth poles should be strategically

created to harness overall socio-economic development in the Central Region, and on the other hand, indigenous industries should be encouraged to modernize themselves as quickly as possible so that they can participate effectively in the forthcoming era of global competition. Functional integration of the Central Region should be achieved by reasonable spatial assignment of development elements among provinces and by strengthening inter-provincial linkages and the linkages between urban and rural areas. Formation of an urban agglomeration and resultant expansion of regional consumer market should be realized by integrating two regional nucleus cities, which are Da Nang and Hue, to assume the central functions for the development of the Central Region.

OBJECTIVES:

- **Manufacturing Industry:** Creation of a critical mass in **Dung Quat** as an integrated industrial complex, and activation of indigenous industries through institutional and financial supports by the government.
- **Tourism Industry:** By making the best use of natural, historical, and cultural endowments, the **Hue -Da Nang Tourism Corridor** should be developed as a major tourism destination in the Central Region.
- **Industrial /Cash Crops Farming:** In consideration of the limited availability of rice paddy in low plains and the importance of rehabilitation of forestry in the highlands, industrial /cash crops farming should be developed, involving the people living in the mountainous area.
- **Improvement of Road Network:** Improvement of extremely inadequate local roads will serve as a basis of the regional economic activities. Hue and Da Nang should be closely linked with a high standard highway to function as an integrated metropolitan area.

GOAL 3: ***The Central Region should pursue "development quality", which is socially and economically balanced and environmentally sustainable development.***

OBJECTIVES:

- **Disaster Prevention and Environmental Management:** Flood-prone river basins should be properly managed in an integrated manner. Reforestation and micro-watersheds management are also inseparable part of water resource management. Environmental monitoring of the quality of air, water, soils, and natural fauna and flora is important to preclude adverse impacts arising from the economic development in the Central Region.
- **Community Development:** The integrated rural community development program aims at improving the living standards of the people living in mountainous areas, particularly aboriginal ethnic minorities, which will include micro-watersheds management, improvement of slope farming, rural electrification, upgrading of social services, improvement of farm-to-market roads, and so on, through a people's participatory approach.
- **Vocational Education:** To foster regional industrialization and modernization, emphasis should be placed on human resource development underlining the vocational education that covers the fields of manufacturing, agriculture and forestry, business and commerce, tourism, and so on.

3. DEVELOPMENT FRAMEWORK

A. SOCIO-ECONOMIC FRAMEWORK

● Major Assumptions:

Family planning efforts will succeed in bringing the population growth rate down at an annual rate of 0.059% up to the year 2005 and that population growth will stabilize thereafter at some annual 1.74% population growth. In addition, inter-provincial migration has been assumed at zero level, but rural-to-urban migration has been taken into consideration. It is further assumed that:

- The New Indochina East-West Trade Corridor will be put into substantial operations in the coming 5 years;
- The Hue -Da Nang twin city concept (urban agglomeration center) will be fully realized by or about the year 2000;
- The Dung Quat industrial zone concept will be realized in a fashion more or less reflecting the current planning parameters;
- Relevant infrastructure projects will be realized in a timely fashion, and more importantly, such projects will employ labor rather than capital intensive construction technologies; and
- All numerical estimations are made on provincial level first, and hence, all numbers at the target area level are amalgamated results from the province specific calculations.

● Numerical Framework:

The population size of the target area (study area) as a whole will increase from some 4.8 million to about 6.5 million by 2010. The share of the urban population would increase by about 50%, that is from some 23% in 1995 to about 33% in 2010. The urbanization rate would slowly accelerate as the twin city concept as well as accelerated economic development is being realized.

Real growth of GRDP (Gross Regional Domestic Product) is expected to accelerate and pick up after 2000, when basic infrastructure has been put in place and other major projects come on stream. The share of the agricultural sector would gradually decline from some 28.2% of GRDP in 1994 to about 7.5% in 2010. The share of the industrial sector, including mining, building & construction and utilities, would increase from 24.4% in 1994 to about 36.4% in 2010. The share of the service sector would also slightly increase, that is from about 47.4% in 1994 to about 56.1% in 2010.

Real per capita GRDP is expected to grow by factor 3.8 over the planning period, that is from 423,374 VND (Vietnamese Dong) (1989 constant price base) in 1995 to about 1,642,448 VND in the target year of 2010. Real per capita income in the target area as compared to the national average was at a 70% level in 1995. Given projected economic development at the national and the target area levels, the gap between real per capita income levels will remain in the same order of magnitude in the years 1996 to 2000. After 2000 the gap will start closing and real per capita income in the target area will reach some 85% of the national average in 2005, and will be by 4% points above the national average in the target year of 2010.

It is anticipated that total employment in the target area will increase from some 1.962 million people in 1995 to about 2.663 million by the target year of 2010. The total employment in the agricultural sector will remain in the same range up to the year 2000, and then start declining in absolute numbers as the growing industrial and service sectors start absorbing increasingly agricultural surplus labor.

GRDP and Economic Sector Growth Rates in the Study Area

(Unit: As indicated)

Parameter	Unit	1995	1996	2000	2005	2010
Population						
Population Size	People	4,773,328	4,889,953	5,354,897	5,921,770	6,478,745
Population Growth Rate*1	%	2.39	2.44	2.33	2.03	1.81
Share of Urban Population	%	22.6	22.5	24.0	27.6	33.1
Urban Population Growth Rate*2	%	2.34	2.19	4.22	5.50	6.23
Share of Rural Population	%	77.4	77.5	76.0	72.4	66.9
Gross Domestic Product						
Structure						
Agriculture	Billion VND	544	555	601	687	796
	%	26.67	25.38	20.16	12.27	7.48
Industry	Billion VND	519	573	901	1,975	3,872
	%	25.44	26.20	30.22	35.27	36.39
Services	Billion VND	977	1,059	1,479	2,938	5,973
	%	47.89	48.42	49.61	52.46	56.13
GDP	Billion VND	2,040	2,187	2,981	5,600	10,641
Compound GDP Growth Rate*3	%	7.26	7.21	7.88	13.45	13.70
Per Capita GDP*4	VND	427,375	447,244	556,687	945,663	1,642,448
Employment						
Total Employment	People	1,961,483	2,009,771	2,200,927	2,434,103	2,662,829
Structure						
Agriculture	People	1,493,817	1,514,547	1,469,762	1,457,042	1,353,764
	%	76.16	75.36	66.78	59.86	50.84
Industry	People	188,885	198,144	242,170	301,338	370,170
	%	9.63	9.86	11.00	12.38	13.90
Services	People	278,781	297,080	488,995	675,723	938,895
	%	14.21	14.78	22.22	27.76	35.26

Note: *1 For 1995 as against 1994 and for 1996 as against 1995. The other are compound growth rates for the period.
*2 The same comment as for *1 applies.
*3 The same comment as for *1 applies.
*4 In constant 1989 VND.

Source: JICA study team computations.

B. SPATIAL FRAMEWORK

● Improvement of Local Road Network

One of the basic constraining factors in the Central Region is the small capacity of the regional consumer market. Formulating a larger regional consumer market will greatly encourage and activate the regional economic and productive activities creating incentives of increasing cash incomes for farmers and fishermen in rural areas, and their increasing cash incomes will in turn expand the consumer market in urban area. Improvement of the local road network and physical distributing system, which link urban and rural areas or areas of production and consumption, is deemed to be important to lay a solid regional socio-economic foundation.

● Development of the New Indochina East-West Trade Corridor

Taking geographical advantages of facing the deep sea, creation of the terminus of the Corridor in Central Viet Nam is one of the important development strategies, and it would be viably located in the Chan May district of Thua Thien -Hue Province. A Free Trade & Transit Zone in Chan May and a Border Trade Zone in Lao Bao will be established to facilitate international trade activities.

● Agglomeration of Urban Functions

Urban agglomeration is a real need for the development of the Central Region in order to form a larger consumer market with moderate-to-high income urban dwellers, to provide adequate and attractive external services for industries coming in, and to assume central functions as a regional nucleus not only within the country but also in the GMS (Greater Mekong Sub-region) network. A concept of the **"Central Development Corridor"** is adopted for the spatial framework of the Central Region, which consists of (1) Lagoon Environment Conservation Zone, (2) Hue Cultural Conservation and Tourism Zone, (3) Phu Bai Industrial Development Zone, (4) Chan May Trade and Distribution Center Zone, (5) Lang Co -Bach Ma Natural Conservation and Tourism Development Zone, (6) Da Nang Commercial, Industrial and Regional Center Development Zone, and (7) Hoi An Natural and Cultural Conservation and Tourism Development Zone.

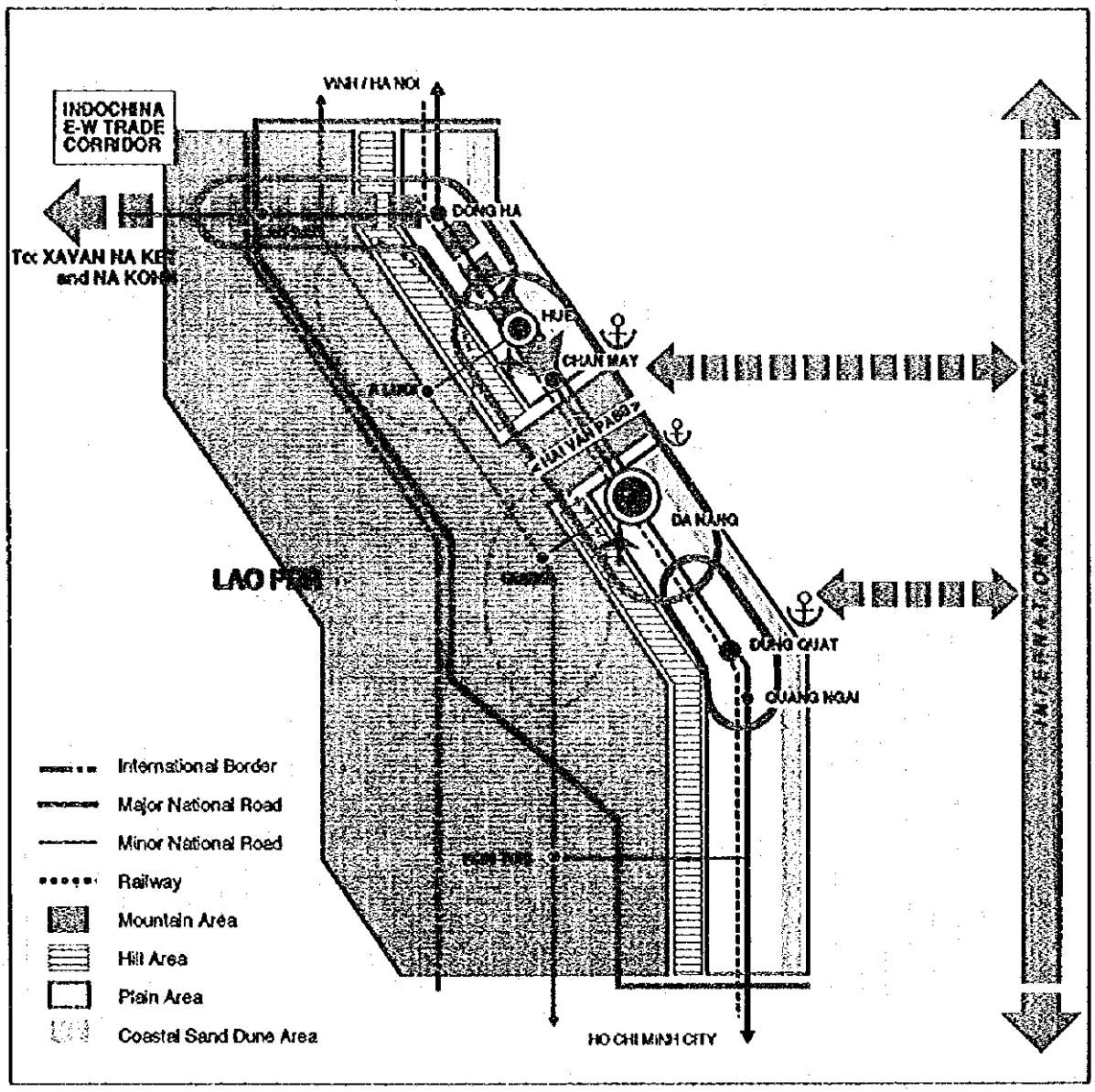
The construction of the Hue -Da Nang inter-city highway with a new Hai Van tunnel will be a prerequisite to successfully form the Central Corridor, and the development of a New Chan May port and industrial city will also serve as an important catalysts for its realization.

● Improvement of Major Mobile Infrastructure

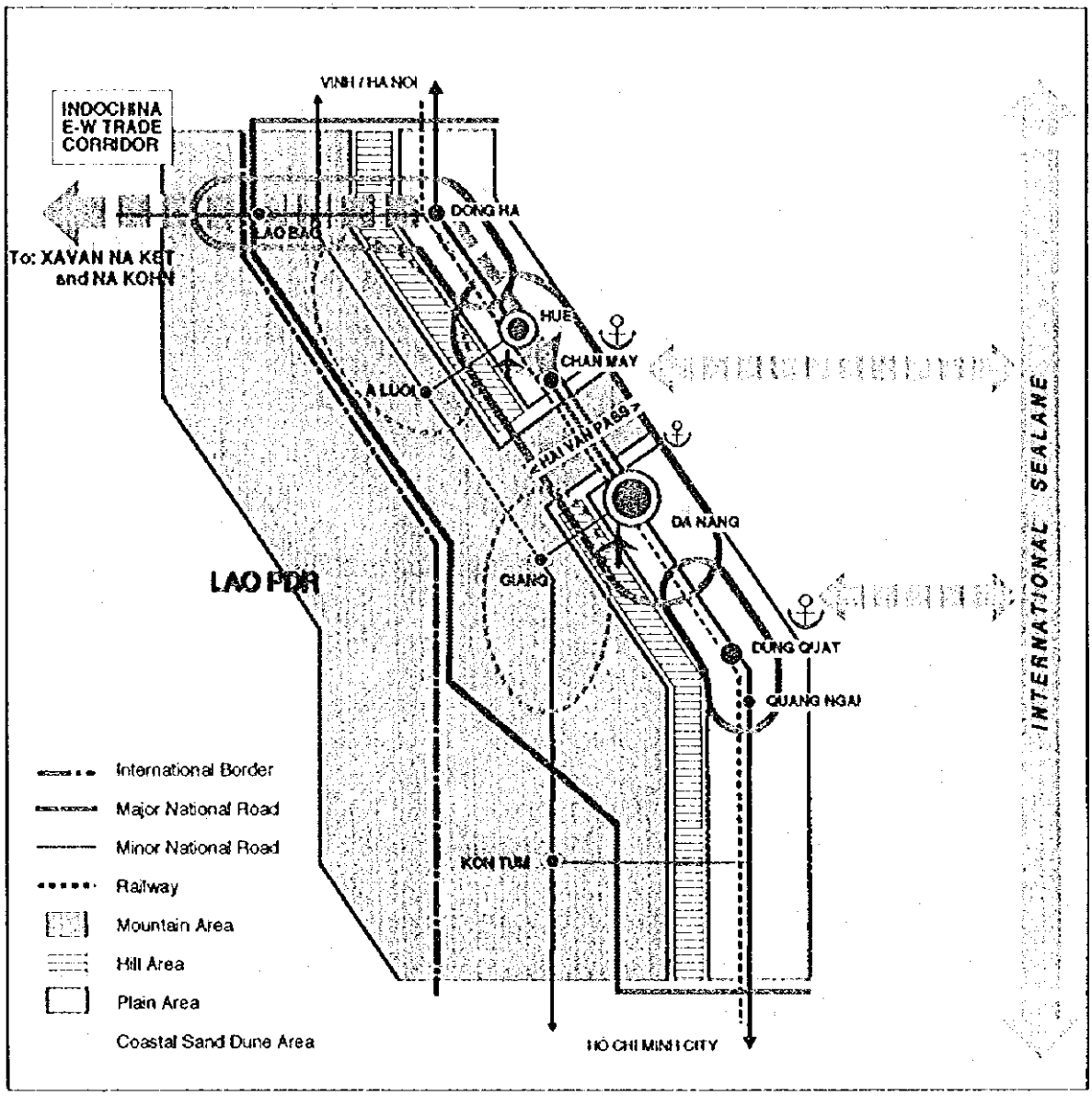
The following are the major mobile infrastructure which will be most likely achieved by the target year of 2010.

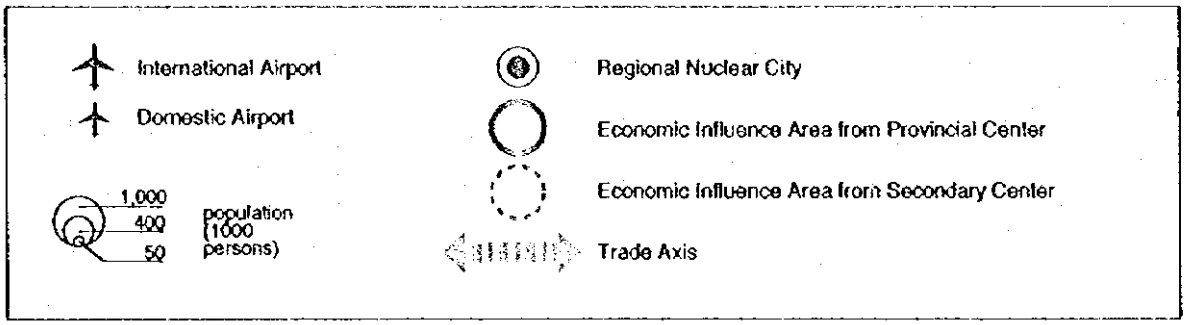
- As secondary roads improvement program, the highlands corridor (No.14), East-West linkages (Nos. 14, 49, 14B, and 24), and local (commune) roads will be improved. Highway No.9 should be upgraded as part of the East-West Trade Corridor.
- The Hue -Da Nang inter-city highway which includes the Hai Van tunnel will be constructed, which will be further extended up to Quang Tri and Quang Ngai around the year 2010.
- The existing Tien Sa port will be expanded to cope with medium term needs. Cua Viet port will be developed chiefly for coastal shipping. Chan May port will be developed as an international commercial port. Dung Quat port will be developed chiefly for industrial use.
- Da Nang International Airport will be expanded particularly its terminal facilities. Chu Lai Airport will possibly be put into commercial operations depending upon the emerging demand after the Dung Quat industrial development has been realized.

Proposed Regional Structure Plan of the Study Area



Proposed Regional Structure Plan of the Study Area





C. IMPLEMENTATION FRAMEWORK

● Basic Development Strategy

Basic development strategies to be adopted for short to medium term implementation are designated as the following three pillars.

- Accelerated regional economic growth by inducing the industrial sector (including construction subsector);
- Building solid regional economic foundation by enhancing agricultural productivity underlining industrial/cash crops production; and
- Quicker return of development effects by encouraging regional tourism industry

● 6 Priority Projects and Programs Selected for Pre-feasibility Study

An evaluation was made in order to select priority projects and programs taking into account the factors of (1) contribution to accelerated regional economic growth, (2) consistency with national development policy, (3) quicker return of development effects and greater ripple effects on regional economy, (4) building solid foundation of regional economy in the mid and long term, (5) balanced and equitable development, (6) preparation for participation in liberalized international economy, (7) support for social development.

1. Hue -Da Nang Inter-city Highway Construction Project
2. Secondary Road Improvement Project
3. Dung Quat Industrial Development Project
4. Tourism Infrastructure Improvement & Tourism Promotion Zone Development Project
5. Highland Industrial Crops & Reforestation Promotion Program
6. Integrated Rural Community Development Program

As later described in the pre-feasibility study section, these selected projects and programs are proposed to be virtually completed in the forthcoming ten-year time or by the year 2005.

● Phased Development Direction of Key Sectors

The overall development direction of key sectors from 1996 up to 2010 has been worked out taking into consideration the following points.

- Viet Nam has already committed herself to share international responsibility and legitimacy for achieving liberalized trade and investment circumstances, and hence serious efforts should be made to complete basic preparatory arrangements by the year 2005, such as development of minimum required infrastructure, establishment of legal and institutional framework, initiation of laying a solid socio-economic foundation, and so on.
- More emphasis should be placed on industrial sector growth in order to realize accelerated regional economic growth, which will essentially require a few strategic projects although they are capital intensive with possible commercial risks.
- Global competition is not only dominated by the cost of products but also internationally acceptable quality and environmental assurance. Increasing concerns and appropriate measures for quality and environmental assurance will also be an indispensable part of the socio-economic development of the Central Region.
- Vigorous efforts should be made to rehabilitate already denuded highland area as it is essential to prevent the Central Region from repeated damages due to floods.

Phased Development Direction of Key Sectors

SECTOR	1996 - 2000	2001 - 2005	2006 - 2010
GENERAL DIRECTION	■ Institutional, legal, organizational, and financial preparation for fully-fledged development of basic economic infrastructure from 2000. ■ Technical preparation of master plan / feasibility study for priority projects / programs. ■ Building reasonable legal framework to induce foreign / domestic investment.	■ Implementation of priority infrastructure development and preparation for subsequent implementation. ■ Inducement of accelerated inflow of FDI including those for infrastructure development. ■ Capacity building to secure efficient and effective operation and management.	■ Successive implementation of selected priority projects / programs. ■ Promotion of social development backed by accrued economic development effects. ■ Preparation for participation in fully liberalised international economy.
INDUSTRY AND ENERGY	■ Creation of critical mass to be a nucleus for regional industrialization . ■ Institutional and administrative support for modernization of indigenous industries. ■ Capacitation of construction industries to cope with growing market needs. ■ Reasonable share of responsibilities between public / private sectors.	■ Substantial commencement of trade operations along the Indochina E-W Corridor. ■ Enhancement of regional physical distribution functions. ■ Supply of adequate quality / quantity of electricity and water. ■ Establishment of environmental monitor and control systems.	■ Capacitation of indigenous industries to cope with ISO regulations (ISO 9000 / 14000). ■ Upgrading of production scale, technologies, diversification of products to attain ability of international price / quality competition. ■ Expansion of industrial modernization down to cottage industries.
AGRICULTURE, FORESTRY, AND FISHERY	■ Preparation for promoting industrial crops production and reforestation in highland areas involving mountainous ethnic minorities. ■ Preparation of comprehensive water resource management programs for major river basins. ■ Improvement of basic infrastructure for marine fishery.	■ Facilitation of rice production farmers to acquire hybrid species, agricultural inputs, and irrigated water. ■ Establishment of viable reforestation systems in major watershed areas. ■ Gradual diversification of marine fishing and aquaculture products.	■ Diversification of agricultural products to cater for people living in urban areas. ■ Improvement of post-harvest arena including regional distribution systems. ■ Facilitation of merchandising fishery products for regional consumption.
TOURISM	■ Upgrading existing tourism infrastructure and tourist attractions to approximate to a level to attract increasing international tourists. ■ Promotion of Viet Nam Tourism in potential markets to sell a good image of Viet Nam.	■ Development of attractive tourist receptacles (TPZ) to accommodate mass tourism. ■ Inducement of international air carriers to call at Da Nang airport.	■ Diversification of distinct tourist attractions. ■ Upgrading service quality of tourism industries. ■ Promotion of domestic tourism including expatriates living in Viet Nam .
SOCIAL AND ENVIRONMENT	■ Application of participatory approach to improve highland rural communities aimed at involving ethnic minorities in reforestation process with incentives for income generation.	■ Promotion of human resource development program in response to growing needs of skilled workers, management staff, and R & D specialists.	■ Environmental management and control by establishing environmental monitoring systems and legal enforcement institutions under the initiative of provincial governments.
INSTITUTION	■ Formulation of a consensus among the Administration concerning political support for the development of Central Region. ■ Establishment of an Implementation Agency to collectively manage projects / programs.	■ Organization of implementation bodies for projects fully or partly involved by the public sector. ■ Integration of human resource development program in implementation schemes.	■ Assurance of adequate operation, management, and maintenance of completed projects / programs with proper appropriation of recurrent cost.

D. INSTITUTIONAL FRAMEWORK

● Project and Program Administration System

Integrated regional development projects and programs are in principle implemented and maintained by local governments. For the effective implementation and maintenance, local governments need to possess sufficient authority to plan and manage the relevant projects and programs with enough institutional capability and discretionary funds. Local governments led administration systems will bring about merits such as (1) saving enormous costs shouldered by central agencies, (2) encouraging local governments to experience project and program management thus making them sustainable, (3) quickly and properly responding to actual local needs and priorities, and (4) stimulating innovative development planning and management to ensure the life-cycle economy of projects and programs.

A new implementation organization tentatively named **"Central Region Development Committee (CRDC)"** should be established on a regional basis, to collectively and centrally control and manage the implementation of those projects and programs that will be technically and financially assisted by international agencies. The CRDC will have a **"Project /Program Management Unit (PMU)"** organized by responsible representatives from provincial governments, qualified staff from the private sector, and professional management consultants. The CRDC will be supervised by a **"Central Steering Committee (CSC)"** at the central level, which assumes the function of important policy making.

● Project and Program Financing System

The basic consideration on project financing for those projects that may generate incomes is that the Government should cover whole or part of the initial capital investment and take the economic return derived from their development, whilst the recurrent cost for their operation and maintenance should be self-financed with the revenues or charges generated from their operations. Amongst the selected six priority projects and programs, the following are those falling within this category. An implementation body preferably in the form of a **"Corporation"** should be established for the implementation of those projects.

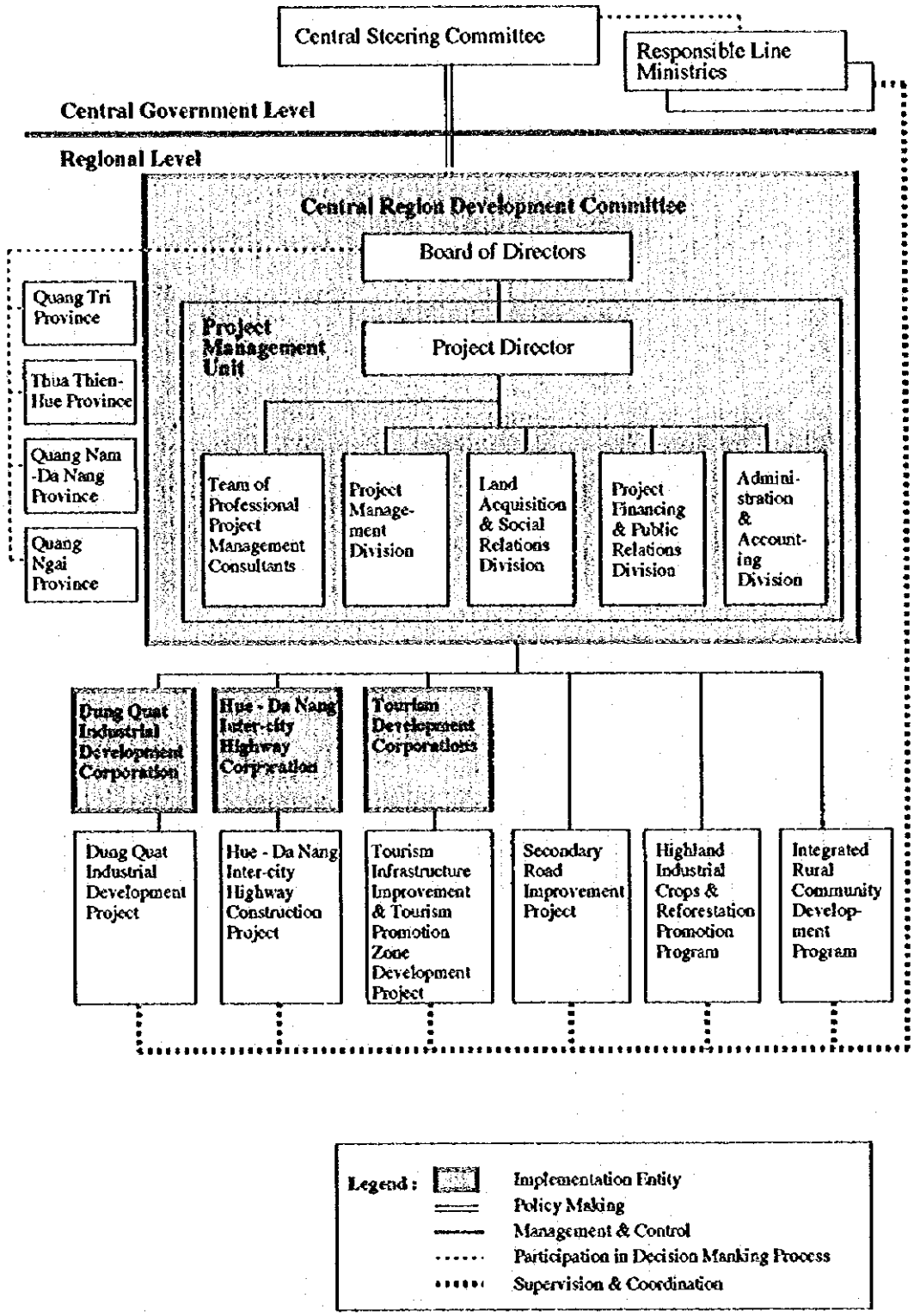
- **Hue -Da Nang Inter-city Highway Construction Project** (by adopting a toll system)
- **Tourism Infrastructure Improvement & Tourism Promotion Zone Development Project** (by collecting tourist charges and/or levying taxes on locators such as hotels and restaurants)
- **Dung Quat Industrial Development Project** (by leasing the developed land and collecting user charges for port, water, and other utilities /facilities)

The remaining projects and programs should be implemented through the public sector investment and finance. Because of their important nature yet not necessarily financially viable, using as much concessionary loan and/or grant aid as possible will be highly recommended for the public sector investment and finance. Also, the development of a thermal power plant in the Dung Quat Industrial Development Project would become viable on a build-operate-transfer (BOT) basis. Although it may not be likely in the immediate future, possibility of issuing bonds such as **"Central Region Infrastructure Fund"** in the domestic and international markets should be sought to raise capital funds at a reasonable cost.

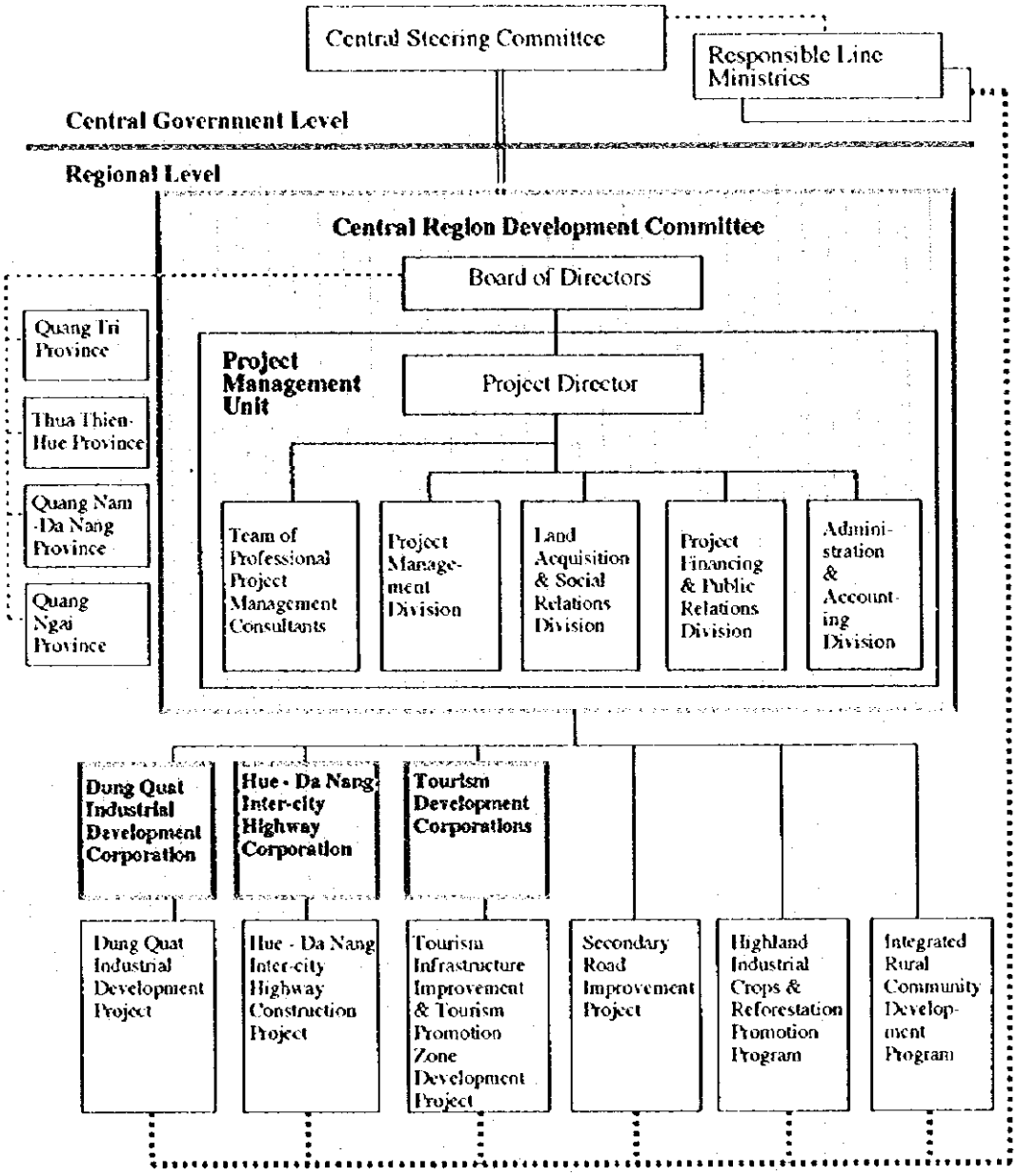
● Investment Incentives

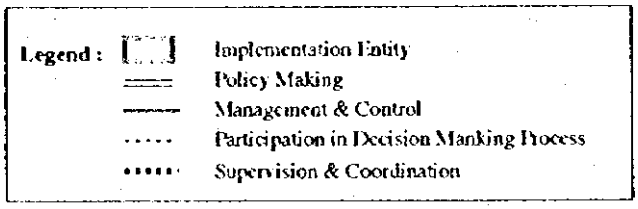
Areas of key importance for the successful transitional economy are (1) legitimate customs regime, (2) credible and efficient banking and finance operations, (3) competitive tax concession packages, (4) streamlined requirements for company formation, and (5) appropriate government guarantees for the exemption, incentives, and concessions granted by the government.

Implementation Organization for Projects /Programs in the Central Region



Implementation Organization for Projects /Programs in the Central Region





4. DEVELOPMENT PLAN BY KEY SECTOR

A. AGRICULTURAL, FORESTRY AND FISHERY SECTORS

● Agricultural Sector

Zone A: In major flood-plains, there is almost no room for expanding arable land by new reclamation, and future increase in crop production could be expected only from improving crop yields and proper crop diversification. The future farming prospect is to serve as the main staple plus perishable products supplier to urban areas with maximizing land use efficiency and improving irrigation and flood control systems.

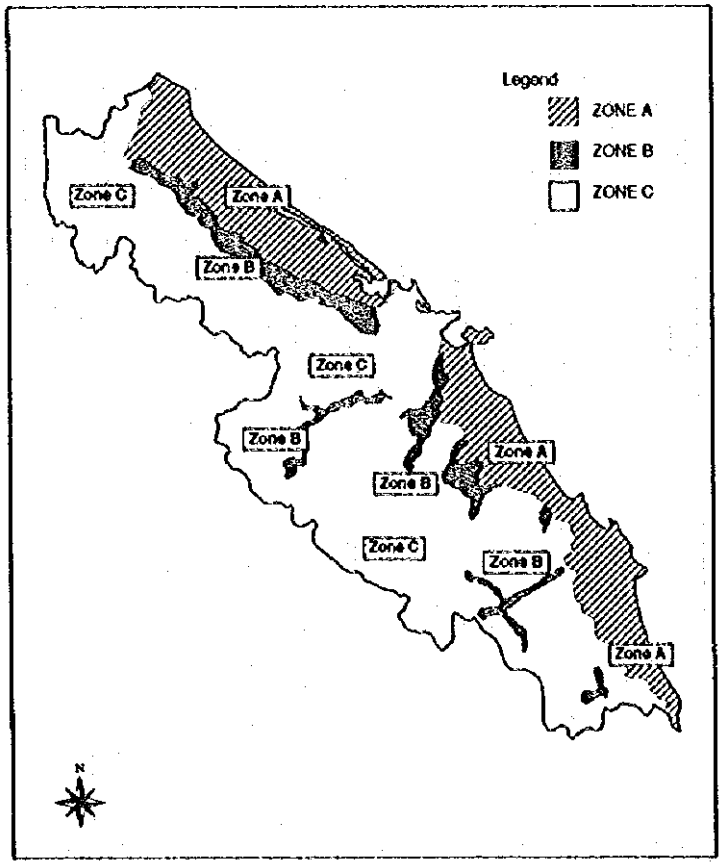
Zone B: In hilly areas, there still remains some room for expanding arable land through activities within new economic zones, and so on. Reclamation activities should be fully consistent with environmental conservation. Hence, the most adequate and sylvo-pastoral farming can be applied to the reclamation specialized in industrial materials supply with subsistence foodcrops and cashcrops suitable for climatic conditions. A small-scale irrigation technology and funding scheme for expansion of industrial crops will be necessary. **Top priority for investment is given to Zone B** within the sector development framework.

Zone C: Environmental conservation has the top priority in this zone before planning any type of exploitation. Forest coverage must be increased as fast as possible, whilst bare land should be planned with either indigenous forest tree species or artificial ones. The slash and burn system must be replaced by settled farm or forestry management. Technical and financial support should be provided by the public sector as part of social development programs.

In light of the current constraining factors, it is concluded that the effective promotion of highland industrial crop farming in Zone B and Zone C will require three supportive measures, namely, analysis of crop potential and market outlooks, technical setup and transfer technologies to producing households, and provision of long term loans for planting, husbandry and reforestation of production forest by them.

Promotion of industrial /cash crops will need to strengthen the linkages between agricultural and industrial sectors in terms of processing the crops to more value-added products, thus securing the quality of products and reducing the cost for transportation. For the purpose, district centers in the study area should have the functions of processing and marketing the industrial /cash crops.

Agricultural Zoning of the Study Area



Cashcrops Composition for Reclaimed Plantations in Hilly Areas

Item /Crop	Study Area	Quang Tri	Thua Thien -Hue	Quang Nam -Da Nang	Quang Ngai
Current Crop Acreage in Hectare					
Coffee /Cocoa	2,500	1,400	0	0	1,100
Tea	1,300	0	200	1,000	100
Rubber	6,200	5,400	0	0	800
Cashewnut	3,400	0	0	200	3,200
Mulberry	2,200	600	0	1,200	400
Pepper	1,200	900	200	100	0
Cinnamon	36,000	0	1,200	16,000	8,000
Total Crop Area	**52,800**	**8,300**	**12,400**	**18,500**	**13,600**
Plantation Target (2000-2010)					
Coffee /Cocoa	13,000	3,000	0	0	10,000
Tea	3,200	600	200	2,400	0
Rubber	23,000	15,000	6,000	0	2,000
Cashewnut	8,700	0	0	4,000	4,700
Mulberry	8,500	4,500	0	3,000	1,000
Pepper	1,300	1,000	200	100	0
Cinnamon	77,000	0	12,000	25,000	40,000
Total Crop Area	**134,700**	**24,100**	**18,400**	**34,500**	**57,700**
Reclamation (1996-2000)					
Sugarcane	15,900	1,900	9,600	1,000	3,400
Rice Paddy Field	2,400	600	600	700	500

Source: JICA study team

● Forestry Sector

The planned area for afforestation up to the year 2010 is shown below. **Priority should be given to afforestation in the Protection Forest** to control shifting sand as well as soils erosion and water conservation.

Unit: sq. km.

Forest Land	Total Area	Bare Land	Afforestation Area	by 2010	Beyond 2010
Special Use Forest	1,027	441	Coastal Area	160	0
Protection Forest	9,015	4,861	Mountain & Hill Area	3,870	1,272
Production Forest	9,284	4,870	Coastal Area	50	0
			Mountain & Hill Area	2,640	2,180
Grand Total	**19,326**	**10,172**		**6,720**	**3,452**

Source: Existing landuse, 1993, Geographical Department of Forestry, Department of Each Province, 1994

● Fishery Sector

All four provinces share common constraints that retard development in the fishery sector, i.e. (1) absence of fundamental infrastructure and facilities to support fishery activities, (2) inefficient capabilities and obsolete conditions of fishing vessels, (3) insufficient hatchery capacities and lack of facilities for aqua-culture, (4) lack of capital accumulation and serious shortage of operating funds, and (5) inadequate facilities for distribution and marketing of fishery products. To alleviate these fundamental constraints, **priority consideration should be given to the improvement of fishery and aqua-culture supporting infrastructure**. Upgrading fishing vessels including introduction of larger-tonnage vessels for distant water fishing operations will be implemented depending on its feasibility and funds availability.

● Proposed Priority Projects and Programs

- Water Resources and Agricultural Development Project by Medium and Small Scale Reservoir in Zone A
- Highland Industrial Crops and Reforestation Promotion Program in Zone B

B. INDUSTRIAL, ENERGY AND TRADE SECTORS

● Industrial Sector

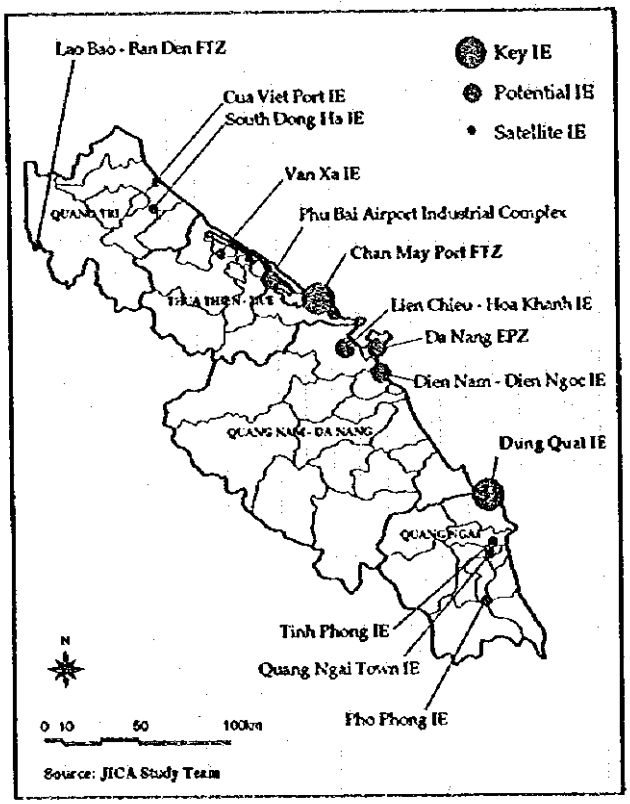
The proposed basic industrialization strategy rests on the following three major pillars.

- Creation of one or two growth poles is of strategic importance to harness overall socio-economic development of the Central Region, even though it might not be justified only on pure economic grounds. Along the line, the Dung Quat project should be fully supported by the Government for its earlier implementation. Also, in conjunction with the Indochina East-West Trade Corridor, the Chan May area of Thua Thien -Hue should be developed as a transshipment hub and processing trade center of the Corridor. Accelerated inflow of FDI (Foreign Direct Investment) is an essential ingredient to achieve the strategy.
- Forming a solid industrial foundation should be the parallel strategy underlining the local resource based industries which are mostly small to medium scale industries commonly suffering from their obsolete production facilities, lack of R&D (Research and Development) capacity, low production volumes and rates, lack of accessibility to loan facilities, lack of market information, and so on. Appropriate financial and institutional support by the Government are essential to achieve the strategy.
- Enhancement of value-added processing of the industrial crops produced in the highland area is of strategic importance to boost agricultural sector productivity in the Central Region. Cottage industries on a farming household basis should also be given proper care partly from the social development aspect to support their livelihoods.

The proposed industrial estates in the study area should be reasonably characterized and prioritized according to their (1) conditions for location, (2) availability of raw materials and human resources, (3) adequacy of infrastructure, (4) potential domestic and international market conditions, (5) investment efficiency and availability of funds for development, and so on.

The following is the maximum development framework estimated in 1993 constant price. The factors between the figures in 1993 and 2010 are, 8.63 for the industrial GDP (Gross Domestic Product), 1.72 for the industrial land use, 2.45 for the number of enterprises, 2.49 for the number of employee in the industrial sector, 2.45 for the industrial water consumption.

Location of Industrial Estates, Export Processing Zones and Free Trade Zones



Year	2000	2005	2010
Industrial GDP (US$ 1,000)	86,974	153,360	256,203
Industrial Land (hectare)	45,223	47,526	49,326
Number of Enterprises	52,065	61,046	70,530
Number of Employee	423,488	515,741	602,957
Industrial Water Consumption (m3/day)	624,780	732,552	846,360

Source: JICA study team

The supporting measures that need to be provided or strengthened by the Government are, among others, (1) Extensive use of bonded warehouse for raw materials import, (2) Effective use of foreign agencies for import /export promotion, (3) Introduction of more liberalized FTZs (Free Trade Zones) that can induce both foreign and domestic investments, (4) Strengthening of financing support functions of industrial associations such as provincial "Chamber of Commerce", (5) Development of industrial information network system, (6) Strengthening of manpower training and relevant incentives, (7) Institutional building for expansion of technology exchange amongst industries and linkage with public R&D institutes, (8) Strengthening of capital raising capacity to modernize production facilities with incentives for pollution control, (9) Cluster development of small and cottage industries as production center.

- **Energy Sector**

On the basis of the assumed socio-economic development, a tentative power demand forecast was conducted, which results in an energy demand (GWh) and peak demand (MW) of 813 /182 in 2000, 1,421 /274 in 2005, and 2,606 /460 in 2010, respectively. The Master Plan prepared by the Energy Institute basically considers hydro-power plants in the Central Region, and hence, the risk arising from lack of hydro resources in dry season or year could justify the installation of a thermal power plant in the Central Region.

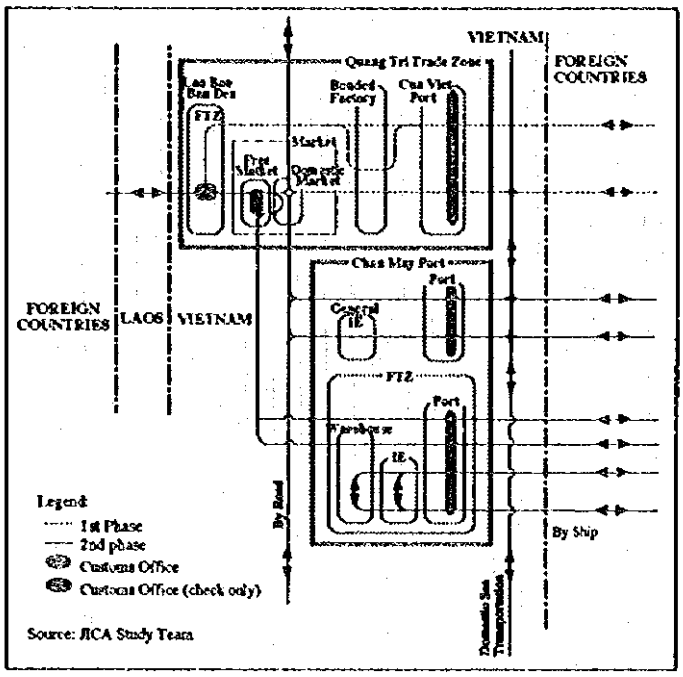
A thermal power plant with 2 units of 150 MW capacity is considered in relation to the Dung Quat Industrial Development. The plant could be developed on a BOT (build-operate-transfer) basis, provided that the public sector should but surplus electricity at a reasonable price and reasonably share costs for non-viable ancillary parts, such as installation of 220 KV transmission line from Dung Quat at the substation in Da Nang.

- **Trade Sector**

In the wake of Viet Nam's participation in the global economy at the turn towards 21st century, two FTZs are proposed by the Study, i.e. one at the new Chan May port area, and the other in Quang Tri Province as a **Border Trade Zone.**

The FTZ concept implies that broader production and trade activities such as import and export procedures, bonded storage, assembling and processing, packing and labeling, training and technology transfer, banking and insurance, forwarding, exhibition and wholesale, and so on, will be allowed in FTZs with certain legal and institutional incentives.

Free Trade and Transit Concept



- **Proposed Priority Projects and Programs**
  - Dung Quat Industrial Development Project
  - New Chan May Industrial City Development Project
  - Quang Tri Border Trade Zone Development Project
  - Integrated Vocational Education and Teacher Training Program

C. TOURISM SECTOR

● Development Strategy

By making the best use of its natural, historical, and cultural endowments, the tourism industry in the Central Region will achieve faster growth, and is expected to receive international tourist arrivals over one million by 2000 and possibly over 2 million by the target year of 2010. The **Hue -Da Nang Tourism Corridor** will provide major tourist destinations, followed by optional destinations of My Son and Hoi An. New tourist facilities and attractions will be developed in the Chan May area in Thua Thien -Hue with a variety of attractions such as beach resorts available nearby, and highland resorts in Hai Van and Bach Ma. In the newly developed Chan May port, a jetty to receive ocean-going cruising vessels will be provided, and also developed in the adjacent lagoon are marine sports facilities including a marina.

The existing historical and cultural monuments and heritages will be well conserved, rehabilitated, and maintained, and in addition, attempts will be made to add new tourist attractions and values to them. Special care will be given to the conservation and rehabilitation of the Hoi An Tourism Area with the intent of producing the image of attractive old port town associated with a variety of shopping attractions. In the long run, the Central Region, as the heart of the country, will attract as many local tourists as possible, including those of school tours from other parts of the country.

In developing the regional tourism industry, priority consideration should be given to upgrading and improving the existing tourist attractions, facilities, and related infrastructure, to a level reasonably acceptable by foreign tourists, whilst exerting efforts to promote the regional tourism in potential markets and to encourage regional tourism industries such as tourist agents, land transport operators, tour guides, and so on.

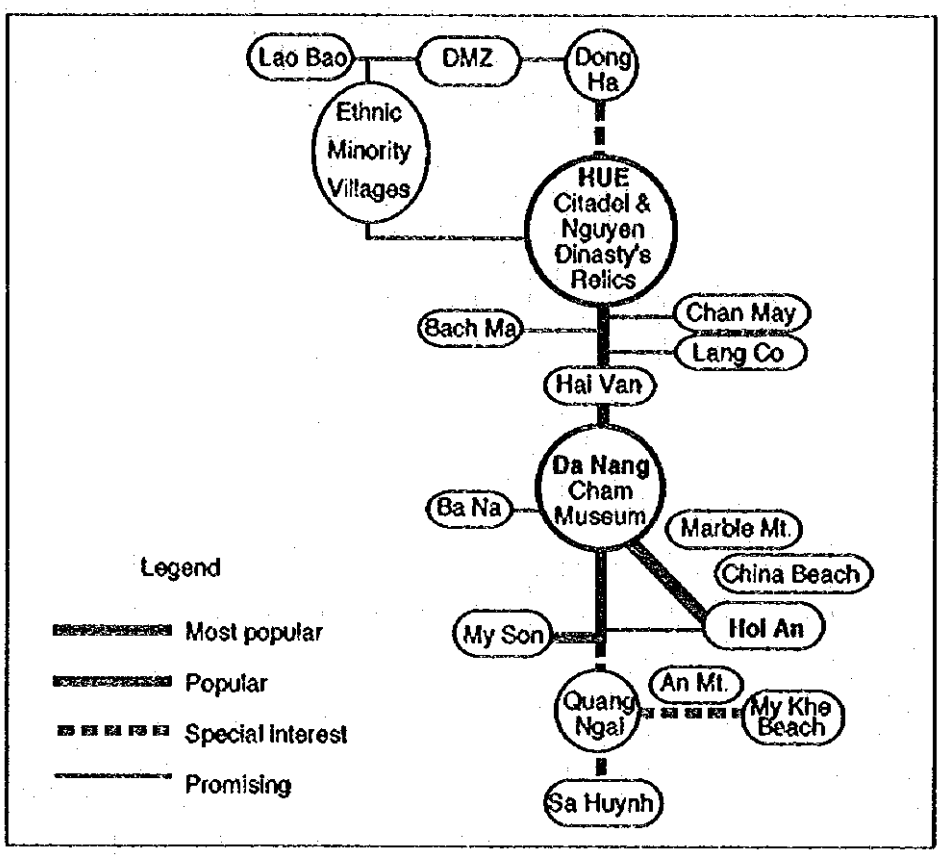
In order to exploit the potential tourism market in GMS (Greater Mekong Sub-region), a sort of **"Free Tourism Zone"** concept should be applied to the Central Region at the turn towards the 21st century, where people living in the GMS countries can freely visit the Central Region for tourist purpose.

Forecast Number of Foreign Tourist Arrivals

Province	Item	1994	2000	2005	2010
Country	Visitors	1,018,062	3,800,000	6,200,000	8,700,000
	Growth Rate	32%	25%	10%	7%
	Average Stay	3.5 days	5.5 days	6.0 days	7.0 days
Quang Tri	Visitors	8,033	35,000	87,000	217,000
	Growth Rate	91%	28%	20%	20%
	Average Stay	1.07 days	1.1 days	1.1 days	1.3 days
Thua Thien - Hue	Visitors	128,035	560,000	750,000	1,000,000
	Growth Rate	63%	28%	6%	6%
	Average Stay	2.3 days	2.3 days	2.7 days	3.2 days
Quang Nam-Da Nang	Visitors	69,800	380,000	620,000	870,000
	Growth Rate	68%	33%	10%	7%
	Average Stay	1.9 days	1.9 days	2.3 days	2.7 days
Quang Ngai	Visitors	5,000	20,000	61,000	274,000
	Growth Rate	32%	25%	25%	35%
	Average Stay	1.1 days	1.1 days	1.1 days	1.3 days
Study Area	Visitors	210,868	995,000	1,518,000	2,361,000
	Growth Rate	65%	28%	9%	9%
	Average Stay	1.7 days	2.0 days	2.4 days	2.8 days

Note: The figures of Country and Thua Thien -Hue are quoted of the Master Plan to 2010, and the figures in parenthesis are estimated by JICA study team.

Conceptual Map of the Study Area's Tour Circuits and Tour Bases



- **Market Promotion**

Lack of market promotion is the most critical area to sell Viet Nam's tourism in potential market countries. Efforts should be made to provide foreign travel agencies with updated and appropriate information on Viet Nam's tourism in general, and in particular, Central Viet Nam's tourism. A tourism promotion agency solely responsible for sales promotional activities particularly in target markets such as France, Japan, and USA is deemed necessary.

- **Tourism Promotion Zone (TPZ)**

A TPZ concept should be introduced to establish a fully-fledged tourism core to attract mass tourism in the Central Region. The objectives of the TPZ are to ensure by public sector initiatives (1) provision of investment incentives to accumulate tourism facilities and attractions, (2) control of environmentally negative impacts by providing adequate infrastructure, (3) effective provision of necessary public services, (4) prevention and solution of possible social problems by involving the people influenced.

Two TPZs will be designated in the Central Region, which are **Lang Co TPZ** and **Hoi An TPZ**. Establishment of a **"Central Region Tourism Development Corporation (CRTDC)"** is recommended to collectively and centrally manage tourism development projects and programs in the Central Region.

- **Proposed Priority Projects and Programs**
  - Tourism Infrastructure Improvement and Tourism Promotion Zone Development Project

D. INFRASTRUCTURE SECTOR

● Road and Highway

The North-South Spine: Highways No.1 and No.9 are unique to the study area in that they represent critical road facilities of both national and international importance. Highway No.9 will evolve as the principal (but not only) east-west road corridor linking Thailand, Laos, and Viet Nam (**New Indochina East-West Trade Corridor**). Improvement to high-order two lane road status (TEDI Class III) will adequately upgrade road capacity for the foreseeable future. Thus, an institutional framework to enhance cross-border flow must concurrently be derived if international vehicular flows are to truly benefit from physical road improvements.

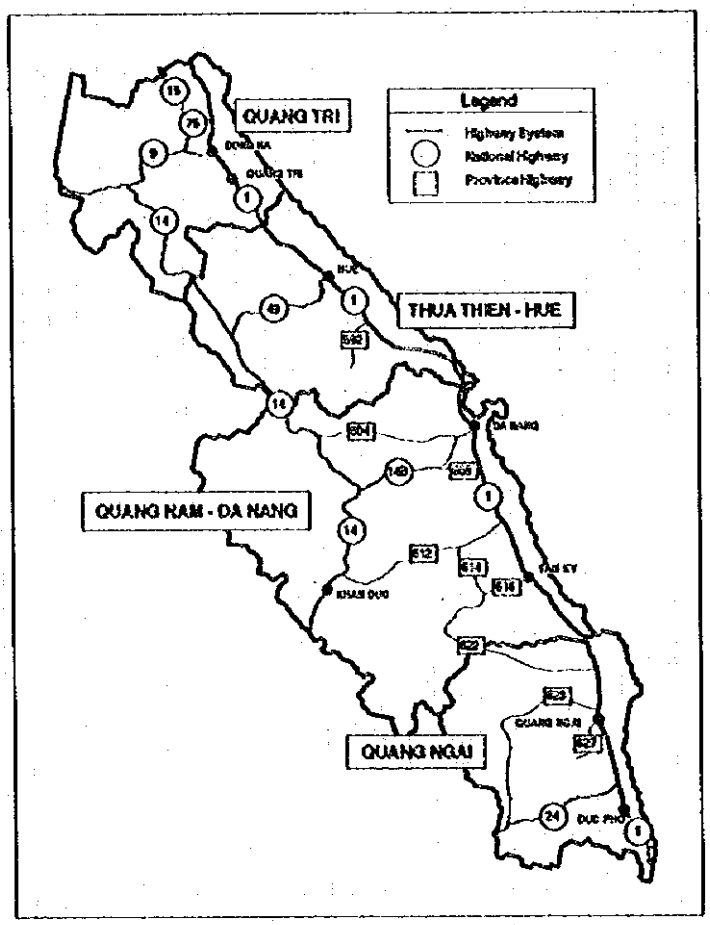
The Highway No.1 improvement currently visualized under IBRD (International Bank for Reconstruction and Development) and ADB (Asian Development Bank) highway improvement programs should fulfill near to mid-term future needs, but demand forecasts clearly confirm that a two-lane road, even in "top condition", cannot forever meet the needs of a rapidly-expanding area, most likely reaching its capacity in congested urban areas around the year 2000. This is particularly so given the urban scenarios conceived for the evolution of the **Hue -Da Nang Urban Corridor**, thus resulting in the real need to develop additional lanes or a new inter-city highway.

The Highlands Corridor: Highway No.14 forms an important north-south corridor within the study area as an alternative of Highway No.1. In addition, upgrading of the highlands corridor could catalyze a vast improvement in standards of living for people residing within the corridor. The highland area, road access to which has always been problematic, is underdeveloped, and full realization of economic and social development potential is thus stunted.

East-West Linkages: Successful functioning of the twin north-south routes (Highway No.1 and No.14) absolutely requires that adequate east-west distribution be available. Highways Nos. 9, 14B, 24, and 49 fulfill essentials roles in this regard.

Local Roads: The fourth hierarchy is the essential connection between villages as well as communes and larger settlements as well as higher-order road systems. The importance of local roads at the commune /district level is undeniable in that they enhance agricultural productivity in terms of availability of farm-to-market roads, thus associated with the development of off-farm income opportunities and greater participation in the market economy. A more modest acceptable objective might be that access to all commune centers is guaranteed during all seasons by at least two-wheeled vehicles.

Study Area Highway Network



● Airport

Da Nang and Hue are the two largest cities forecast to evolve into an urban agglomeration, i.e. a twin-city corridor concept. They are expected to form a mixed commerce, trade, and industrial area, having great potentials particularly in manufacturing, tourism, and other related sectors. In this context, Da Nang and Phu Bai Airports are essential facilities not only for facilitating movement of passengers and cargoes, but also for promoting foreign direct investment (FDI) as it is a main ingredient particularly for the regional industrialization process in terms of capital formation and technology transfer.

The existing inadequate terminal facilities of the Da Nang Airport should be expanded and upgraded to cope with the rapidly increasing international and domestic traffic demand in the near future, and Phu Bai Airport should also be reasonably developed as a domestic airport. At this stage of the Study, it is recommended that a detailed feasibility study be conducted for the potential of Chu Lai airfield with a possible option that it may be expanded once significant demand arises from the Dung Quat industrial development.

● Port

The forecast demand and capacity requirements of the ports in the study area are as follows:

Forecast Demand & Capacity Requirement	2000	2005	2010
Forecast Demand (million tones)	6.8	11.5	21.0
Refinery & Related Demand (million tones)		10.9	21.8
Capacity Requirement (million tones)	3.5	22.4	42.8
(1) Cua Viet Port	0.2	0.2	0.2
(2) Da Nang Port (Tien Sa Port)	3.3	3.3	3.3
(3) New Hue /Da Nang (Chan May) Port		3.0	8.1
(4) Dung Quat Port		15.9	31.2

Source: JICA study team

Cua Viet Port: After completion of one wharf, subsequent development should be subject to the careful evaluation of its economic viability taking into account the costs for the operation and maintenance of its navigation channel. This port should remain, in principle, as a local port for coastal transshipment.

Da Nang (Tien Sa) Port and Lien Chieu Port: Construction of a new container wharf and a breakwater will be completed by 2000. In light of the existing industrial facilities and on-going jetty construction, Lien Chieu Port would be developed as a specialized industrial port.

New Hue /Da Nang (Chan May) Port: One pier for handling construction materials and equipment should be completed by 2000 for the subsequent fully-fledged construction for port and new industrial city. In order to cope with the future demand as estimated, this port should be developed as a hub commercial port for transshipment in the Central Region having the capacity of accommodating 5,000 to 40,000 DWT (Dead Weight Ton).

Dung Quat Port: This port will be developed keeping pace with the Dung Quat industrial development. Construction of a wharf for handling construction materials and equipment as well as a separate wharf for the first stage refinery products would become urgent, followed by the first phase development to be completed by 2005.

● Proposed Priority Projects and Programs

- Hue -Da Nang Inter-city Highway Construction Project
- Secondary Road Improvement Project
- Da Nang International Airport Improvement Project
- Highway No.9 Improvement Project

E. SOCIAL SECTOR

● Target Area

In compliance with the government plans and policies for socio-economic development, poverty alleviation, eradication of illiteracy, and provision of social services are the focuses of the social sector. The plans for poverty alleviation and provision of social services, including construction of various social infrastructure such as schools and clinics, should necessarily underline rural farmers as the target people, particularly the people and communes in the mountainous areas, because they are the poorest people in terms of income and they enjoy the least degree of social services. Thus, priority for development assistance should be given to them. The plans for the above goals should be formulated according to the following approaches and strategies.

● Approaches and Strategies

Agricultural Development: Poverty alleviation among the farmers in the mountainous areas requires the expansion of their production base and the change of farming systems such as production of more cash crops, diversification of crops, intensification of animal husbandry and VAC (Vuon, Ao, Chuong) and tree plantation. There are only very limited choices other than by agriculture for the mountainous communities where no indigenous industries exist. Thus, agricultural development should be the key for rural development.

Think and Plan in Linkage: The problems and needs faced by the people and communes in the mountainous areas and ethnic minorities are not simple. Many problems are intertwined with each other. Thus, their development should be considered in linkages of various problems and constraints, potentials and choices, and possible solutions.

Satisfaction of Basic Human Needs: The provision of social infrastructure and services to satisfy basic human needs is definitely very low in the mountainous areas. The provision of social infrastructure is basically the responsibility of the Government, but due to budget shortages such services are not sufficiently reaching the mountainous areas. Then, the strategy to satisfy these needs is to mobilize local resources and the use of people's participation.

Bottom-Up Approach and Participatory Approach: Rural development may be best achieved when development is contemplated and participated by the farmers themselves. Thus, requests for development have to come from the bottom, the farmers, as they know best their wishes, problems, needs and resource availability. The "bottom-up" approach and people's participation from the stage of planning are essential for sustainable development.

Life Size Development and Sustainability: Commune level development should be planned in life size with minimum budget and appropriate technology, that is, unsuitably large size plans and facilities should be avoided so that projects should not require unnecessarily huge amount of budget, and development and projects can be sustainable.

Local Specific: Natural, social and economic conditions and the level of development are different from location to location, and from commune to commune. Accordingly, the development of each commune and different people be best considered in a different way. It should be recognized that no one commune is equal to others. By the same token, the development of ethnic minorities should be considered and planned based on their existing conditions separately from general rural development, because the conditions that ethnic minorities are facing are significantly different from the situation of the Kinh or lowland residents.

Activate Economies in Local Towns: Acceleration of economic activities in communes and district towns shall eventually contribute to the expansion of agricultural production of farmers, because local towns and district towns are the limit of the poorest farmers to travel to sell their products. Small-scale industries such as processing in local towns should secure the outlets of agricultural products, provide job opportunities, and stimulate further economic activities.

● Major Social Development Plans

The plans conceived in the study aim at the achievement of the above goals by overcoming the constraints faced by the poor peoples and communes of the mountainous areas. The underlying constraints causing the above conditions are "physical and social isolation" and "risks" burdened by crop failures, disasters and sickness; "lack of productive resources"; "lack of sustainability", and "inadequate participation". The plans are formulated to include the following three components.

Poverty Alleviation Plan: The existing conditions of poverty in the mountainous areas are attributable to two principal factors. One is that the income of the poorest people is absolutely too low. The other is that these farmers are unable to secure enough food to feed themselves. Accordingly, the plan should be concentrated on income generation and diversification, and increasing productivity of food crops, placing more emphasis on the production of cash crops including industrial crops, fruits, and vegetables, to buy necessary food with the incomes generated by the production of cash crops. Thus, the plan includes, among others, (1) Income generation and income security through agricultural development, (2) Provision of financial assistance by the public sector, (3) Provision of extension services by the public sector, and (4) Establishment of small and cottage industries.

Construction and Improvement of Social Infrastructure and Provision of Services: Because the results of the agricultural and forestry projects can generally come only after a few to several years after initiation, there should be some way to generate income during the initial years. A short term income generation to complement the above plan may come from starting of public works by "money for work" or "food for work" methods. Mountainous communities lack almost all kinds of social services and infrastructure, and as commune level social infrastructure do not need to be large scale facilities, they may be constructed by the people themselves with some financial and technical assistance by the public sector. Thus the plan includes, among others, (1) Construction and improvement of necessary social infrastructure by participatory method, and (2) Provision of services and materials by the public sector.

Capacity Building and Provision of Social Services: The education level and general knowledge of ethnic minorities are extremely low compared with the people of the urban area and the rural inhabitants of lowland areas. Many people, especially women and elderly people have no formal education, or do not speak Vietnamese. Lack of education and knowledge is greatly exacerbating their ability to improve their economic and social conditions. Women of ethnic minority groups particularly need basic education in order for them to be able to participate in social and political procedures. Another important feature of education to women is to reduce health problems including child-malnutrition that is so common in the mountainous areas or other problems such as goiters, bronchitis and tuberculosis. Thus the plan includes capacity building for ethnic minorities and women in particular.

● Proposed Priority Projects and Programs

- Integrated Rural Community Development Program by People's Participation
- Rural Communes Health and Child Care Program

F. WATER RESOURCES, SANITATION AND URBAN ISSUES

● Water Resource

The probable rapid economic growth in the Central Region would result in considerable water demand as estimated below.

To cope with this increasing demand, an intensive water resource development is needed, but the potential water resources of the river basins in the study area can sufficiently meet the demand.

The outstanding water demand will come from the Chan May development with a new port and FTTZ (Free Trade and Transit Zone) facilities (which is estimated at 23 million cubic meter (MCM) by 2005 and 44 MCM by 2010), and from the Dung Quat industrial development (which is estimated at 11 MCM by 2000, 100 MCM by 2005 and 153 MCM by 2010).

In parallel to the water resource development, comprehensive water resource management is mandatory placing particular emphasis on the watershed management, flood control, and prevention of saline water intrusion during dry season.

(Unit : MCM)

Item	1995	2000	2005	2010
Quang Tri Province				
Industry	12	15	15	16
Urban	5	14	22	39
Agriculture	180	287	293	301
Sub Total	197	316	330	356
T. T. Hue Province				
Industry	69	121	134	154
Urban	11	41	57	87
Agriculture	194	304	306	312
Sub Total	274	466	497	553
Quang Nam - Da Nang Province				
Industry	59	105	145	175
Urban	30	85	112	173
Agriculture	456	526	587	629
Sub Total	545	716	844	977
Quang Ngai Province				
Industry	42	87	92	100
Urban	4	16	24	42
Agriculture	368	609	618	626
Sub Total	414	712	734	768
The Whole Study Area				
Industry	182	328	386	445
Urban	50	156	215	341
Agriculture	1,198	1,726	1,804	1,868
Total	1,430	2,210	2,406	2,654

Source: JICA study team

● Sanitation Issues

Because of its diverse nature and the limited availability of funds and technical capacity, urban sanitation issues may require a long term approach with careful planning and preparatory work. However, rapid socio-economic growth in the Central Region would soon create the following issues in the environmental sanitation sector.

Water supply: Rapid increase in water demand caused by (1) population growth, urbanization, and evolution of industrial and service activities, and (2) quality enhancement of urban living style.

Sewerage: Rapid increase of pollution loads caused by (1) incremental waste water volume discharged from urban areas and industrial zones, and (2) diversified pollutants contained in waste water, and increasing needs to reasonably separate waste water from storm water drainage

Solid Waste: Rapid increase of solid waste volume generated from urban, commercial, and industrial areas, and (2) diversified categories of solid waste including hazardous and toxic waste.

The development plan towards 2010 should cope with the immediate requirements for rehabilitation of deficient sanitation systems, followed by their gradual improvement keeping pace with growing urbanization and industrialization.

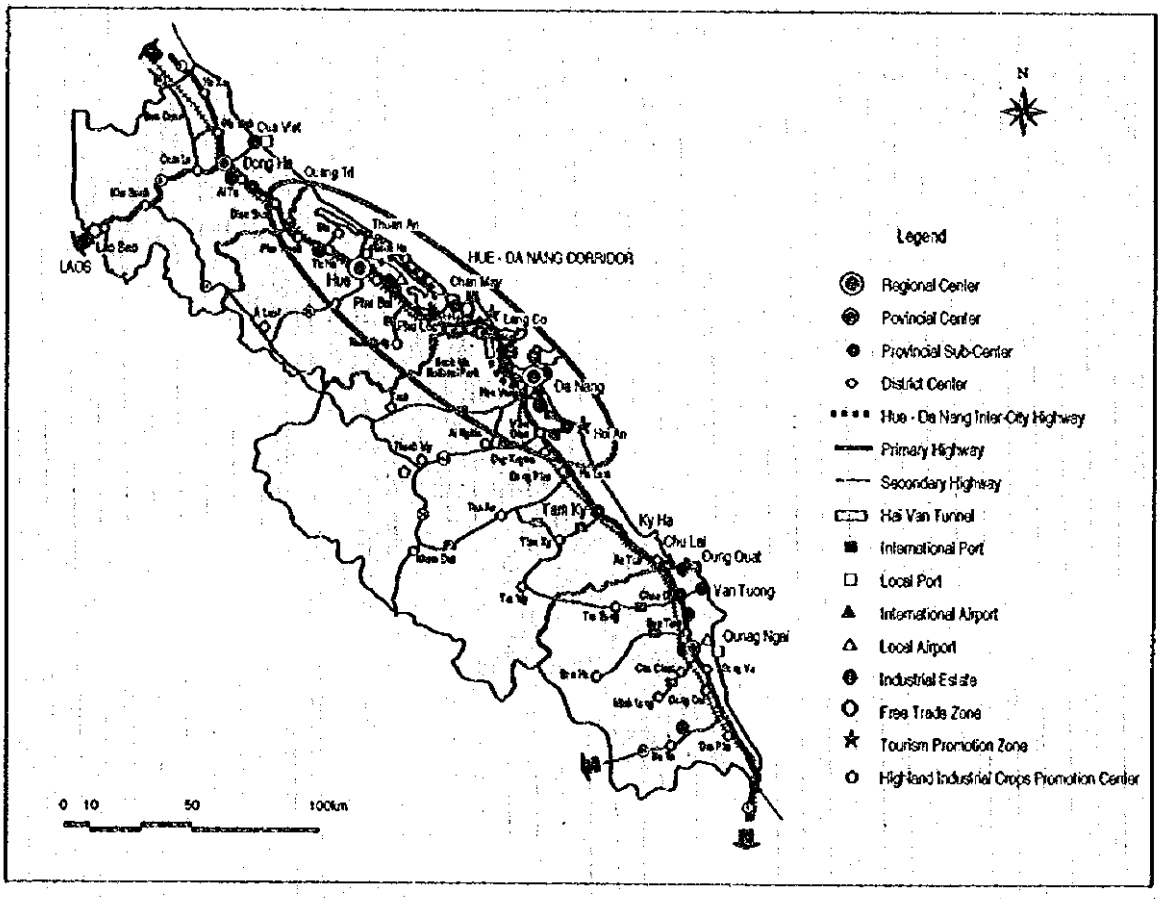
● Urban Issues

A hierarchical human settlement center system at the regional level should be built with simultaneous hinterland development. Higher ordered centers shall be developed with higher levels of urban functions. These centers should be developed to accommodate spill-over of

urban population, urban economies and industrial activities as development strategic centers for the decentralization policy. The spatial structure of the proposed human settlement center system is shown in the figure below with the following features:

- The core development area is the "Hue -Da Nang Corridor". The corridor contains industrial, commercial centers, physical distribution center with the international deep seaport at Chan May to handle domestic and international cargoes and tourism promotion zones. Quang Tri Province shall be a Border Trade Zone.
- Da Nang is the primary order urban center, supplemented by Hue, the two of which will form a large development strip along Highway No.1, including Chan May Free Trade & Transit Zone. Dong Ha and Quang Ngai -Van Tuong -Dung Quat are the other urban centers.
- Chan May and Dung Quat are strategic development areas with new town development.
- Industrial estate developments are proposed at Cua Viet port, Dong Ha south, Van Xa, Phu Bai, Lien Chieu, Hoa Khan, Dien Ngoc -Dien Nam, Dung Quat, Thinh Thong, Quang Ngai town, and Nghi Hanh.
- A transportation network shall be formed with a new Hue -Da Nang Highway and Hai Van tunnels.

Spatial Structure of Human Settlement Centers



- **Proposed Priority Projects and Programs**
  - Master Plan Study for Comprehensive Water Resource Management of the Huong River Basin
  - Hue Citadel Drainage and Sewerage Improvement Project
  - Central Region Environmental Management Center Project

5. PRELIMINARY FEASIBILITY STUDIES FOR PRIORITY PROJECTS AND PROGRAMS

In order to assess the magnitude of probable financial impacts on the national and local budgetary situations, preliminary feasibility studies were made on the basis of the data and information available for the JICA study. For the actual implementation however, more detailed feasibility studies should be made from the aspects of technical, legal, organizational, and social viabilities, to formulate the most investment-efficient projects and programs.

A. HUE -DA NANG INTER-CITY HIGHWAY CONSTRUCTION PROJECT (HDH)

● Outline of the Project

HDH should extend from just north of the Hue metropolitan area to a point south of the Da Nang metropolitan area having a total length of 126 km. HDH is divided into four segments, which are Hue Bypass (39 km), Lang Co -Chan May Segment (32 km), Hai Van Tunnel (14 km), and Da Nang Bypass (41 km). The Hai Van Tunnel reduces to almost half the distance of Highway No.1 (25.2 km) with upgraded alignment. The initial HDH alignment should be a high-order two-way, two-lane carriageway. Also, it should have about 50 meters of right-of-way for the future expansion so that it can form part of the proposed Ha Noi -HCMC motorway. HDH should be operated as an access-controlled tollway at least to cover its recurrent cost for operation and maintenance.

● Justification of the Project

Highway No.1 will be unable to cope with the mixed functions and uses by and around the year 2000. Furthermore, HDH will serve as the "spine" for the formation of the Hue -Da Nang Central Corridor in the regional as well as national context. Elimination of the Hai Van pass bottleneck would bring about not merely tangible economic benefits, but also enormous intangible benefits in that it can ensure high mobility between the North and the South needed for the economic unification of the country. The EIRR (Economic Internal Rate of Return) worked out from the benefits accrued by reducing vehicle operation costs (VOC) are 29.2% for Hue Bypass, 25.5% for Lang Co -Chan May Segment, 14.5% for Hai Van Tunnel, 40.3% for Da Nang Bypass, and 22,4% for the whole. The probable toll revenues that range between US$ 2.3 ~ 3.9 million in the year 2005 would cover sufficiently the annual operation and maintenance cost of some US$ one million.

● Implementation Organization

A "Hue -Da Nang Highway Corporation" should be established to take full responsibility for the HDH implementation including planning, construction, and operation and maintenance. The Corporation should be put under control of the proposed Central Region Development Committee (CRDC) until its completion, and MOTC will supervise and coordinate with the Corporation.

● Implementation Cost

The implementation cost that includes those for engineering, construction, contingency, land acquisition, and tax levies is shown below.

Unit: Mil. US$

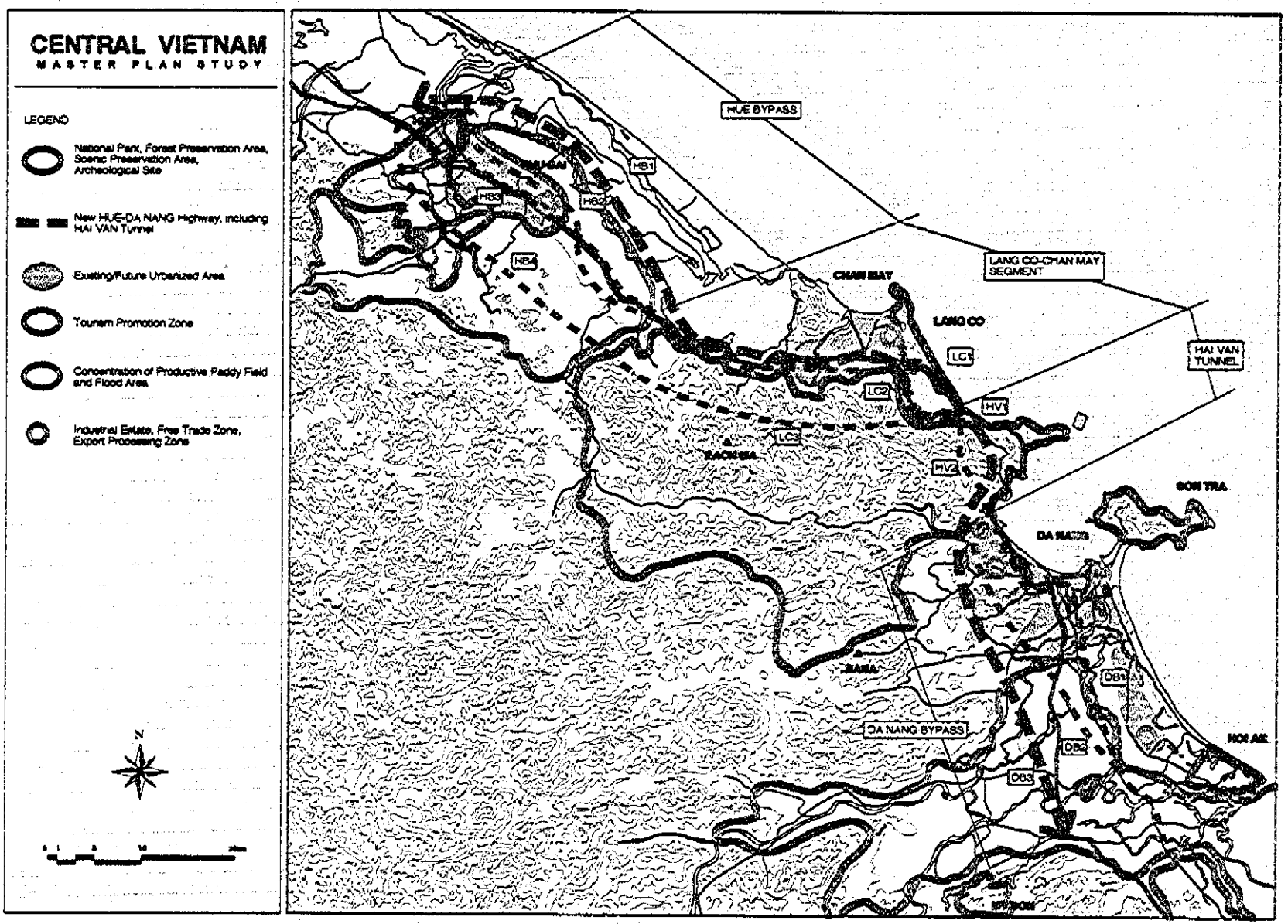
Total Cost	Hue Bypass	Lang Co -Chan May Segment	Hai Van Tunnel	Da Nang Bypass	Access /Toll Facilities
289.2	36.9	52.3	148.7	23.6	27.7

Source: JICA study team

● Implementation Schedule

The Hai Van Tunnel and the Da Nang Bypass will be given priority in that order, but it is proposed to complete the entire HDH by the year 2005. After the year 2005, HDH should be expanded to a multi-lane tollway with its north-south extension to link Quang Tri and Quang Ngai with a two-way, two-lane configuration. This should be completed by the year 2010 to cope with the forecast of traffic demand.

Alternative Alignments for Hue-Da Nang Inter-city Highway



B. SECONDARY ROAD IMPROVEMENT PROJECT (SRI)

● Outline of the Project

SRI consists of three categories of roads, i.e. (1) Highlands Corridor, (2) East-West Linkages, and (3) Local Roads. Highway No.14 forms the Highlands Corridor which can potentially offer an attractive route of travel vis-à-vis Highway No.1. The successful functioning of the twin north-south routes (Highways Nos. 1 and 14) absolutely requires that adequate east-west distribution be available. The East-West Linkages, which consist of Highways Nos. 9, 14B, 24, and 49, fulfill several essential roles in this regard. The fourth hierarchy is the Local Roads which provide essential connections between villages, communes, and larger settlements as well as higher-order road systems.

For the purpose of the pre-feasibility study, the Highlands Corridor excluded due to the Government's commitment to upgrade Highway No.14 by using its own funds. Also, among the Local Roads (which in fact account for 80 percent of the road network in the study area), only high priority routes selected for the purpose of tourism and community development will be studied as part of the related development projects and programs. Therefore, the East-West Linkages (except for Highway No.9 which will be upgraded in accordance with on-going IBRD (International Bank for Reconstruction and Development) /ADB (Asian Development bank) projects) will only be selected for the pre-feasibility study for the SRI. Upgrading should be likely to adopt the class III standard, that is, seven meter pavement in flat terrain and six meter paved surface in rolling /mountainous terrain.

● Justification of the Project

Linking directly between Highway No.1 and Highway No.14, the East-West linkages function as major distributor, and also link major district centers such as A Luoi, A Nghia, Thanh My, and Ba To. In the collector capacity for intermediate district /commune roads, they will contribute greatly to the activation of economic activities in the highland and mountainous areas in the study area. The EIRR (Economic Internal Rate of Return) worked out from the benefits by reducing vehicle operation costs (VOC) are 12.4% for Highway No.24, 15.0% for Highway No.49, 12.2% for Highway No.14B, and 13.3% for the whole.

● Implementation Organization

The maintenance for the secondary roads rests with the responsibility of provincial governments although its cost is budgeted by the central government. It is tentatively proposed that the SRI should be managed by the proposed Central Region Development Committee (CRDC) due to its implications for other relevant local road projects such as those serving for tourism and social development.

● Implementation Cost

The implementation cost that includes those for engineering, construction, contingency, land acquisition, and tax levies is shown below.

Unit: Mil. US$

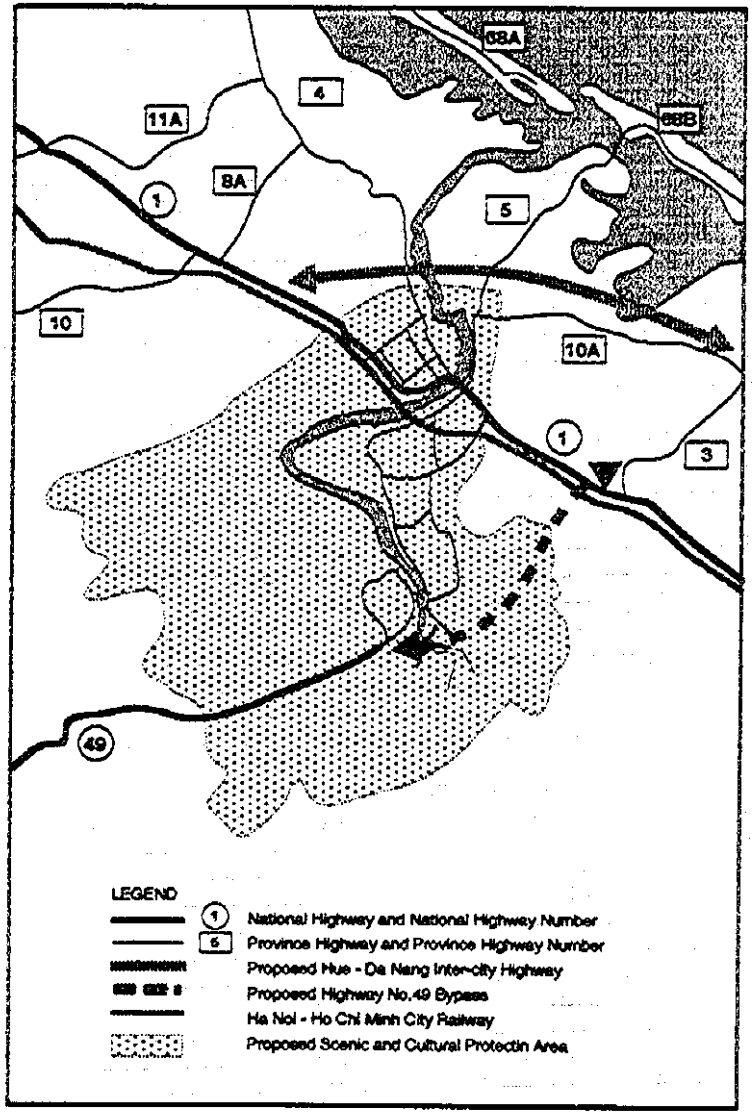
Total Cost	Highway No.24	Highway No.49	Highway No.14B
93.1	30.3	31.9	30.9

Source: JICA study team

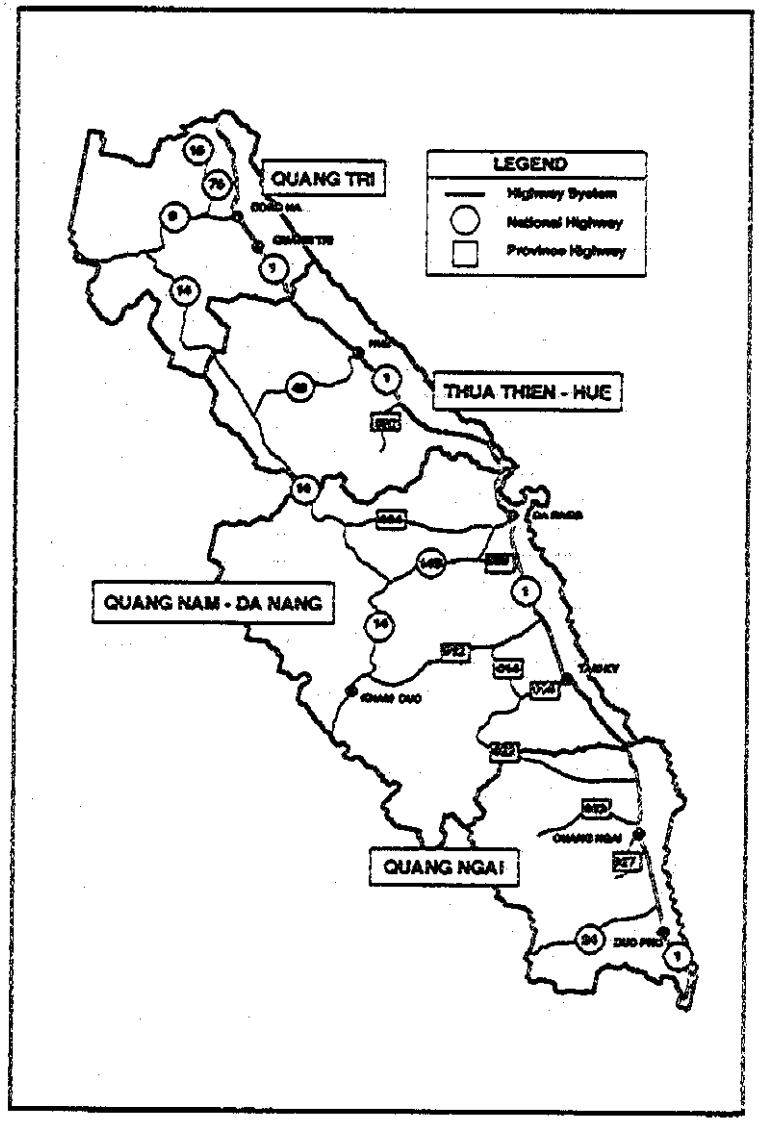
● Implementation Schedule

The entire SRI is proposed to be complete by the year 2005, as it forms a basis to ensure the sound socio-economic development in the study area. The sections lying in the urban areas of Quang Ngai, Hue, and Da Nang respectively, should be given priority consideration for earlier implementation.

Improvement Strategy for Highway No.49 Corridor



Study Area Highway Network



C. DUNG QUAT INDUSTRIAL DEVELOPMENT PROJECT (DQI)

● Outline of the Project

Creation of an industrial critical mass is of strategic importance to harness overall socio-economic development of the Central Region, even though it might not be justified only on pure economic grounds. Along this line, the Government has decided to locate the nation's first petroleum refinery in the Dung Quat area of Quang Ngai Province, which will help to jump start the subsequent fully-fledged development of an industrial core in Dung Quat.

Apparently, being in a fiercely competitive international market, industrial development, particularly for heavy plant-type industries, is facing marginal investment efficiency with high risks, associated with changing market situations towards global liberalization. Under such circumstances, it may not be wise to pursue a full scale development from the beginning. Hence, a more behavioral approach will be recommended for DQI. At the time of preparing the Study, the following prospective industries as well as their probable production mix and scale are assumed to come in the DQI, taking into consideration the international/domestic market conditions, possible resource mobilization, comparative advantages, and so on.

They are, (1) Petroleum refinery No.1 (6.5 million tons by 2002) and No.2 (6.5 million tons by 2005), (2) Petrochemical plant No.1 (1.2 million tons by 2002) and No.2 (by 2005), (3) Thermal power plant Phase 1 (150 MW by 2002) and Phase 2 (150 MW by 2006), (4) Ship breaking and repair (250,000 tones by 2006), (5) Steel scrap and recycling mill with electric arc furnace and rolling mill (500,000 tones by 2006), (6) Iron and steel related industries and petrochemical related industries (by 2006).

The DQI naturally requires the supporting infrastructure to accommodate the above industries, such as a deep-sea port and ancillary facilities, water supply facilities, industrial waste treatment system, access roads and bridges, new township and housing, and so on.

● Justification of the Project

The Government should provide for most of the capital investment for supporting infrastructure development, and in return it would take the economic benefits such as foreign exchange earnings, foreign direct investment (FDI), employment opportunities, security of energy, tax income, and so on. The estimated DQI output amounts to some US$ one billion, which accounts for 20 ~ 30% of the target GRDP (Gross Regional Domestic Product) in 2005. The estimated number of direct employment is 9,700 persons in 2010, which would be associated with the creation of external employment of some 20,000 persons in peripheral industries.

Financial feasibility of the DQI was evaluated for two cases. The first case assumes that the capital cost of port and crude oil tanks be included in the project cash flow, and the second case assumes that the cost be excluded from the project cash flow as they will be constructed at the Government expense. FIRR (Financial Internal Rate of Return) results in 3.42% for the first case, and 16.77% for the second case. Sensitivity analysis reveals that the latter FIRR of 16.77% will drop to 14.33% if the assumed land price (US$ 30 per m^2 for 50-year lease) be reduced by 10%, and to 13.66% if the construction cost increase by 10%.

● Implementation Organization

Establishment of an **independent "Dung Quat Industrial Development Corporation (DQIDC)"** is recommended to directly administer and manage the DQI implementation. DQIDC will be controlled by the proposed CRDC (Central Region Development Committee) until the substantial completion of the supporting infrastructure development. In order to attain financial self-sufficiency for its operation and maintenance, DQIDC should collect lease charges for the developed land, and user charges for port, water, and other utilities /facilities.

- **Implementation Cost and Schedule for Supporting Infrastructure Development**

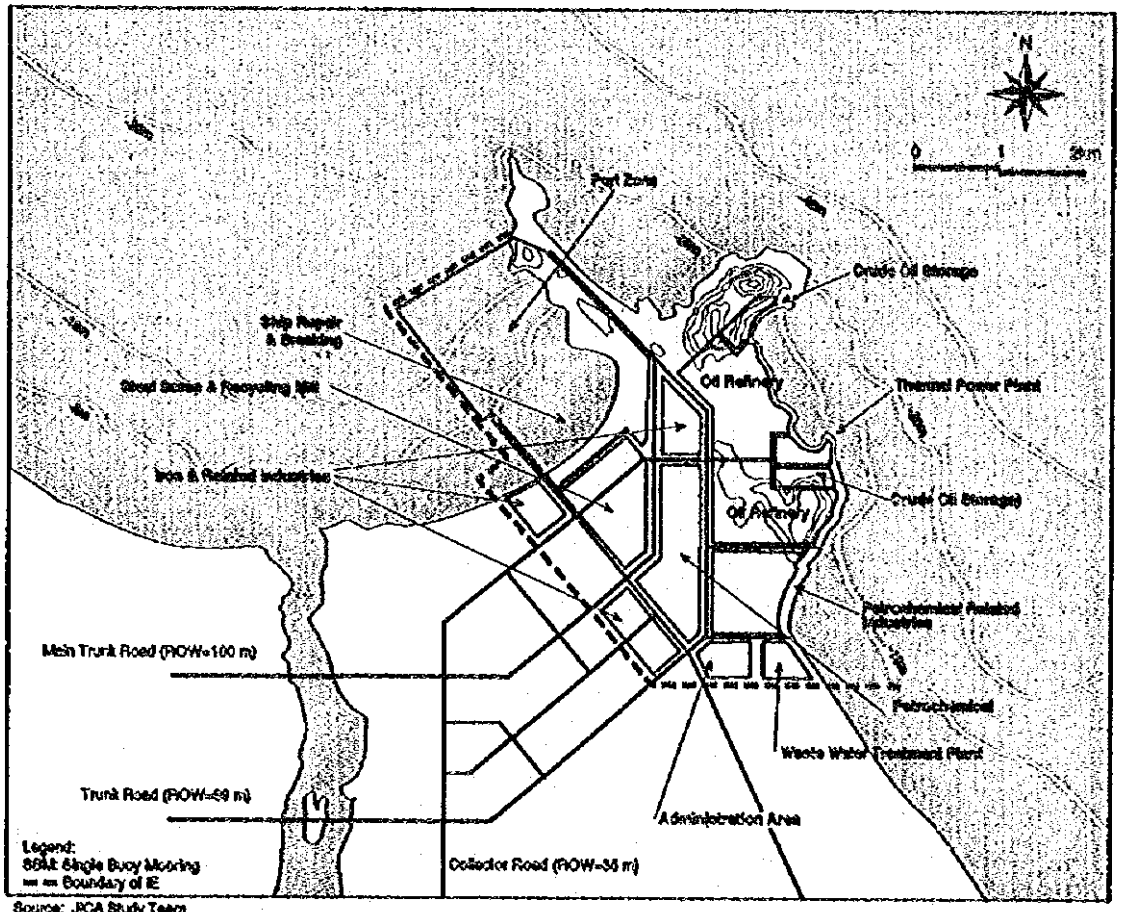
The implementation cost that includes those for engineering, construction, contingency, land acquisition, and tax levies, is shown below. And the conceptual layout of Industrial Estate on site is also shown below. Furthermore, the detail study on the layout and cost of Industrial Estate will be required.

Unit: Mil. US$

Item	Total	2000	2005	2010
On-site Infrastructure*1	793.6	162.0	555.1	76.4
Off-site Infrastructure*2	414.8	146.8	268.0	-
Total Cost	1,208.4	308.9	823.0	76.4

Notes: *1 On-site infrastructure includes, among others, port, water supply, sanitation plant, and crude oil tanks.
*2 Off-site infrastructure includes, among others, access roads and bridges, and temporary works.
Source: JICA study team

Conceptual Layout of Dung Quat Industrial Estate



Source: JICA Study Team
Note: Water depth indicates the existing condition
ROW=Right of Way

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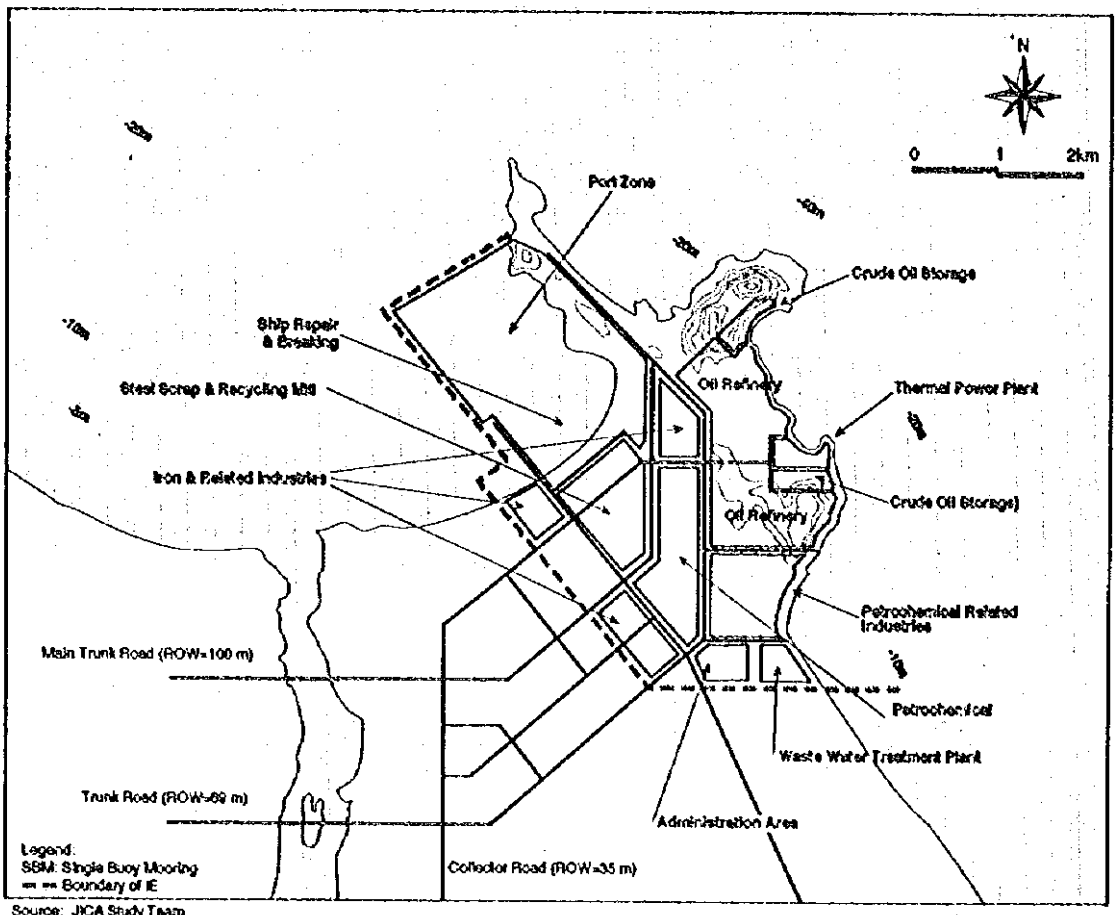


Source: JICA Study Team
Note: Water depth indicates the existing condition
ROW=Right of Way

D. TOURISM INFRASTRUCTURE IMPROVEMENT (TII) AND TOURISM PROMOTION ZONE DEVELOPMENT PROJECT (TPZ)

● Outline of the Project

As an immediate action program, tourism infrastructure improvement (TII) is proposed, which includes (1) tourism road improvement of approximately 223 km in length, (2) other transport facilities improvement such as parking areas, water transport facilities, tourist signs and information, and so on, (3) tourist facilities improvement such as rest spaces, tourist attractions such as "sonne et lumière" and audio-visual presentations, and (4) environmental protection and conservation.

Subsequently, in order to establish a fully-fledged tourism core to attract mass tourism in the Central Region, two TPZs are proposed. They are (1) Lang Co TPZ and (2) Hoi An TPZ. The Lang Co TPZ project includes (1) hotels, (2) amenity core, (3) facilities for administration, (4) landscape, (5) golf course and sports, (6) roads, (7) tourism facilities, and (8) utilities. The Hoi An TPZ project includes (1) tourism infrastructure (such as pedestrians, wharf dredging, Japanese Bridge, and flood protection), (2) roads, (3) utilities, and (4) public parks.

● Justification of the Project

Admittedly, tourism development brings about quicker effects on increase of foreign exchange earnings and employment opportunities, and ripple effects on related peripheral industries. Assuming the target foreign tourist arrivals of 2.4 million people and domestic tourists of 2.9 million people will be achieved by the year 2010, total foreign exchange earnings in the study area will amount to US$ 662 million and employment opportunities in the tourism sector industries will amount to some 38,000 persons. The number of employment opportunities will be doubled to some 67,000 if ripple effects on other peripheral industries are taken into account. According to the estimate by the study team, the required number of international standard hotel rooms alone needs to be increased from 2,007 at present to about 14,800 in the year 2010.

● Implementation Organization

Establishment of an independent **"Central Region Tourism Development Corporation (CRTDC)"** is recommended to manage collectively and centrally tourism development projects and programs in the Central Region due to their diversity and necessity of close coordination. In order to be financially self-sufficient in its operation and maintenance, CRTDC should collect tourist charges and/or levy taxes on locators such as hotels and restaurants. CRTDC will be controlled by the proposed CRDC (Central Region Development Committee) until the substantial completion of the TII and TPZs.

● Implementation Cost and Schedule

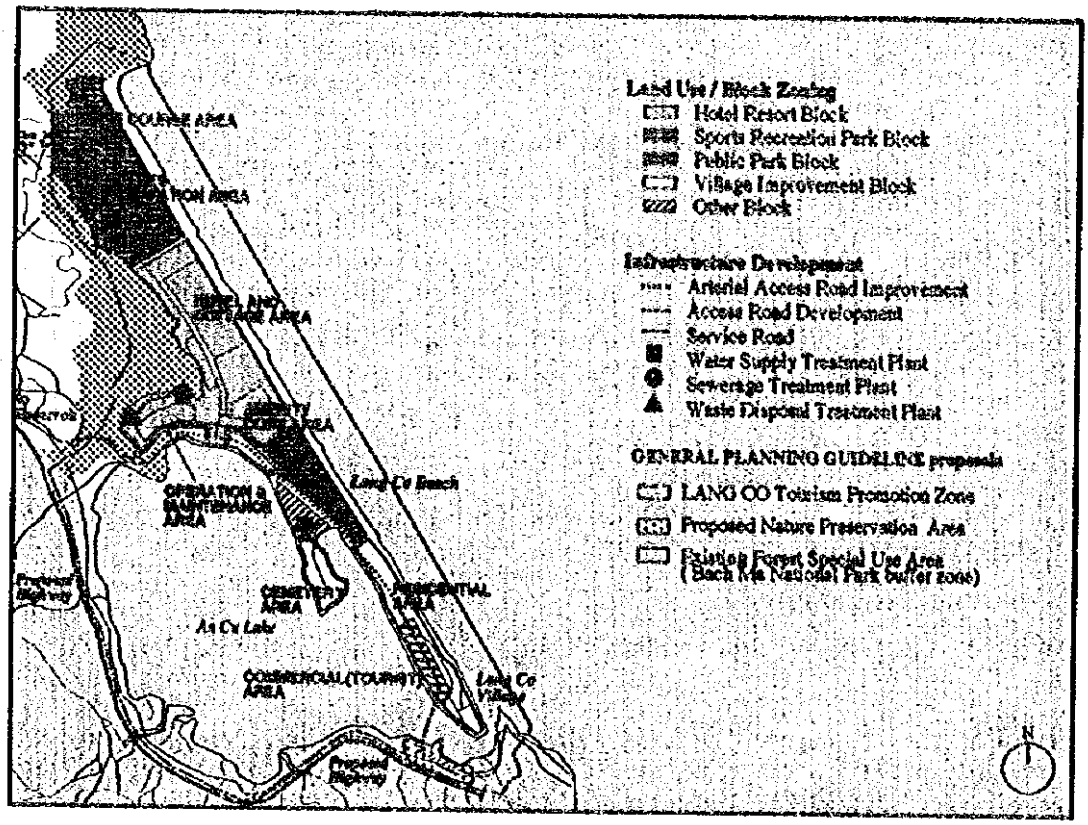
The implementation cost that includes those for engineering, construction, contingency, land acquisition, and tax levies, is estimated as shown below.

Unit: Mil. US$

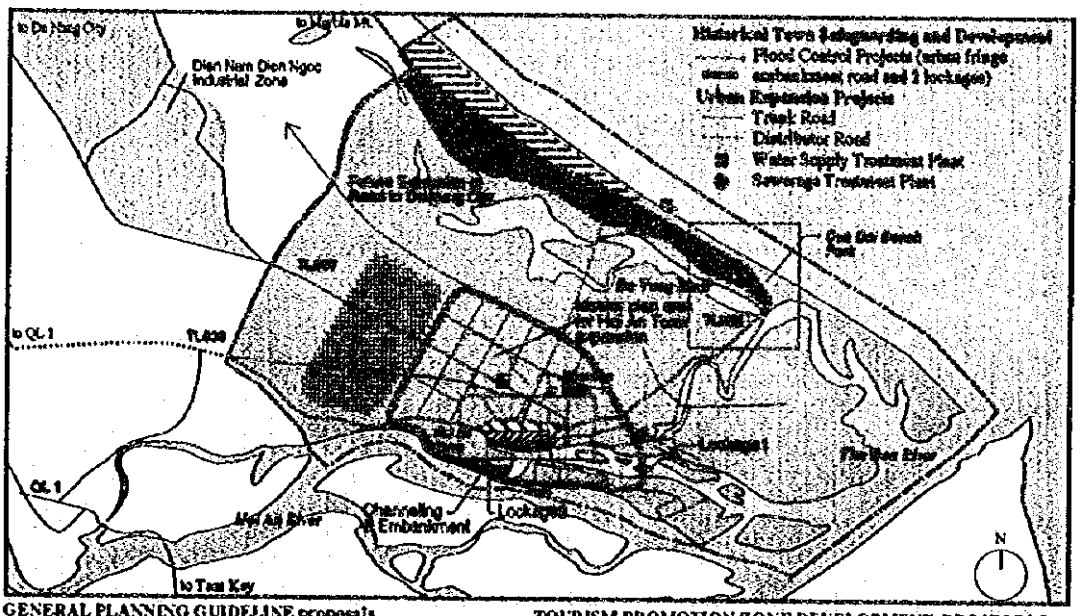
Project	Total	2000	2005	2010
Tourism Infrastructure Improvement (TII)	162	40	104	18
Lang Co TPZ	122	6	79	37
Hoi An TPZ	112	3	66	43
Total Cost	396	49	249	98

Source: JICA study team

Proposed Development Plan for Lang Co Tourism Promotion Zone



Proposed Development Plan for Hoi An Tourism Promotion Zone



GENERAL PLANNING GUIDELINE proposals

- HOI AN Tourism Promotion Zone
- Local Landscape Safeguarding Area

Existing Conservation Act Zoning

- Sanctuary Zone (LEVEL I)
- Development Control Zone (LEVEL II)
- Landscape Control Zone (LEVEL III)

TOURISM PROMOTION ZONE DEVELOPMENT PROJECTS Proposals

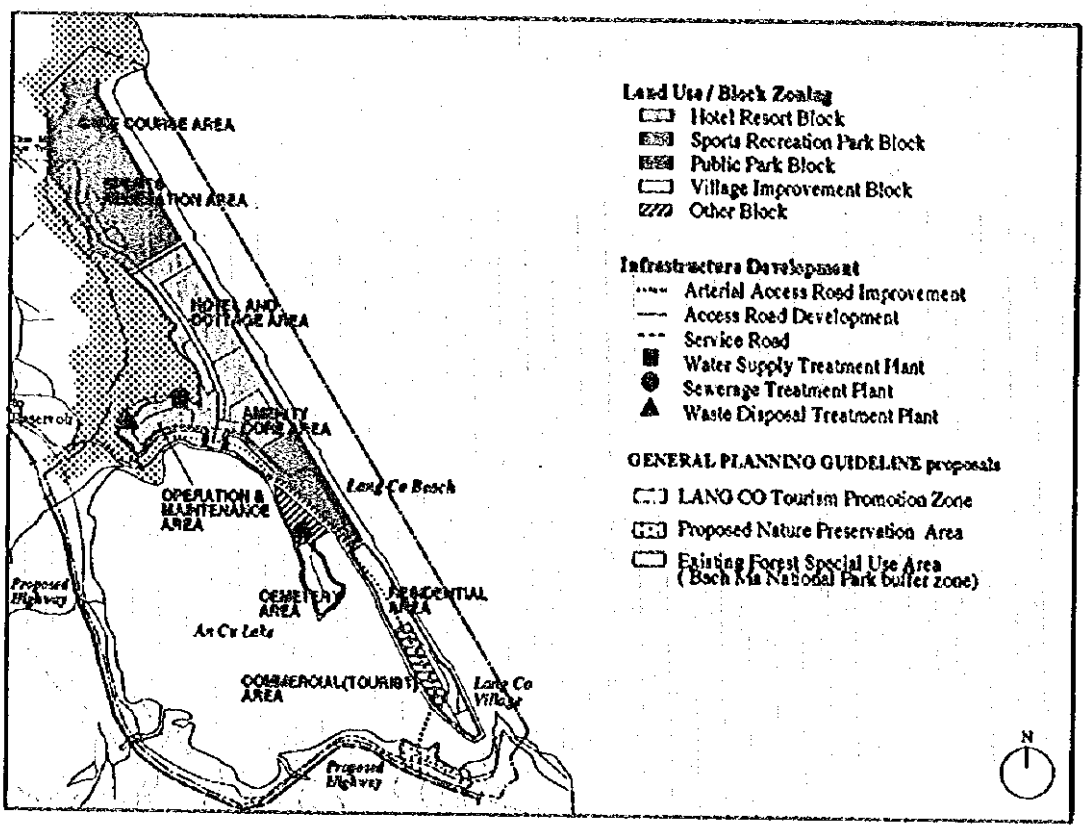
Development Zoning

- Urban Development Area
- Coast Resort Development Area
- Buffer Green Area
- Village Improvement Area

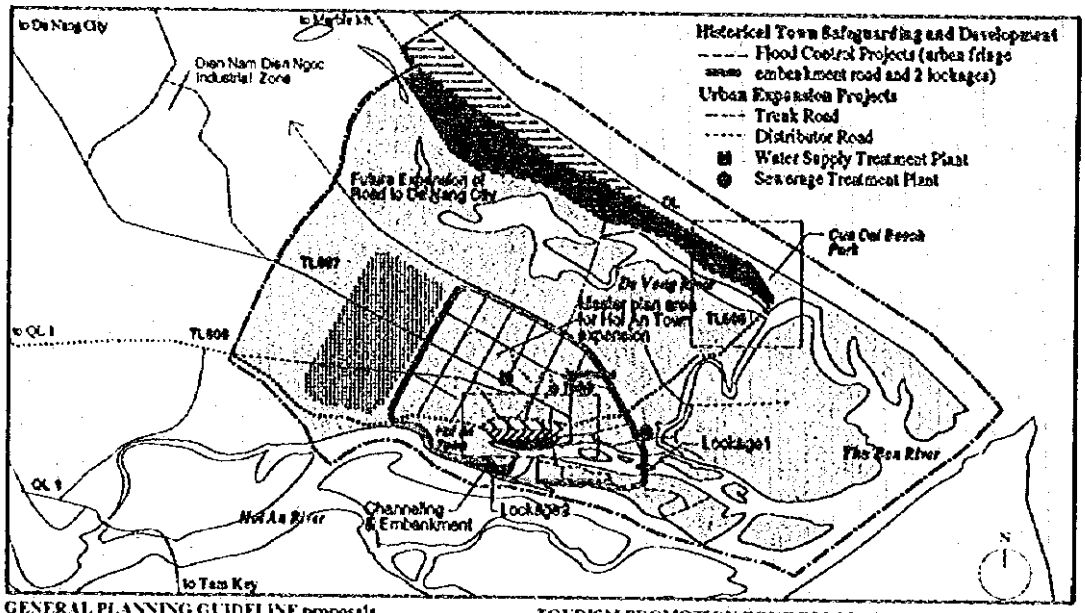
Tourism Infrastructure Development

- Arterial Access Road Improvement
- Access Road Improvement
- Access Road Development
- Tourism Facilities Development Area

Proposed Development Plan for Lang Co Tourism Promotion Zone



Proposed Development Plan for Hoi An Tourism Promotion Zone



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E. HIGHLAND INDUSTRIAL CROPS AND REFORESTATION PROMOTION PROGRAM (HIC)

● Outline of the Program

HIC aims at developing industrial crops (coffee, sugarcane, mulberry silk, rubber, tea, pepper, cashewnut, cinnamon and cacao) to promote exports and import substitution in hilly and mountainous areas (Agricultural Zone B and C). The settlers in New Economic Zones and ethnic minorities in resettlement areas will mainly take part in this program, since their future economic base is fully dependent on the success in developing these crops. They have to create a sustainable production environment by reforestation and planting of windbreaks. Up to 2010, HIC envisages to develop plantations of about 82 thousand ha, or more than 2.5 times as much as the current acreage under tree crops, to expand cane field twice as much as the present 15 thousand ha, and to increase forest coverage by about 200 thousand ha (from 46% to 56%).

The pre-feasibility study tries to find a rational way of facilitating the desired development. HIC has two dimensions, i.e., technical transfer and capital investment. The study of the former concluded that the best way of technical diffusion is to harness the extension wing through the provision of equipment in Hue University for the necessary training of extension specialists for industrial crops. That of the capital investment clarifies the cost requirement and efficiency and future prospect of international commodity markets that play a key role in deciding the crops to be expanded in this area. An insurance fund for the survival of producers is studied as a buffer measure to counterbalance price shortfalls and long gestation.

● Justification of the Program

The industrial crops have the highest return among all crops, including foodcrop. Paddy and subsidiary crops in flat plains account as a major agricultural resource, but the room for further expansion is limited by topography and recurrent floods. HIC plans reforestation that will be able to mitigate flood damages in the granary area. Provincial agricultural departments have put the first priority on the development of these crops and this decision is consistent with national policy. No other better choice has so far been found than developing cash crops (including industrial ones). In a free market economy, food can be bought from the profit obtained from other crops.

● Implementation Organization

The proposed CRDC (Central Region Development Committee) should centrally and collectively manage the entire HIP program due to its inter-provincial nature. In the case of utilizing foreign funds for capital investment or for the establishment of the insurance fund, the Agricultural Bank serves as intermediary agency to manage loans granted to industrial crop producers or processing enterprises.

● Implementation Cost

The implementation cost that includes the facility for technical transfer, provision of loans as proposed for plantation and creation of an insurance institution, is shown below.

Unit: Mil. US$

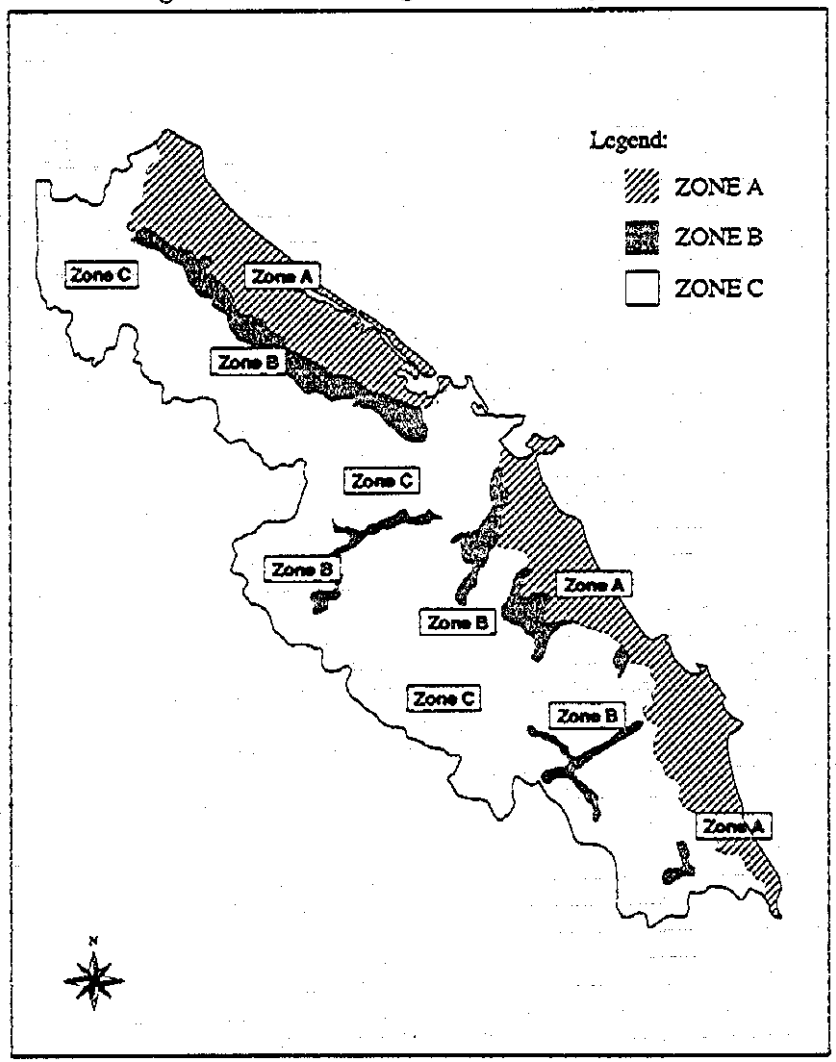
Total Cost	Facility	Plantation	Reforestation	Insurance
186	20	112.5	47	6.5

Source: JICA study team

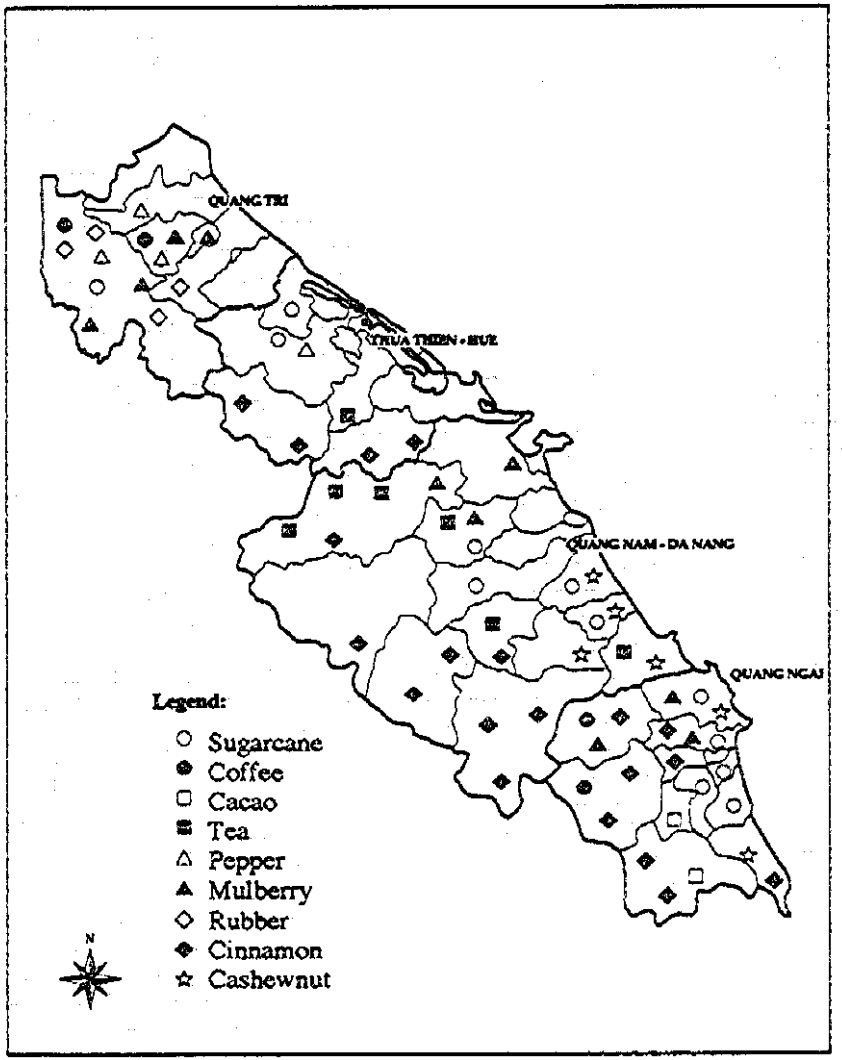
● Implementation Schedule

The whole plantation and reforestation program is proposed to be completed by 2010 to make it fully sustainable, but technical transfer should be harnessed prior to the peak of plantation, or by 2005. The actual planting of coffee and other tree crops has already been initiated a few years ago, so it is desirable to launch the price insurance institution by 2000 for servicing the early planters.

Agricultural Zoning of the Study Area



Current Distribution of the Industrial Crops in the Study Area



F. INTEGRATED RURAL COMMUNITY DEVELOPMENT PROGRAM (RCD)

● Outline of the Program

The RCD program eventually aims at the alleviation of poverty in all poor communes in the mountainous areas where ethnic minorities reside predominantly. However, for the purpose of finding the best possible methods, twenty pilot projects will be carried out in designated areas until the year 2000. Upon completion of the pilot projects, the results will be evaluated and adjusted for subsequent implementation in all poor communes in the study area. Among the twenty projects, three sample communes have been selected according to the established selection criteria in order to work out the approximate cost of the projects. They are **Huong Tan Commune, Huong Phung Commune, and Huc Commune** in the Huong Hoa district of Quang Tri Province.

The RCD is basically composed of three components, that is, (1) Poverty alleviation through agricultural and forestry development accompanied by financial assistance and provision of extension services, (2) Provision of social infrastructure that satisfies basic human needs, (3) Capacity building.

● Justification of the Program

The Government has launched the plans and policies for socio-economic development of which poverty alleviation, eradication of illiteracy, and provision of social services in the social sector are considered of outstanding importance. The study area is regarded as one of the poorest region in the country, and hence, real needs exist to assist the poor people in attaining their self-reliant and sustainable life styles. The ethnic minorities living in the Central Highlands predominantly need such assistance. Involvement of socially and economically deserted people in development by means of participatory approach would apparently enhance the social security and unity, which results in a more balanced development in the Central Region.

● Implementation Organization

The proposed CRDC (Central Region Development Committee) should centrally and collectively manage the entire RCD program due to its inter-provincial nature. It is preferred that the existing Vietnam Bank and/or the Agricultural Bank will be involved as intermediate bank to provide loan facilities by obtaining original funds from international lending agencies in order to provide the poor people with soft loans.

● Implementation Cost by the Year 2000

The implementation cost that includes those for engineering, construction, and contingency is shown below.

Unit: x 1,000 US$

Infrastructure	Huong Tan	Huong Phung	Huc	Average	20 Communes
Road	144.7	164.6	162.1	157.1	3,142
School	58.5	32.7	35.8	42.3	846
Clinic	13.6	13.6	27.2	18.1	362
Electricity	78.9	53.2	53.2	61.8	1,236
Water	6.0	6.6	6.0	6.2	124
Total Cost	**301.7**	**270.7**	**284.3**	**285.5**	**5,710**

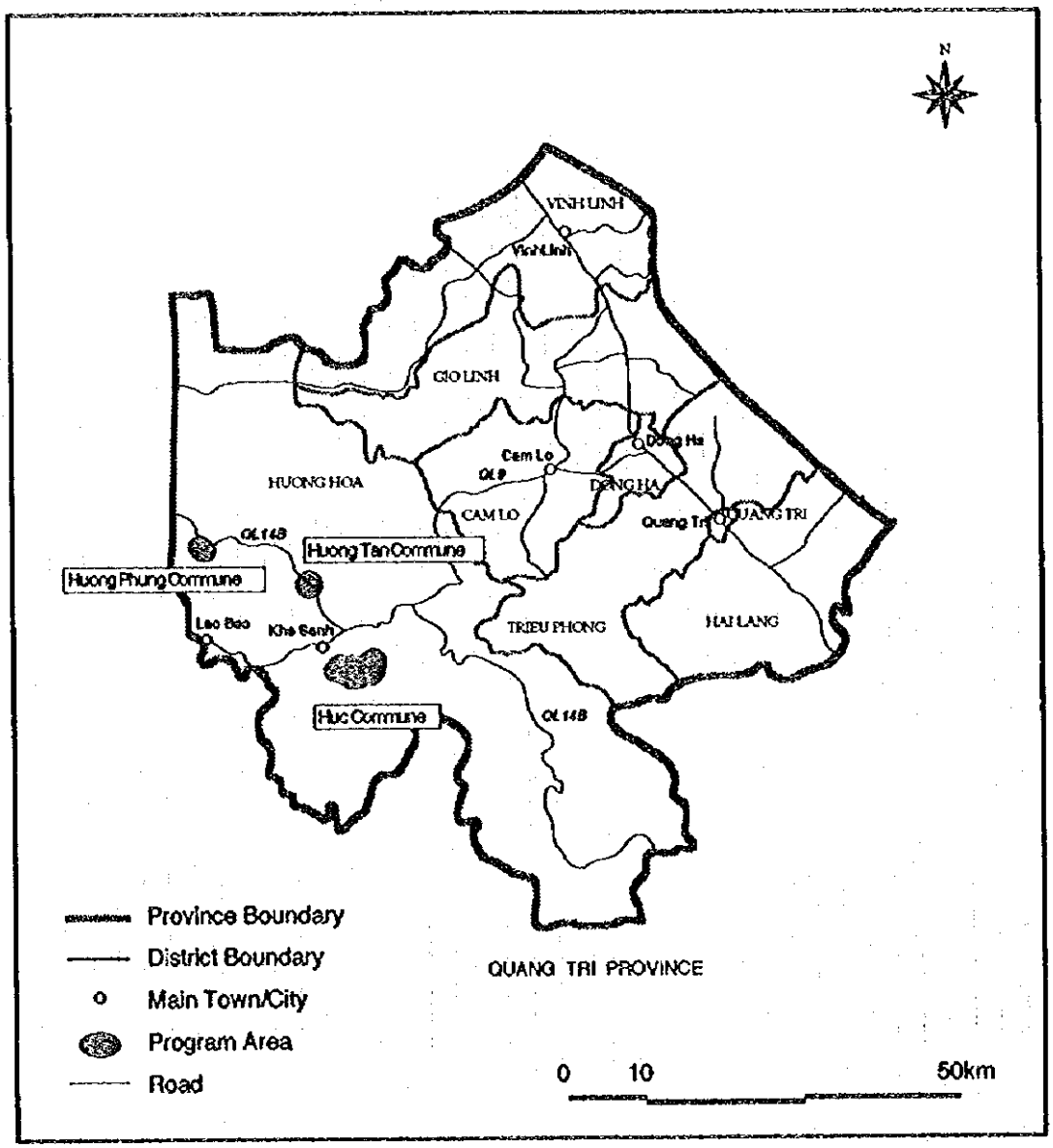
Source: JICA study team

In addition, with regards to the provision of financial assistance for expansion of the agricultural base, some overhead and interest costs for providing loan facilities by intermediate banks will be required, if subsidized assistance will be granted to poor households. Also, the capacity building component naturally requires some cost for its implementation.

● Implementation Schedule

Prior to the commencement of the RCD program, the CRDC will select the remaining 17 communes for simultaneous implementation. All three components will be carried out in the selected twenty communes as pilot projects until the year 2000. And these will be largely expanded after the year 2000 for subsequent implementation. It is expected that by the year 2010 the RCD program shall cover all poor communes and about 70 % of the poor ethnic minorities in the mountainous areas.

Program Areas of Sample Communes



6. PRELIMINARY IMPLEMENTATION PLAN FOR PRIORITY PROJECTS AND PROGRAMS

● Pre-implementation Arrangements

As heretofore mentioned, unless special consideration is given by the Central Government together with its positive financial and institutional support, the development of the Central Region would not be able to achieve its smooth and sustainable implementation. Hence, it is highly recommended to establish as early as possible a semi-autonomous (if not fully autonomous) implementation agency tentatively called **the "Central Region Development Committee (CRDC)"** based on the consensus among the Administration to grant special support to the Central Region, because of its national importance and significance.

Following the establishment of the CRDC, professional **Project Management Consultants (PMC)** should be procured to realize a fast-track implementation before a full-scale capacity can be attached to the CRDC or its subsidiary development corporations, tentatively proposed as the **"Dung Quat Industrial Development Corporation (DQIDC)", "Hue -Da Nang Highway Corporation (HDHC)"**, and **"Central Region Tourism Development Corporation (CRTDC)".**

● Implementation of 6 Priority Projects and Programs

The year 2005 is considered to be an "epoch-making year" for the socio-economic development of Viet Nam in that she will substantially participate in the global economic framework. In order to prepare herself for that year with a basic socio-economic infrastructure, 6 priority projects and programs are selected through the study. It is highly expected that they will be completed by the year 2005.

Of course, there are many other important projects and programs that require urgent implementation. However, as identified in the study, the following four projects should be implemented in the immediate future.

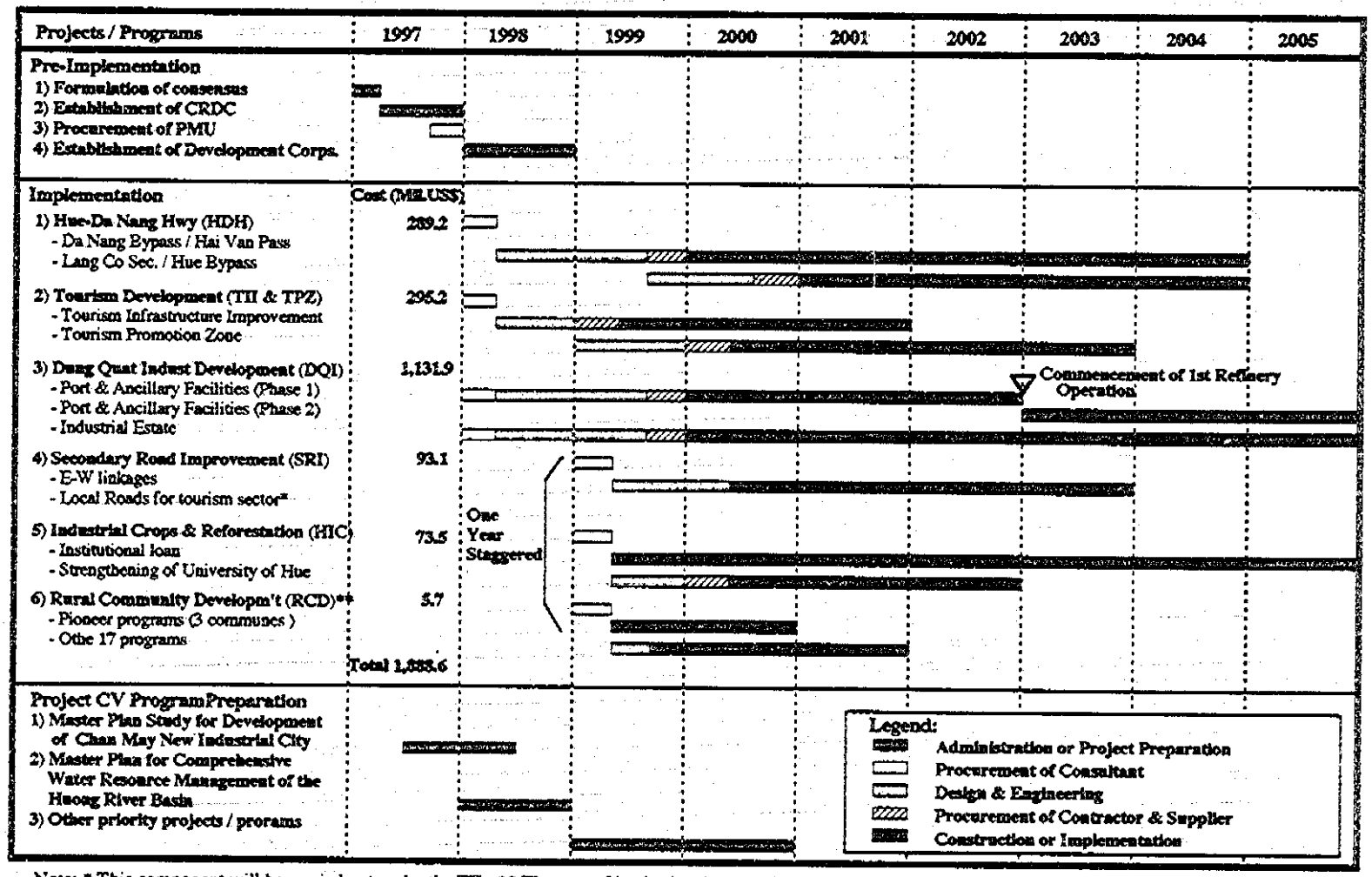
- **Highway No.9 Improvement Project**
- **Master Plan Study for Development of a New Chan May Industrial City**
- **New Chan May Port Development Project**
- **Master Plan Study for Comprehensive Water Resource Management of the Huong River Basin**

Also, the remaining projects and programs as identified and outlined in the form of "project profiles" in the study are recommended to be implemented in the not too distant future.

● Project Finance

The basic consideration on project finance for those projects that may generate income is that the Government should cover whole or part of the initial capital investment and take the economic return derived from their development. The recurrent cost for their operation and maintenance, however, should be self-financed with the revenues or charges generated from their operations. The proposed establishment of the DQIDC, HDHC, and CRTDC is for this purpose. In order to ease the project's cash flow or to provide institutional funds for social developments, it is highly recommended to use as much concessionary loan and/or grant aid as possible for all 6 priority projects and programs as proposed in the study. The total capital investment to be covered by the public sector by the year 2005 is estimated at **US$ 1,888.6 million** in 1996 constant prices. The study team is of the opinion that the amount would fall within an affordable range taking into account the potential accumulated development expenditure budget for the target area that would be US$ 5,400 million by the year 2005.

Implementation Schedule & Investment Outlay up to 2005



Note: * This component will be carried out under the TII. ** The part of institutional loan will be included in the HIC.

JICA