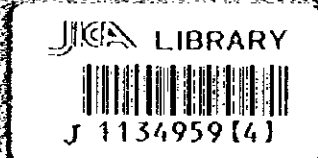


JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CIVIL AVIATION ADMINISTRATION OF VIETNAM

FEASIBILITY STUDY
ON
NEW DEVELOPMENT PLAN
OF
HANOI INTERNATIONAL AIRPORT
IN
THE SOCIALIST REPUBLIC OF VIETNAM

FINAL REPORT
Volume II: MAIN REPORT

March 1997



PACIFIC CONSULTANTS INTERNATIONAL
TOKYO, JAPAN

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NOTE

The following exchange rate was adopted throughout this report:

US\$ 1.00 = VND 11,000 = Yen 100 (August 1995)

VND 110 = Yen 1

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 New Development Plan of Hanoi International Airport and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Vietnam a study team headed by Mr. Hideki Murata of Pacific Consultants International four times between March 1995 and October 1996.

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

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

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

March 1997

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

Kinio Fujita

President

Japan International Cooperation Agency

March 1997

Mr. Kimio Fujita
President
Japan International Cooperation Agency
Tokyo, Japan

Dear Mr. Fujita

Letter of Transmittal

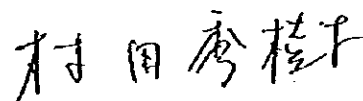
We are pleased to submit to you the final report on the New Development Plan of Hanoi International Airport in the Socialist Republic of Vietnam. The report contains the advice and suggestions of the authorities concerned of the Government of Japan and your Agency as well as the formulation of the above-mentioned project.

The report presents a new development plan for Hanoi International Airport at the southern area to the existing airport. In accordance with the Scope of Work, this study does not include the scheme to develop the northern area (the existing airport side) although it was considered to be a possible option. The study results indicate that the project is technically, financially (with some increase of airport charges) and economically feasible. With regard to the environmental feasibility, appropriate mitigation measures, including residents resettlement programme, are considered necessary.

As a conclusion, it can be said that the new development of the southern area of Hanoi International Airport for international services is a viable option to cope with anticipated traffic demand to the year 2010, and to ensure a reliable gateway to Hanoi and northern Vietnam. However, we recommend first to complete, as soon as possible, the current development projects which were considered as the existing facilities in the study.

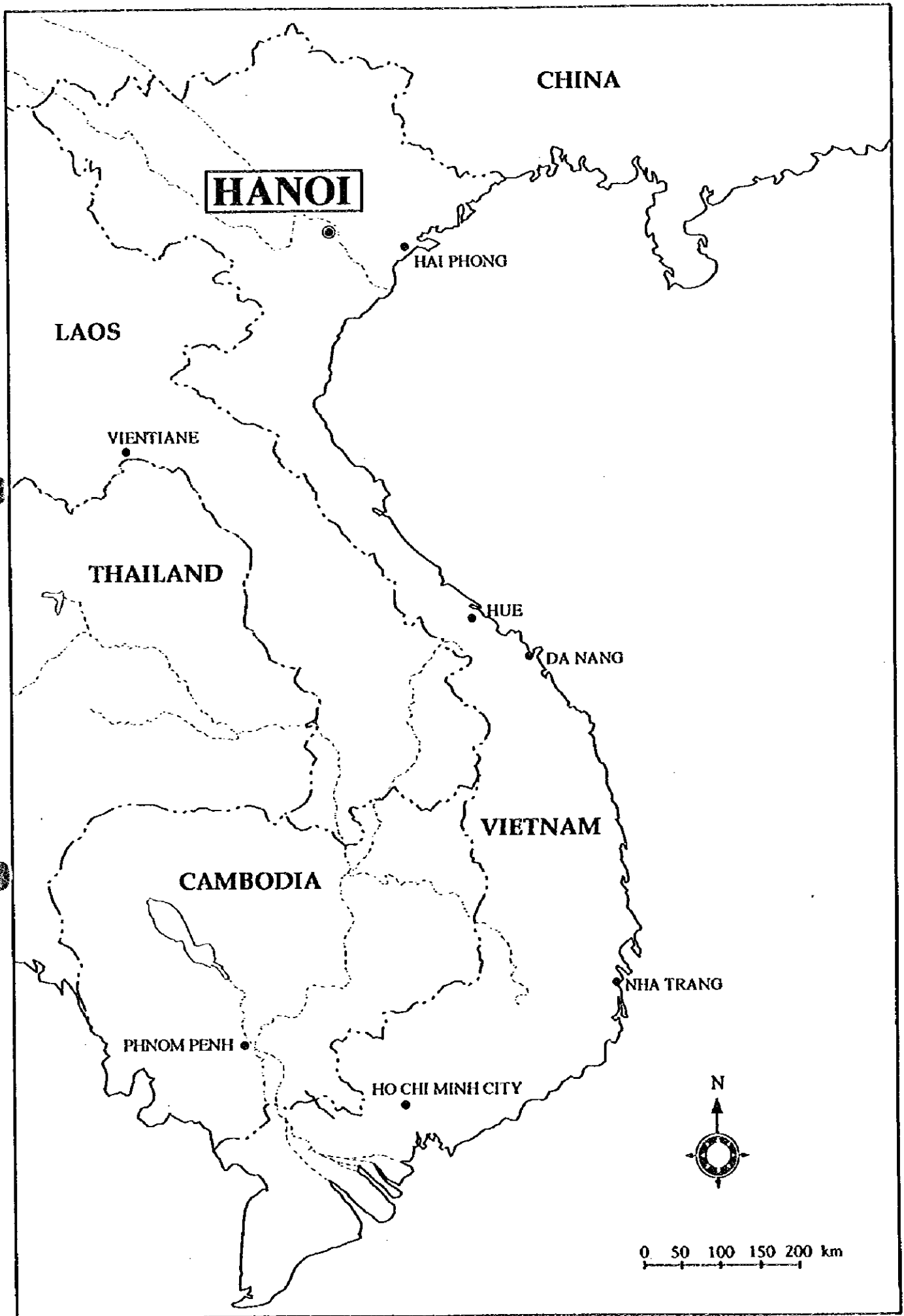
We wish to take this opportunity to express our sincere gratitude to your Agency, the Ministry of Foreign Affairs, the Ministry of Transport and the Overseas Economic Cooperation Fund of Japan. We also wish to express our deep gratitude to the Civil Aviation Administration of Vietnam and other authorities concerned of the Socialist Republic of Vietnam for the close cooperation and assistance extended to us during our study.

Very truly yours,

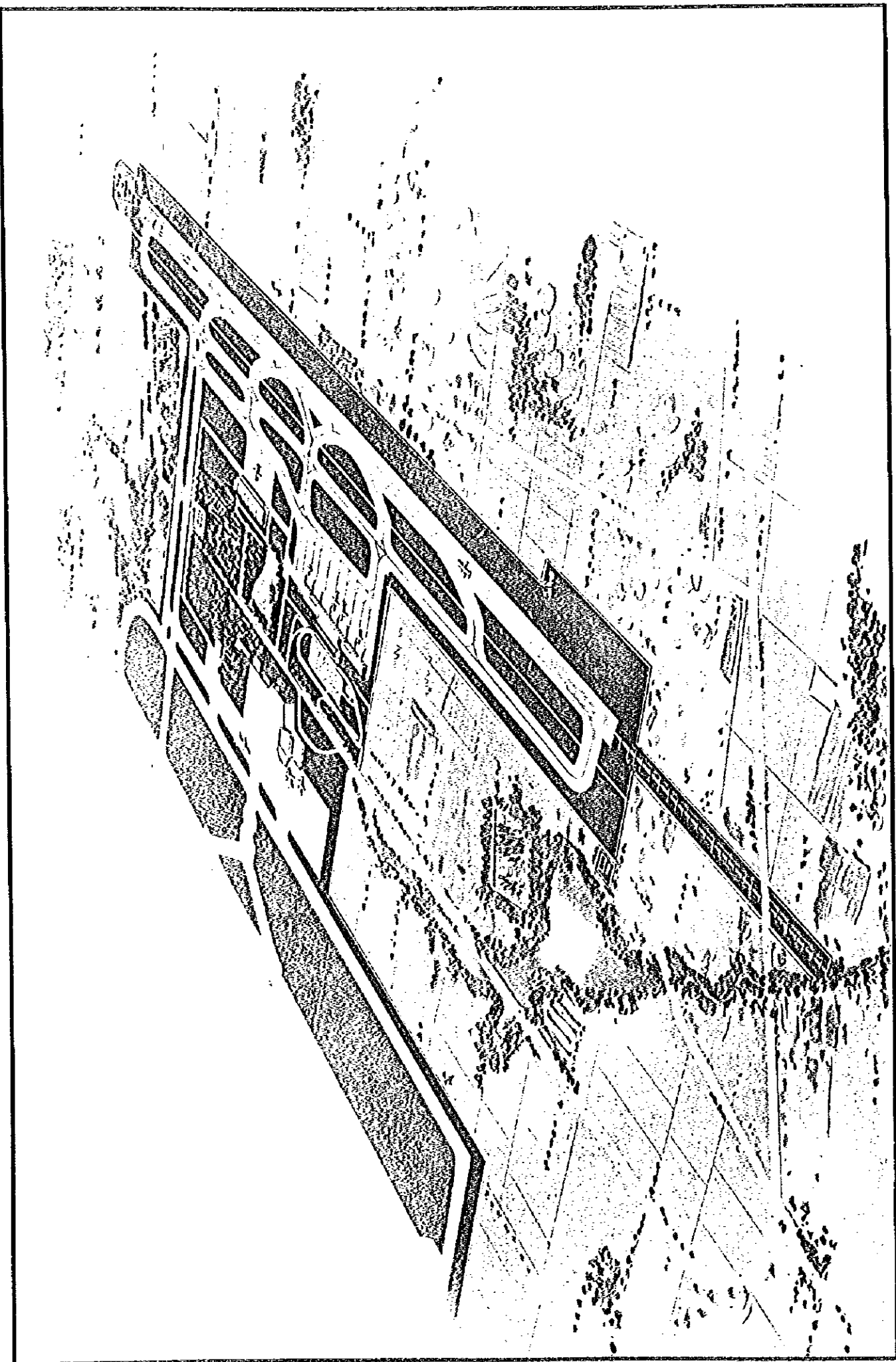


Hideki Murata
Team Leader

Study Team for the Feasibility Study on
New Development Plan of Hanoi International Airport



PROJECT LOCATION MAP



NEW DEVELOPMENT PLAN OF HANOI INTERNATIONAL AIRPORT - MEDIUM TERM DEVELOPMENT PLAN

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List of Abbreviations

AACC	Approach and Area Control Center
ADB	Asian Development Bank
ADC	Aerodrome Control
AFFF	Aqueous Film Forming Foam
AFL	Air Field Light
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Services
AMIS	Air Movement Identification Section
AMSS	Automatic Message Switching system
ANDV	Air Navigation Department of Vietnam
ANS	Air Navigation System
AOMP (AMOP)	Airport Operations and Management Plan
AOR	Areas of Responsibility
ARP	Aerodrome Reference Point
ARTS	Automated Radar Terminal System
ASDE	Airport Surface Detecting Equipment
ASEAN	Association of Southeast Asian Nations
ASR	Airport Surveillance Radar
ASTM	American Standard Test Method
ATC	Air Traffic Control
ATIS	Automatic Terminal Information Services
ATS	Air Traffic Services
ATZ	Aerodrome Traffic Zone
AVGAS	Aviation Gasoline
BOD	Biochemical Oxygen Demand
BOT	Build, Operate and Transfer
CAAV	Civil Aviation Administration of Vietnam
CAMP	Civil Aviation Master Plan
CASCO	Central Air Services Company
CATC	Civil Aviation Training Centre
CBR	California Bearing Ratio
CCR	Constant Current Regulator
CIF	Cost, Insurance and Freight
CIP	Commercial Important Passengers
COD	Chemical Oxygen Demand
CTR	Control Zone
DEG	Degrees
DG	Director General
DME	Distance Measuring Equipment
DO	Quantity of Dissolved Oxygen
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Returns
EPL	Law on Environmental Protection
EPZ	Export Processing Zones
ES	Economic Development Scenario
FAA	Federal Aviation Administration of the United States
FD	Flight Data
FDI	Foreign Direct Investment
FFS	First Field Survey

List of Abbreviations

FIR	Flight Information Region
FIRR	Financial Internal Rate of Returns
GC	Ground Control
GCA	Ground Controlled Approach
GMS	Global Meteorological Satellite
GOJ	Government of Japan
GOV	Government of the Socialist Republic of Vietnam
GP	Glide Path
GPS	Global Positioning System
GRDP	Gross Regional Domestic Product
GSE	Ground Support Equipment
HCM	Ho Chi Minh
HPC	Hanoi People's Committee
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IDS	Information Display Systems
IEE	Initial Environmental Examination
IFC	Instrument Fright Condition
IFR	Instrument Fright Rule
ILS	Instrument Landing System
IMF	International Monetary Fund
IRR	internal rate of returns
JCAB	Civil Aviation Bureau of Japan
JICA	Japan International Cooperation Agency
LLZ	Localizer
LOS	Level of Service
MASCO	Middle Air Service Company
MDF	Main Distribution Frame
MLS	Microwave Landing System
MM	Middle Marker
MOLLI	Ministry of Light Industries
MOSTE	Ministry of Science, Technology and Environment
MOT	Ministry of Transportation
mppa	million passenger per annum
NAR	Northern Airports Region
NASCO	Northern Air Service Company
NBIA	Noi Bai International Airport
NBMC	Noi Bai Meteorological Centre
NDB	Non-Directional Radio Beacon
NLA	New Large Aircraft
NM	Nautical Miles
NR	National Road
NTS	National Transport Sector
NTZ	No Transgression Zone
OAS	Obstacle Assessment Surface
ODA	Official Development Assistance
OECEP	Overseas Economic Cooperation Fund
OM	Outer Marker
PABX	Private Automatic Branch Exchanger

List of Abbreviations

PALS	Precision Approach Lighting System
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
PCN	Pavement Classification Number
PIP	Public Investment Plan
PMU	Project Management Unit
pph	passenger per hour
PWL	Power Level of Sound Source
RFF	Rescue and Fire Fighting
RRDMP	Red River Delta Master Plan 2010
RVR	Runway Visual Range
SALS	Simple Approach Lighting System
SASCO	Southern Air Service Company
SCCI	State Committee of Cooperation and Investment
SID	Standard Instrumental Departure
SPC	State Planning Committee
SPM	Suspended Particle Matter
SPT	Standard Penetration Test
SRC	Steel-Reinforced Concrete
SS	Quantity of Suspended Solids
SSR	Second Surveillance Radar
STAR	Standard Terminal Arrival Routes
TSNIA	Tan Son Nhat International Airport
UNDP	United Nations Development Programme
UPS	Uninterruptible Power System
USD	US Dollar
UU	Unsoaked and Undisturbed
VASCO	Vietnam Air Services Company
VDU	Visual Display Unit
VINA-Tourism	Vietnam National Administration of Tourism
VINAPCO	Vietnam Air Petrol Company
VNA	Vietnam Airlines
VND	Vietnam Dong
VOR	Very High Frequency Omni-directional Range
VRA	Vietnam Road Administration
WECPNL	Weighted Equivalent Continuous Perceived Noise Level
WOP	Without Project
WP	With Project
WTO	World Trade Organization

CHAPTER 1 INTRODUCTION

CHAPTER 1 INTRODUCTION

1.1 BACKGROUND OF THE PROJECT

The Socialist Republic of Viet Nam (hereinafter referred to as "Vietnam") is situated on the eastern seaboard of the Indochinese Peninsular, and bordered by China to the North and by Laos and Cambodia to the West. The total land area is about 331,000 sq. km, and the population was 71 million in 1993.

The development of infrastructures in Vietnam, however, is generally in the early stages, and efforts have been made to cope with the air transport demand at Hanoi International Airport. As Hanoi International Airport is one of two gateways to the country, along with Ho Chi Minh City/Tan Son Nhat International Airport, improvements in the operation, safety and reliability of the Airport is indispensable for the economic development of not only Hanoi but also northern Vietnam. The New Development of Hanoi International Airport is, therefore, considered to be one of the most important projects for the balanced growth of Northern and Southern Vietnam and the social stability of the whole country.

Under these circumstances, the Government of Vietnam (hereinafter referred to as "the GOV") decided to develop Hanoi International Airport (hereinafter referred to as "the Airport") and approved in April 1994 a master plan, which includes development of the second runway at the southern area of the existing airport (hereinafter referred to as "the New Development Site"). In order to realize this master plan, the GOV requested the Government of Japan (hereinafter referred to as "the GOJ") to conduct a study on the new development plan of Hanoi International Airport. The Terms of Reference are attached as Appendix 1.1.1.

In response to the request of the GOV, the GOJ decided to conduct a Feasibility Study on New Development Plan of Hanoi International Airport in the Socialist Republic of Viet Nam (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations of Japan. Based on this decision, the Japan International Cooperation Agency (hereinafter referred to as "the JICA"), the official agency responsible for the implementation of the technical cooperation programs of the GOJ, was entrusted to undertake the Study in close coordination with the GOV.

1.2 OBJECTIVES OF THE STUDY

Objectives of the Study are:

- a) To formulate a comprehensive development plan of the Airport for the year 2015.
- b) To conduct a feasibility study for the medium-term development for the year 2005.
- c) To pursue technology transfer to the GOV's counterpart personnel in the course of the Study.

1.3 SCOPE OF THE STUDY

The basic scope of the Study is defined in the Scope of Work agreed upon between the CAAV and the JICA on 8 November, 1994, which is shown in Appendix 1.3.1. The Minutes of the Meeting on Scope of Work are attached as Appendix 1.3.2. In order to fully cover the scope of the study, fifty-two (52) study items are identified as illustrated in Figure 1.3.1.

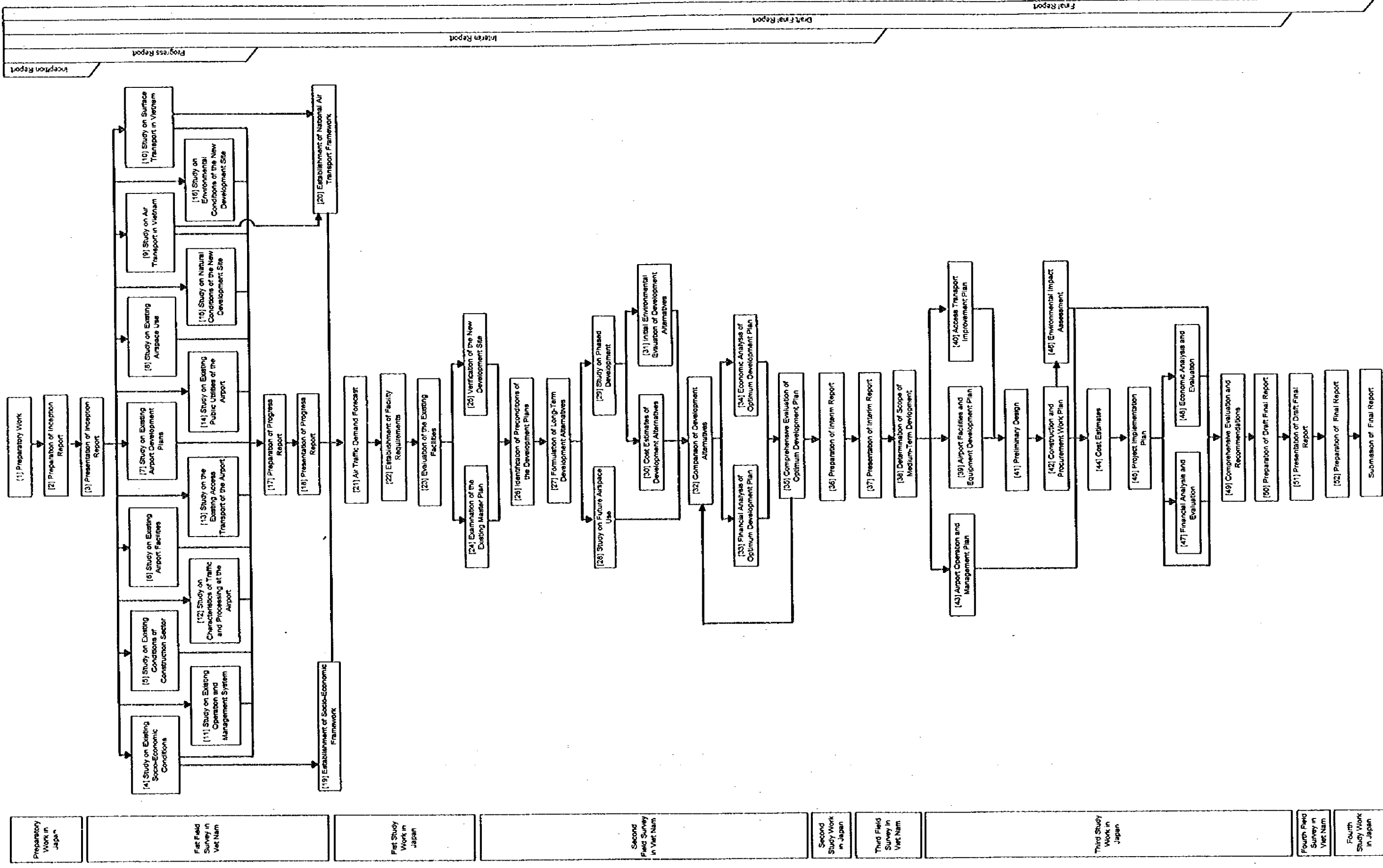


Figure 1.3.1 Flowchart of the Study

1.4 OUTLINE OF THE STUDY

The Study is divided into nine (9) stages as follows:

- a) Preparatory Work in Japan - Preparation of Inception Report
- b) First Field Survey in Vietnam - Presentation of Inception Report, Study of Existing Conditions and Preparation of Progress Report
- c) First Study Work in Japan - Air Traffic Demand Forecast
- d) Second Field Survey in Vietnam - Formulation of Long Term Development Plan
- e) Second Study Work in Japan - Preparation of Interim Report
- f) Third Field Survey in Vietnam - Presentation of Interim Report
- g) Third Study Work in Japan - Feasibility Study for Medium-Term Development Plan and Preparation of Draft Final Report
- h) Fourth Field Survey in Vietnam - Presentation of Draft Final Report
- i) Fourth Study Work in Japan - Preparation of Final Report

The original study schedule is shown in Table 1.4.1.

Table 1.4.1 Study Schedule

Year	1995												1996	
	Month	Feb.	Mar.	Apr.	May	Jun	Jul	Aug	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.
Items														
Preparatory Work in Japan														
First Field Survey in Vietnam														
First Study Work in Japan														
Second Field Survey in Vietnam														
Second Study Work in Japan														
Third Field Survey in Vietnam														
Third Study Work in Japan														
Fourth Field Survey in Vietnam														
Fourth Study Work in Japan														
Submission of Reports														

Field Survey in Vietnam
 Study Work in Japan

The Study Team arrived in Hanoi on 20 March, 1995 to carry out the First Field Survey in Vietnam. The outline of the Study explained in the Inception Report was discussed with and accepted by the

CAAV. The Minutes of Meeting on the Inception Report are attached as Appendix 1.4.1. As a preliminary result of the First Field Survey, the Progress Report was submitted to the CAAV on 12 May, 1995. After presentation and discussions, the Progress Report was accepted by the CAAV. The Minutes of Meeting on the Progress Report are attached as Appendix 1.4.2.

The Second Field Survey was conducted from 11 June to 12 August, 1995. During this period various discussions took place between Vietnamese and Japanese sides.

The Interim Report, that covered up to the formulation of Long Term Development Plan, was finalized in Japan and submitted to the CAAV on 3 October, 1995. After presentation and discussions, the Interim Report was accepted by the CAAV. The Minutes of Meeting on the Progress Report are attached as Appendix 1.4.3.

Based on the development scheme selected by the CAAV, a preliminary design and feasibility study of the Medium Term Development was conducted in Japan. As a result of the Study, a Draft Final Report was prepared in December 1995. However, the fourth field survey (presentation of the Draft Final Report) was suspended to clarify utilization of some facilities. The Study was resumed in August 1996, and the revised Draft Final Report was submitted to the CAAV on October 18, 1996. After the presentations and discussions the CAAV, in principle, agreed to the main contents of the Draft Final Report. The Minutes of Meeting on the Draft Final Report are attached as Appendix 1.4.4.

The CAAV's Comments on the Draft Final Report (refer to Appendix 1.4.5) were received in February 1997, and have been considered by the JICA Study Team before finalizing this Final Report.

1.5 STUDY ORGANIZATION

The Study was carried out by the JICA Study Team under the supervision of the JICA. An Advisory Committee was also organized to assist the JICA. The Study was conducted in close coordination with concerned authorities of the GOV. The overall organization framework is shown in Figure 1.5.1.

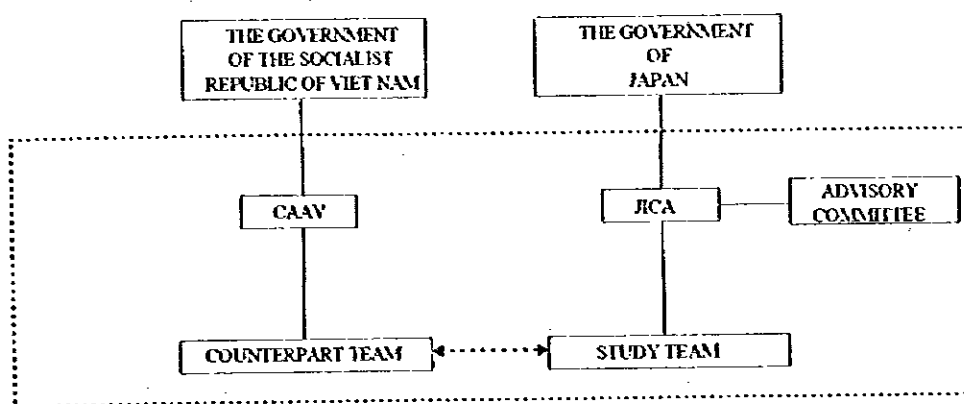


Figure 1.5.1 Overall Study Organization

The JICA Study Team and Advisory Committee consisted of the following members.

JICA Study Team

- Mr. Hideki MURATA : Team Leader/Airport Planner
- Mr. Toru SHIMADA : Deputy Team Leader/Airport Civil Engineer
- Dr. Katsuhide NAGAYAMA : Regional Development/Demand Forecast Specialist
- Mr. Hayato NAGASAWA : Civil Engineer
- Mr. Hajime HONJO : Architect
- Mr. Tadamitsu ITHO : Air Navigation Systems Specialist
- Mr. Peter DAVIES : Management, Operation & Training Specialist
- Mr. Shohei NAGATAKE : Air Traffic Control & Airspace Utilization Planner
- Mr. Hiroshi IJIMA : Construction & Cost Estimates Engineer
- Mr. Hiroyuki UEDA : Economic & Financial Analyst
- Mr. Osamu ISODA : Environmental Specialist
- Mr. Shun TAKAGI : Topographic Survey Specialist
- Mr. Teruo TAHARA : Geotechnical Investigation Specialist
- Mr. Takao YAMAGUCHI : Coordinator (Former)
- Ms. Eiko MORI : Coordinator (Successor)

JICA Advisory Committee

- Mr. Yuji KITANI : Director, Construction Division, Aerodrome Department, Civil Aviation Bureau, Ministry of Transport
(Former)
- Mr. Katsumi KANDA : Director, Construction Division, Aerodrome Department, Civil Aviation Bureau, Ministry of Transport
(Successor)

- Mr. Koji KITAMURA : Director, Tokyo International Airport Development Office,
(Former) Aerodrome Department, Tokyo Regional Civil Aviation Bureau,
Ministry of Transport
- Mr. Nobumasa FUNAKI : Director, Tokyo International Airport Development Office,
(Successor) Aerodrome Department, Tokyo Regional Civil Aviation Bureau,
Ministry of Transport
- Mr. Kihachirou SHIBADAI : Special Assistant to Director, Construction Division, Aerodrome
Department, Civil Aviation Bureau, Ministry of Transport
- Mr. Sumitomo IJICHI : Special Assistant to Director, Radio Engineering Division, Air
Traffic Services Department, Civil Aviation Bureau, Ministry of
Transport
- Mr. Tomoyoshi OMURO : Manager, 1st Division, Operations Department I, The Overseas
Economic Cooperation Fund (OECF)

JICA Coordinator

- Mr. Mitsuyoshi KAWASAKI : Project Officer, First Development Study Division, Social
(Former) Development Study Department, Japan International Cooperation
Agency (JICA)
- Mr. Toshiho RYOU : Project Officer, First Development Study Division, Social
(Successor) Development Study Department, Japan International Cooperation
Agency (JICA)

The CAAV, as the counterpart agency to the Study Team, established a Counterpart Team which is the coordinating body with other governmental and non-governmental organizations concerned with the conduct of the Study. The designated members of the Counterpart Team were as follows:

Vietnamese Counterpart Team

- Mr. Nguyen Xuan Hien : Team Leader, Director General of Northern Airports Region
(NAR) - Director of Noi Bai International Airport, CAAV
- Dr. Hoang Minh Chinh : Coordinator, Doctor of Economics, International Affairs &
Administration Department, CAAV
- Mr. Phan Van Hung : Secretary, Expert of Administration Department, CAAV
- Mr. Tran Son : Expert of Planning & Investment Department, CAAV
- Mr. Dang Hong Cuong : Expert of Construction & Airport Management Department,
CAAV

Mr. Bui Quang Dao : Deputy Chief of Planning & Investment Department, NAR,
CAAV

Mr. Ngo The Diep : Expert of Civil Aviation Survey & Design Company, CAAV

Mr. Tran Manh Kien : Chief of Foreign Affairs - Investment Department, NAR, CAAV

CHAPTER 2 MACRO ENVIRONMENT OF THE PROJECT

CHAPTER 2 MACRO ENVIRONMENT OF THE PROJECT

2.1 GENERAL

This chapter describes the environment of the New Development Plan of Hanoi International Airport from the macro viewpoint. It covers an outline of the recent socio-economic environment, its future prospects, an overview of the air transport system and an outline of surface transport systems in Vietnam.

2.2 SOCIO-ECONOMIC CONDITIONS

2.2.1 An Outline of Recent Economic Development

1) Entering a New Era of Economic Development

The economic development of Vietnam may be divided into two main phases. The first was the centrally planned development, where all plans were imposed from above, leaving the lower levels no discretion other than to put them into effect. The market in this context was merely transactions at regulated prices. State subsidies covered all aspects of people's activities such as production, consumption and social services. A series of reforms were implemented to improve (but not eliminate) the central planing, subsidizing and command mechanisms. However, in the face of economic crisis and galloping inflation in the first half of the 1980s, the failure of these reforms became obvious.

The second phase is market-based development, which followed a well-known policy change, called "Doi Moi" (Renovation), in December 1986. This policy initially had modest effects on the growth of output, but the high rate of inflation continued. It was not until the Government adopted a controlled "Shock Therapy" in 1989 (liberalizing prices,¹ tightening fiscal and monetary policy, cutting off subsidies for state enterprises, etc.) that Vietnam started to engage in a fundamental shift to a market economy.²

The performance of the Vietnamese economy has been very impressive in recent years. As indicated below, real GDP has been growing in the order of 8 to 9% per annum. Preliminary

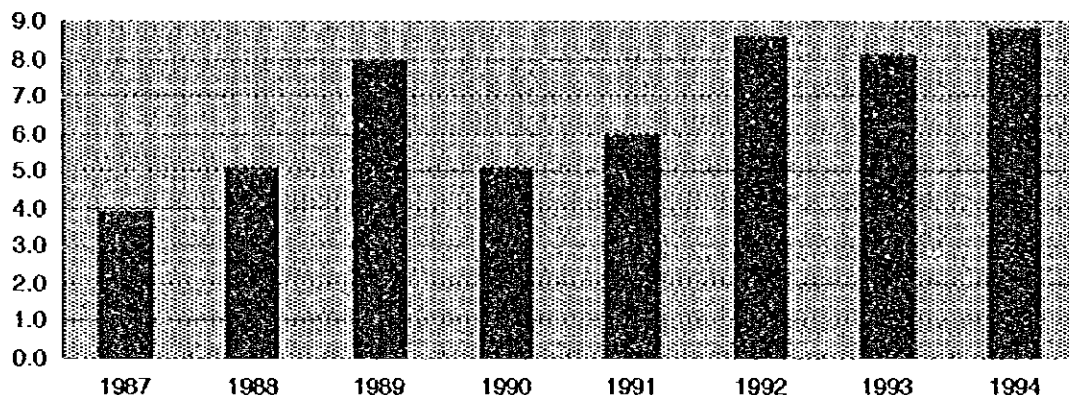
¹ Price control is now limited to cement, fuel, telecommunication charge, transport fares, etc., which are either basic necessities or monopolistically supplied.

² "Vietnam's Economic Renovation and Foreign Economic Policies", Institute of World Economy, 1995, Social Science Publishing House, Hanoi, "Economic Reform and Development in Vietnam", Vu Tuan Anh (ed.), Institute of Economics, National Centre for Social and Human Sciences, 1995, Social Science Publishing House, Hanoi, "Vietnam's Economic Reform: Results and Problems", Vu Tuan Anh (ed.), Institute of Economics, National Centre for Social and Human Sciences, 1995, Social Science Publishing House, Hanoi and "The Blazing Flame of Reforms", Nguyen Cong Nghiep, Dinh Van Nha and Le Hai Mo, 1993, Statistical Publishing House, Hanoi.

statistics for the year 1994 indicate that real GDP grew by 8.8%, contributing to a total GDP of VND170.258 trillion or US\$15.55 billion (VND2,347,000 or US\$214 per head).³

Real GDP Growth Rate (%)

Source: General Statistical Office



Consumer price inflation rate was brought down to 5.2% by the end of 1993, from 96% in 1989 and 441% in 1988.⁴ Inflation picked up to 14.4% in 1994 due to demand pressures, increases in public sector wages and higher food prices from heavy flooding. However, the rate of price increases in the non-agricultural sectors remained at 5.9% in 1994.⁵

The Vietnamese economy has a large agricultural sector. It accounts for one-third of GDP, and nearly 80% of the labor force is engaged in farming. Although the agricultural sector showed relatively high growth rates of around 5% for the 1991-1994 period, other sectors of the economy expanded much faster. As a result, its share in the total output is rapidly declining. The leading growth sectors of Vietnamese economy are industry and construction. The annual average growth rates of those sectors were 14 to 15% for the 1991-1994 period, followed by a 9% per annum growth of service sector. Within the manufacturing sector, there are two major categories of industries which have been growing rapidly. One is light industries such as electrical and electronic products, garments and leather products, which are relatively labor-intensive and export-oriented. The other category covers the construction and agricultural sectors, such as steel and steel products, non-ferrous metallurgy, chemical (plastics, painting, fertilizer), etc.

Vietnam has a predominantly rural population which represents about 80% of the total, just the same as the share of agricultural work force. However, urbanization will inevitably progress

³ Based on data from State Budget Department, Ministry of Finance, April 21, 1995.

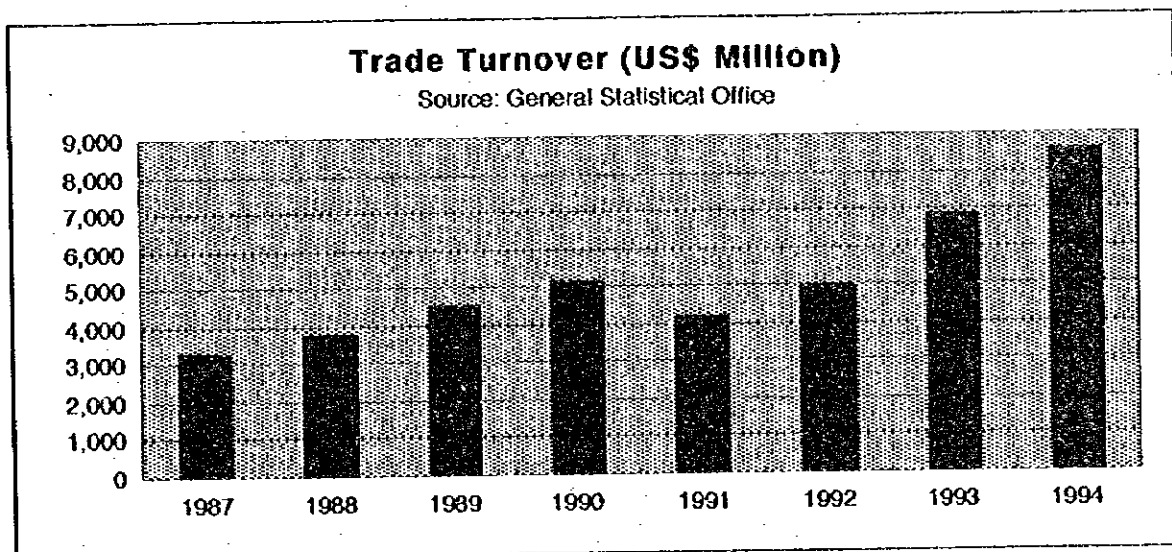
⁴ "Some Challenges Facing The Vietnamese Economy" prepared for the NISTFASS Seminar on Modeling Vietnam's Development Process In Transition, United Nations Development Programme, April 7, 1995.

⁵ Data from Ministry of Finance, April 21, 1995.

at a very rapid pace in parallel with rapid growth of industrialized sectors. This implies that urban productivity (industrial productivity, efficiency of infrastructure systems and matching human resource development) is a key issue for the future economic development of Vietnam.

2) Strengthening Linkages with External Economies

The macro-economic stabilization policy was a basic requirement to launch the Vietnamese economy towards market orientation. However, there is another important reason for the recent strong economic growth in Vietnam. It is the "Open Door Policy", which the Government of Vietnam adopted to import capital and technology from advanced countries. The intention was to improve the productivity of state owned enterprises, which had long enjoyed a subsidy status. At the same time, it aimed at promoting export-oriented industrialization to replicate the remarkable economic successes in other developing countries of Asia.



The foreign trade of Vietnam has rapidly expanded in response to the drastic change in trade policies since 1989 (abolition of state trade monopolies, rationalization of quotas and tariffs, market based exchange rates, etc.), when it was faced with a loss of the traditional trade partners of the former USSR and East European socialist countries. Trade turnover, measured in US dollars, expanded at an average rate of 27% annually for the 1991-1994 period. Primary products, such as oil, rice and sea products, still account for 85% of exports from Vietnam. However, light industrial goods represent a significant source of potential exports from Vietnam.

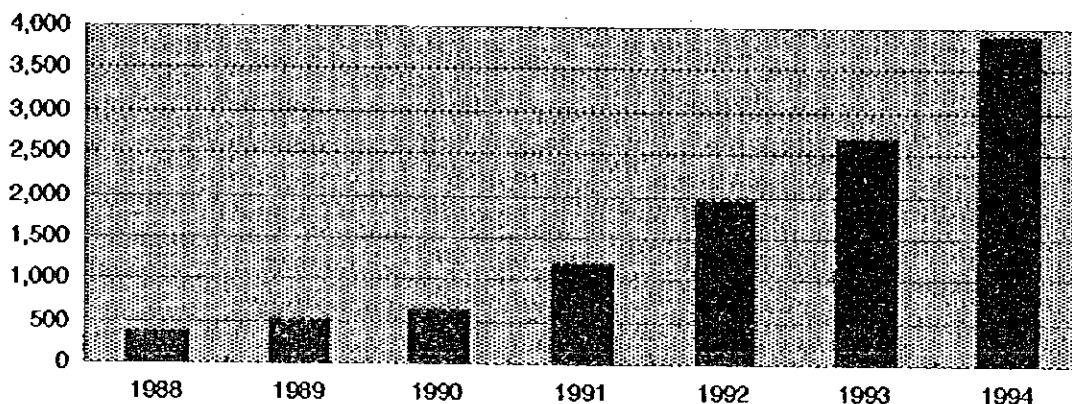
Strengthening linkages with external economies is best characterized by a massive expansion of foreign direct investment (FDI). The law of Foreign Investment adopted in 1987 is generally

regarded as a generous and attractive legal document for foreign investors.⁶ The law was amended in 1990 and 1992 to better facilitate foreign investment; for example, by providing for longer land use rights, assuring privileges against future changes of regulations, defining regulations on export processing zones (EPZ) and build, operate and transfer (BOT) operations, etc.

Government approved foreign investment in Vietnam increased from US\$533 million in 1989 to US\$3.9 billion in 1994, representing an average growth rate of about 50% per annum. This investment initially concentrated in the oil and gas sectors; however, FDI from Taiwan, Hong Kong and Korea has increased significantly in the hotel construction and import-substitution industries, the export-oriented light industries using low-cost labor, such as garments, footwear and seafood processing. Investment flows from Japan and the United States have been slow; however, recent newspaper reports indicated that several large-size projects, with subscribed capital of more than US\$1,000 million, were licensed to Japanese and the United States investors.⁷

Value of Approved FDI Licenses (US\$ Million)

Source: SCCI

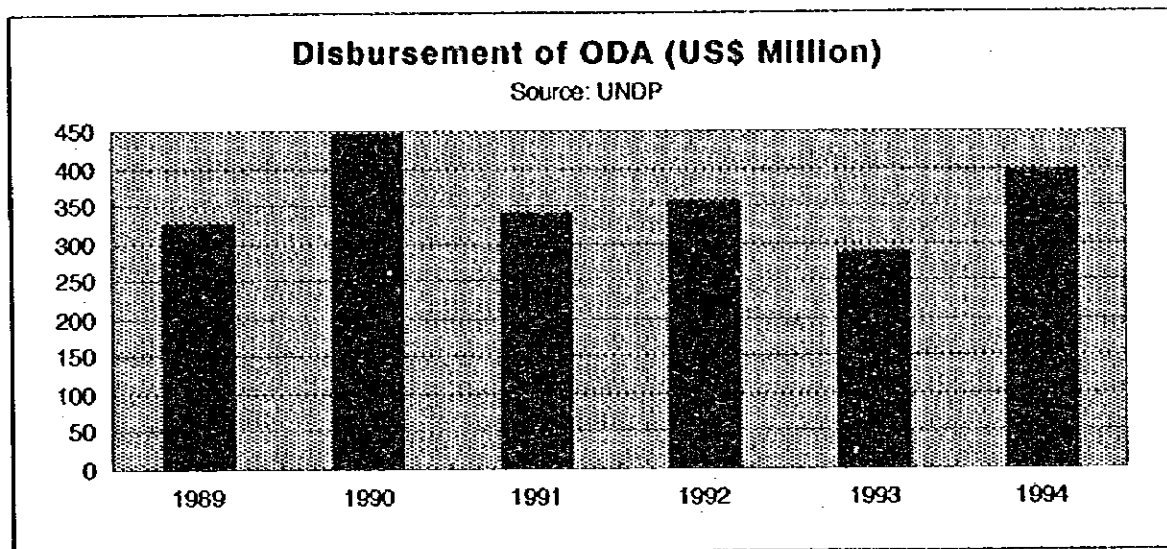


These trade and industrial activities require efficient infrastructure systems. The levels of development of roads, ports, airports, electricity supply and telecommunications in Vietnam are, however, unsatisfactory for foreign investors to operate and expand businesses at reasonable costs. Government revenues are sufficient to cover current expenditures, but approximately a half of its capital expenditures need to be financed from official development assistance (ODA). ODA, accounting for 2% of GDP, is small relative to the size of the

⁶ "Vietnam's Economic Renovation and Foreign Economic Policies", Institute of World Economy, 1995, Social Science Publishing House, Hanoi, "Economic Reform and Development in Vietnam", Vu Tuan Anh (ed.), Institute of Economics, National Centre for Social and Human Sciences, 1995, Social Science Publishing House, Hanoi, pp. 168.

⁷ "Vietnam News", May 8, 1994, Vietnam News Agency, Hanoi.

Vietnamese economy . The need for ODA will become increasingly important. In fact, the Government is hoping to mobilize some US\$10 billion of ODA (along with some US\$20 billion of domestic savings and US\$20 billion of FDI) to finance its development strategy⁸ and achieve a doubling of GDP per capita by the year 2000 from the level in 1990.⁹



Vietnam has normalized relations with the World Bank, International Monetary Fund (IMF), and Asian Development Bank (ADB). The United States lifted its long-standing trade embargo in February 1994. Vietnam joined the ASEAN group in July 1995, and is now considering joining the World Trade Organization (WTO). All of these actions reconfirm its commitment to the "open door" policy.

3) Growing Vietnam Tourism as a New International Destination

A large increase in foreign tourist arrivals in Vietnam is one of the most significant consequences derived from Vietnam's "Open Door" policy and the strengthening linkages with the external world. The tourism sector, as one of vital export sectors, has recently demonstrated its importance in economic development. This is intrinsically related to the supply-side economy, that is investments and activities in transportation, hotels, entertainment and urban services. Well-functioning airports are an essential factor to encourage production in this sector.

An adequate statistical system for the tourism sector is currently being developed, hence no reliable statistics are available so far. However, the Vietnam National Administration of

⁸ "Some Challenges Facing The Vietnamese Economy" prepared for the NISTFASS Seminar on Modeling Vietnam's Development Process In Transition, United Nations Development Programme, April 7, 1995, pp. 3.

⁹ Assuming 2% annual growth of population, this target corresponds to approximately 9% annual growth of GDP.

Tourism (VINA-Tourism) has announced a dramatic increase in tourists represented by a 42% growth in foreign tourist arrivals and a 37% increase in domestic tourists in Vietnam as a whole, between 1990 and 1994 as follows:

	<u>Foreign Tourist Arrivals</u> ¹⁾ (000)	<u>Domestic Tourists</u> (million)
1990:	250	1.0
1991:	300	1.5
1992:	440	2.0
1993:	670	2.5
1994:	1,018	3.5
Average Growth 1990-1994	42.1% p.a.	36.8% p.a.

Note 1): Includes Overseas Vietnamese

The change in the number of foreign tourist arrivals in 1994 was particularly significant, representing a 52% growth on the previous year to reach the one million mark.

On the other hand, the statistics by the Immigration Department indicate much smaller numbers. It identified the number of international tourist arrivals as increasing from 100,000 in 1990 to 376,000 in 1993, with an average growth rate of 55% per annum. As shown in Table 2.2.1, there are great differences in the numbers between both sources. However, it seems from comparisons with airport statistics that VINA-Tourism's data are overestimated. Anyway, a standardized statistical system will soon be developed so that the tourism industry can be accurately analyzed.

Table 2.2.1 Numbers of Entry by Country

Originating Country	1990	1991	1992		1993		Change b/w 1992-1993	
	(a)	(a)	(a)	(b)	(a)	(b)	(a)	(b)
Foreigners by Air								
Taiwan	0	20,290	63,666	70,143	95,077	95,077	49%	36%
France	6,273	11,454	16,991	19,204	47,683	47,683	181%	148%
Japan	6,144	11,656	17,343	19,119	29,683	29,683	71%	55%
USA	5,579	8,949	13,078	14,563	23,361	23,361	79%	60%
UK	0	0	8,790	6,662	17,276	17,276	97%	159%
Hong Kong	13,856	13,228	13,230	13,985	15,224	15,224	15%	9%
Thailand	5,218	8,389	9,747	10,557	13,869	13,869	42%	31%
China	196		2,150	2,738	8,352	8,352	288%	205%
Others	62,455	51,340	86,978	202,171	125,175	198,330	44%	-2%
Sub Total	99,721	125,306	231,973	359,142	375,700	448,855	62%	25%
Growth Rate (%)		25.7%	85.1%	186.6%	62.0%	25.0%	-	-
Overseas Vietnamese by Air	36,145	59,071	76,100	80,856	152,672	152,672	101%	89%
By Land & Sea						68,335	-	-
Total	135,866	184,377	308,073	439,998	528,372	669,862	72%	52%

Source: (a) The Immigration Department (b) Vietnam National Administration of Tourism

An examination of the origin-markets, based on the VINA-Tourism data, reveals that Taiwan is the greatest market with a share of 21.2% in 1993, followed by France (11%), Japan (6.6%), the United States (5.2%) UK (3.8%), Hong Kong (3.4%) and Thailand (3.1%), as shown in Table 2.2.2. China has the highest growth rate. The Asian market is becoming more significant, with the top five Asian countries of Taiwan, Japan, Hong Kong, Thailand and China increasing their aggregated share from 32.5% in 1992 to 36.1% in 1993. This trend seems likely to continue into the foreseeable future.

Table 2.2.2 Vietnam's Major Tourist Markets

Originating Country	1992	1993
1 Taiwan	19.5%	21.2%
2 France	5.3%	10.6%
3 Japan	5.3%	6.6%
4 USA	4.1%	5.2%
5 UK	1.9%	3.8%
6 Hong Kong	3.9%	3.4%
7 Thailand	2.9%	3.1%
8 China	0.8%	1.9%
9 Others	56.3%	44.2%
Total	100.0%	100.0%
* Asian Top 5	32.5%	36.1%

Source: Vietnam National Administration of Tourism

In the meantime, according to VINA-Tourism, the general characteristics of foreign tourists traveling in Vietnam can be summarized as follows:

- Average Length of Stay: 3.2-4.7 days depending on regions
- Average Expenditures: US\$70 per tourist per day

Data from the Immigration Department in 1993 indicated the purposes of visits by foreigners was as follows:

- Tourism: 56%
- Business: 30%
- Others: 14%

2.2.2 Roles of the Government in the New Economic Context

1) Changing Roles

The role of the Government in the new economic environment has drastically changed from the former monopolistic supplier of goods and services, which had been possible only in relatively closed economic context. As with the former USSR and East European socialist countries, its industrial policies were significantly biased toward heavy industries, with which Vietnam would have few comparative advantages in an open economy. The preferential allocation of resources to heavy industries forced policy makers to subordinate the production of consumer goods. Since the heavy industries made little use of Vietnam's abundant labor, average personal incomes remained low. On the consumption side, the Vietnamese people were also frustrated by goods and services supplied with little attention to consumers' desires and tastes. As a result, some of them left the country at the risk of their life and it became difficult to prevent the illegal flow of consumer goods into Vietnam.

The present Government's strategy is based on the guiding principle that development must be "people oriented". Vietnam is in transition to a market economy with the Government playing a role as a regulator and facilitator, therefore, its efforts should be directed to providing people and enterprises with adequate living and economic environments for the conduct of their activities. The present Government is committed to play these roles by establishing a set of policy measures;¹⁰ three of which may be the most important and relevant to the present study.

The first such policy is macro-economic stabilization. It has been given high priority and has proved essential for economic growth during the renovation period. Control of inflation rate is the primary macro-economic stabilization measure, and is critical to encouraging more domestic savings and investment from both domestic and external sources. Strengthening

¹⁰ "Vietnam: A Development Perspective -- Prepared for the Donor Conference", Socialist Republic of Vietnam, September 1993, Hanoi.

inflation management will require maintaining the budget deficit at a low sustainable level. Further strengthening of the taxation system, now under consideration by the Ministry of Finance, also needs to be implemented. Another essential aspect of macro-economic stability is careful management of the exchange rate. The maintenance of a competitive exchange rate is needed to promote export-oriented industries, and minimize import dependence and the balance of payments.

The second important policy is a continuation of market oriented reforms. It will cover reforms in taxation, banking, the legal system, trade regulations, state enterprises and public administration. The aim is to allow market forces to operate in a more secure and transparent fashion. Many of the reforms are related to the continued Government's emphasis on importing foreign investments to help stimulate economic growth.

Thirdly, substantial improvements in basic infrastructures, particularly in transportation, energy, telecommunications and irrigation, are needed to facilitate production and trade. Substantial improvements are also needed for the efficient delivery of essential public services to support the development of non-state sector activities. Without adequate provision of these infrastructure and public services, even enterprises with efficient equipment, good management and a hard-working labor force may not be able to compete due to the excessive time and costs incurred with a poor transportation system, or by using expensive backup systems to protect against unstable public power supplies.

2) Government Policies on Infrastructure Development

Enterprises operating in Vietnam face serious infrastructure deficiencies. The problems most mentioned by foreign investors are poor transportation systems (particularly in the north), a shortage of power and insufficient water supplies.¹¹ This situation is partly due to the devastation of the long war years, but the problems have persisted due to scarce resources in terms of capital and technology.

In order to increase capitals expenditure, the Government must first limit current expenditures. Prior to 1990, government revenues did not even cover current expenditures. At present, the Government has a surplus after paying current expenditures. However, it is not sufficient to also finance capital expenditures, most of which are for infrastructure development. The capital expenditures of the Government account for about 8% of GDP, while government revenue surpluses, after current expenditures, correspond to 4% of GDP. The present policy

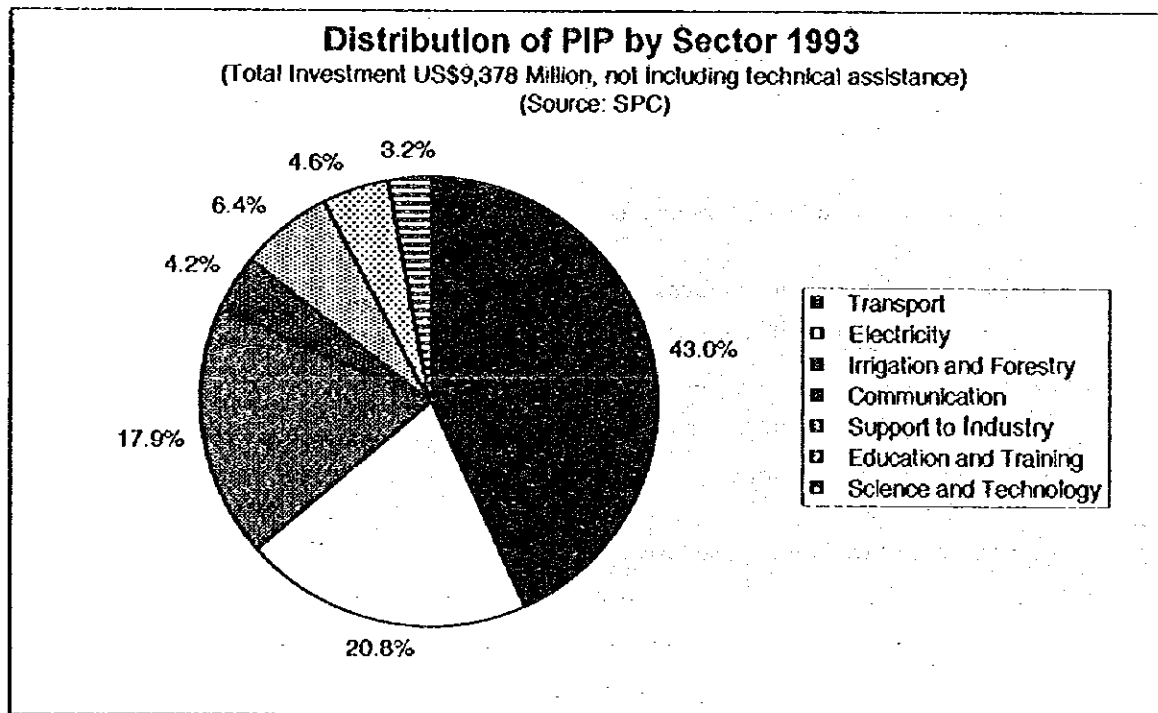
¹¹ "Viet Nam: Transition to the Market, An Economic Report", World Bank, September 15, 1993.

is to finance about one half of this 4% deficit through ODA borrowings and the other half by issuing bonds^{12 13}.

The policy and strategy framework of the Government is translated into investment programs through a Public Investment Plan (PIP), produced by the State Planning Committee (SPC) with advice from the UNDP. The aim of PIP is to develop a core investment program, i.e., to identify the projects with highest priority and to ensure their early implementation. The general guidelines which have been applied to the selection of public investment projects are shown below¹⁴, although no numerical criteria such as internal rate of returns (IRR), etc. seem to exist.

- Complement to the Government's development strategy
- Minimizing the cost while ensuring appropriate quality
- High social/economic returns on resources
- Effectiveness for achieving project objectives
- Advancement of greater equity and employment opportunity for slow-growth area and disadvantaged people

The distribution of high priority projects by sector in 1993 was as follows:



¹² The Ministry of Finance started issuing bonds on the domestic market in 1992 and on the international market in 1994. It controls money supply by controlling the volume of bond issuance, but not by open market operations. To enable open market operations, the Ministry of Finance intends to establish a capital market in Vietnam.

¹³ Data based on hearing from the Ministry of Finance, April 19, 1995.

¹⁴ "Vietnam: A Development Perspective -- Prepared for the Donor Conference", Socialist Republic of Vietnam, September 1993, Hanoi, pp. 70.

The transportation sector is given great importance, as indicated by the 43% share of the total investment for high priority projects. Of the total transportation sector investment, 42% is planned for roads, 14% for airports, 28% for ports, and 16% for railways.

The Civil Aviation Administration of Vietnam (CAAV) has prepared its own preliminary budgetary framework for future development of the civil aviation sector for the medium-term period between 1995 and 2000, and the long-term between 2001 and 2005, as shown in Table 2.2.1. This framework is subject to change after consultations with relevant agencies.

In this framework, a total of US\$2,450 million is allotted for capital investment such as infrastructure, terminal buildings for airports and aviation facilities throughout the country. There is a large difference in the amount of investment up to the year 2000 between the 1993 PIP (approximately US\$1.1 billion for the civil aviation sector) and CAAV's estimate (US\$2.4 billion). This is mainly because CAAV's investment plan includes the financial requirements of Vietnam Airlines.

Table 2.2.1 Long-Term Preliminary Investment Framework for the Aviation Sub-Sector
(Unit: US\$ million)

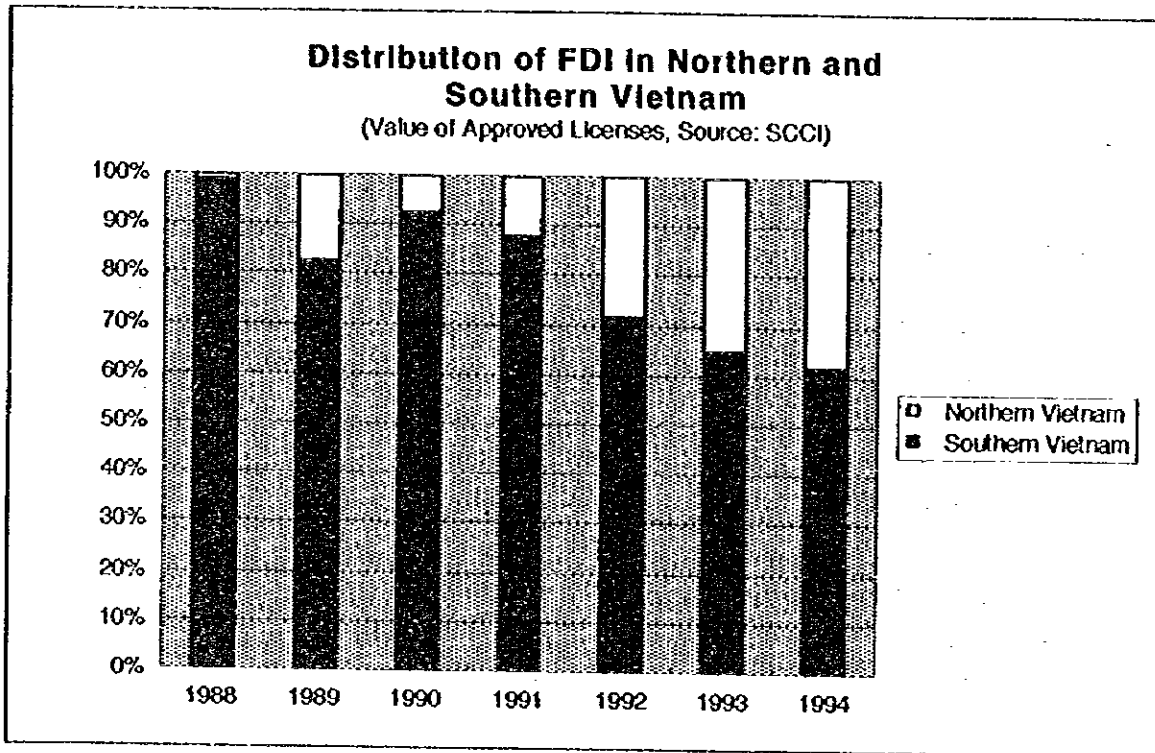
Investment to be Required by	I 1995-2001	II 2001-2005	Total
1) Carriers	1,170	1,310	2,480
2) Infrastructure and Terminal Buildings for airports	800	1,300	2,100
3) Aviation Facilities	120	230	350
4) Other Services for Airports and Civil Aviation	20	45	65
5) Training	58	70	128
Total	2,420	3,270	5,690

Source: CAAV

3) Regionally Balanced Economic Development

Regionally balanced development is another important aspect of the Government's economic policy requiring it to allocate scarce resources to develop backward areas of the country. However, such a policy often conflicts with the need to maximize the economic growth for the country as a whole. The Government has, therefore, decided to establish development priority zones in the northern, central and southern regions of the country. These are identified as the Hanoi - Hai Phong - Hong Gai triangle in the northern region, the Danang - Dung Quat corridor in the central region and the Ho Chi Minh City - Bien Hoa - Vung Tau triangle in the southern region.

Among these zones, the northern zone, where the capital Hanoi is located, seems to be receiving particular attention by the Government.¹⁵ Nevertheless, as of 1992 more than 70% of proposed FDI were for projects located in the south despite the Government's encouragement of development in the north. The World Bank has indicated¹⁶ that foreign investors prefer projects in the south where, among other things, the infrastructure is better and the business practices of developed countries are better understood. However, this trend seems to have changed in 1993 and 1994. As shown in the following figures, more FDI has been directed to the northern region, particularly in the Hanoi area.

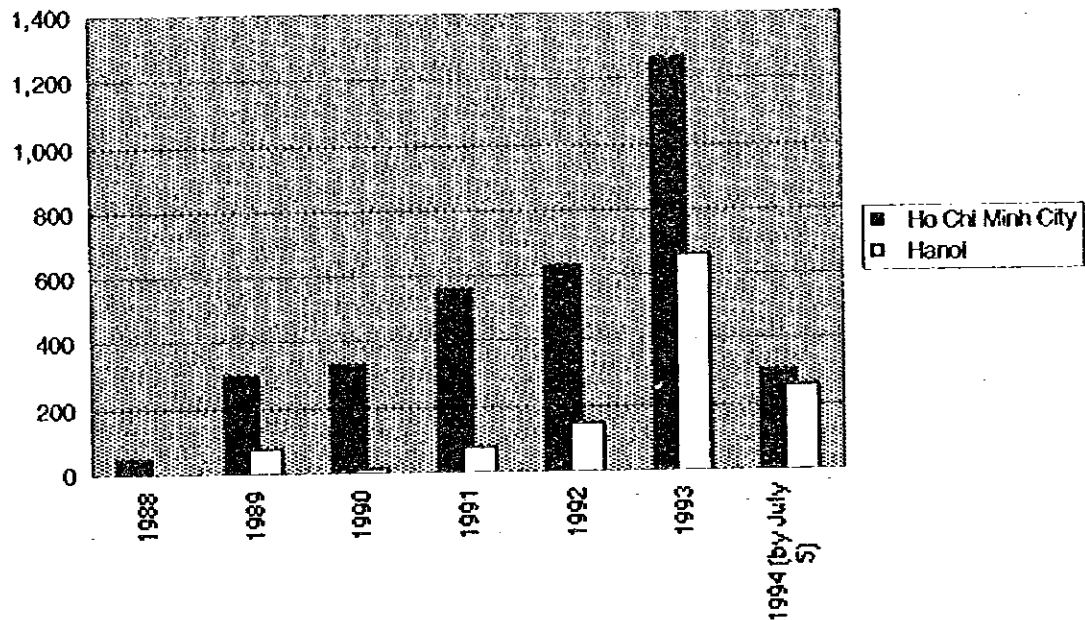


¹⁵ This impression was received through discussions with various central government officials. However, there is no explicit government policy which provides incentives to attract FDI into the northern region.

¹⁶ "Viet Nam: Transition to the Market, An Economic Report", World Bank, September 15, 1993, pp. 82.

FDI In Ho Chi Minh City and Hanoi (US\$ Million)

(Source: SCCI)



The above data indicate that Hanoi's economy, which has lagged behind the rapid economic growth in the south, has begun to obtain a reasonable share of investment through the "Open Door" policy. The Hanoi People's Committee attributed the recent increases in FDI in Hanoi to: a more stable power supply, a better telecommunication system, higher education levels¹⁷ and lower labour and land costs than in Ho Chi Minh City.¹⁸ The savings propensity is also higher in the north than in the south.

¹⁷ There are 31 universities and 44 technical college in Hanoi. 85% of doctors are from Hanoi's universities, and 40% of graduates work in Hanoi.

¹⁸ Based on hearing from Foreign Economic Relation Department of Hanoi People's Committee, April 21, 1995.

2.2.3 Review of Economic Projections

1) Economic Targets towards the Year 2000 by the Government of Vietnam

As of April 1995, the relevant agencies and economic institutes of the Government of Vietnam are trying to determine the economic framework to the year 2000, as part of the preparatory work for the 6th National Five-year Plan (1996-2000), therefore, no official outputs have been released so far. However, some implicit policies have been publicized on occasions such as the 9th People's Assembly and 7th Convocation of Vietnam Communist Party, all intended to assist the growth of Vietnam's economy keep up with ASEAN countries. It appears that, based on the significant performance during the period of the 5th National Plan (1991-1995), Vietnam's economy shall be developed under a new policy of "Modernization and Industrialization" with a higher growth rate, while keeping the basic "Open Door" policy. In this context, much emphasis will be placed on the development of economic infrastructure and institutional reform to facilitate a market economy.

The following are preliminary numerical targets¹⁹ in the economic framework for the 6th Five-year Plan (1996-2000) being considered by the Government as of April 1995, and which may be subject to change before official promulgation in August 1995:

(1) GDP

An average growth rate of at least 10% p.a. during the period between 1996 and 2000 is assumed, based on the assumption that a 8.0-8.5% average growth rate is probable between 1991 and 1995.

(2) Structural Change in Value Added by Sector

As the country industrializes, a higher growth rate is expected in the industrial sector but the agricultural sector will still need attention to continue development of the rural economy, thereby mitigating income disparities among regions. Nevertheless, the Government is promoting a shift from the present agriculture-based economy to an industry-driven economy. Hence, the following target growth rates in terms of GDP (Gross Value Added) to the year 2000:

- Agriculture sector:	3.5-4.0% p.a.
- Industry & Construction:	15% p.a.
- Services:	16% p.a.

¹⁹ These numerical targets are not official yet, but be informed at the meetings with relevant agencies.

With these sectoral targets, the GDP growth rate as a whole up to 2000 may be as high as 12.3% p.a., resulting in an economic structure as follows:

	<u>Year 2000</u>	<u>At present (as of 1994)</u>
- Agriculture sector:	22.6%	34.4%
- Industrial & Construction:	31.3%	26.6%
- Services:	46.1%	38.9%
- Total	100.0%	100.0%

This structural shift would be quite drastic, and would require a rapid transfer of labor from the agricultural to the industrial and service sectors, resulting in rural-to-urban migration. This has been the experience of most developing and developed countries, however, problems accruing from such rapid social changes should be carefully addressed.

(3) Exports and Imports

The rapid increase in FDI of the recent years, mostly since 1992, will undoubtedly increase future exports at a high rate, once those projects have been implemented. It is estimated that exports should increase by 20-22% p.a. between 1996 and 2000. A more ambitious projection of 24% p.a. has been made by the Ministry of Commerce. A new policy to encourage export activities is based on²⁰:

- Quality guarantee for domestic products;
- Importing hi-tech machinery, thereby exporting high quality products; and
- Encouragement of domestic industries for exports.

As of 1994, the "per capita export" level was US\$50, but the target in 2000 is US\$170, more than triple the present level.

(4) Investment and its Financing

"Fund mobilization" is important for financial policy in Vietnam, as discussed in Section 2.2.2. More intensive efforts by the Government should be made in this regard to the year 2000. At present, the State funds about one third of the total investment, and another one third is funded by the private sector. The remaining one third comes from ODA and foreign investments. The Government has recognized the need to further facilitate fund mobilization for public capital expenditures in conjunction with institutional reforms. The following investment targets are being considered by the Government:

- Government Revenue: 24% of GDP, compared to 22.3% in 1993
- Investment: 28-30% of GDP with an allocation structure of: 8-10% by the Government; 8-10% by FDI; and 10% by households/enterprises.

²⁰ From hearing with Ministry of Commerce.

2) Economic Perspectives by Other Organizations

Apart from the Government targets discussed above, some economic institutes, international aid organizations and previous master plan studies have tried to foresee Vietnam's economic growth rates in the medium and long term. Table 2.2.2 summarizes the projections of Vietnam's future GDP growth up to 2000 and 2010, together with the Government's targets. Where two alternative scenarios were considered in those studies, the higher case is presented in this table.

There are several different projections of economic development in Vietnam. The differences seem to stem from two reasons. One is that there are two kinds of forecast depending upon the objectives: 1) forecasts as policy targets; and 2) forecasts based on some realistic insights. The former seems to be higher than the latter. The second is that higher growth rates are more likely to be assumed in the projection derived from the data in recent years' after 1992 than those based on data in the 1980's up to 1992. Since Vietnam's economy has enjoyed favorable and stable growth, particularly after 1993, a somewhat ambitious projection up to 2000 may be computed with confidence.

Table 2.2.2 Comparison of Projections for National Economic Growth in Previous Studies

	Source	Base Year	2000	2010
(1)	Recent preparatory work for the 6th Five-year National Plan by relevant government agencies	1994	more than 10% (1996-2000)	-
(2)	Vietnam: A Development Perspective (Prepared for the Donor Conference by SPC, Sept. 1993)	1992	8.0% (1992-2000)	-
(3)	National Transport Sector Review (UNDP, 1992): High Case (ES-2)	1990	6.5% (1990-1995) 10.0% (1995-2000)	-
(4)	Master Plan Study on Transport Development in the Northern Part in Vietnam (JICA, 1994)	1993	7.0% (1993-2000)	10.0%
(5)	Vietnam Transition to the Market: An Economic Report (World Bank, 1993)		8.2-8.4% (1995-1998)	-
(6)	Socioeconomic Development Master Plan for Red River Delta 1994-2010 (SPC, Nov. 1994)	1993	9.6% (1993-2000)	11.2%
(7)	Economy of Vietnam: Review and Statistics, (Research Literature, 1994)	1992	8.7% (1991-1995) 9.4% (1996-2000)	-
(8)	Application of Methods for Analyzing Economic Scenarios in 1996-2000 Five-year Plan in Vietnam (SPC/UNDP/World Bank, 1994): Scenario 2	1993	9.7% (1996-2000)	-

Source: The Study Team based on respective sources.

2.2.4 Regional Economic Development Perspectives

An international airport is one of the most significant urban facilities which can attract new economic and industrial activities spatially around it. This section briefly reviews the regional development framework being planned by the Government, in which important and necessary infrastructure components related to the new development of Noi Bai International Airport may be identified.

1) National Framework for Regional Development

The SPC recently presented a national framework for the regional economies to the year 2010, entitled "Orientations and Plans for Comprehensive Development of Regions in Vietnam 2010 (Feb. 1995)". For planning purposes, the nation is divided into eight regions: 1) North-Western; 2) North-Eastern; 3) Red River Delta (where Hanoi is located); 4) Central-North; 5) Central Coast; 6) Tay Nguyen; 7) South-Eastern (where Ho Chi Minh is located); and 8) Cuu Long River Delta Regions. These are illustrated in Figure 2.2.1.

This plan anticipates that the comparative economic advantage of the South-Eastern Region will persist until the year 2000; however, the Red Rive Delta will start catching up with the South-Eastern Region thereafter. This is indicated in Table 2.2.3, which shows that the GDP growth rate of Red River Delta Region is smaller than that of South-Eastern Region until 2000, but is larger after 2000.

Table 2.2.3 Long-term Economic Growth Projection by Region

Region	GDP Distribution (%)			Average Growth Rate (% p.a.)	
	1994	2000	2010	1994-2000	2000-2010
Whole Country	100.0	100.0	100.0	10.95	12.5
1) North-western	9.4	8.4	7.4	8.85	11.2
2) North-eastern	2.2	2.0	1.6	8.5	10.6
3) Red River Delta	17.9	18.8	21.9	11.8	14.3
4) Central-North	8.2	6.7	6.9	7.2	11.3
5) Central Coast	7.0	6.5	6.0	9.8	13.1
6) Tay Nguyen	2.1	1.7	1.2	6.9	9.2
7) South-eastern	32.0	37.2	40.3	13.8	13.5
8) Cuu Long River Delta	21.2	18.7	14.7	8.7	9.8

Source: "Development Orientation for Regional Master Plan in 2010", Institute of Development Strategy, SPC, 1995



Figure 2.2.1 Division for Regional Planning in Vietnam

This accelerated growth in the Red River Delta is a basic policy for the long term economic development of Vietnam, in order to counter-balance the development of China and other regions. This highly populated area is endowed with potential economic development factors such as: a highly educated people; the availability of a large skilled work force; and international gateways. Rapid urbanization and industrialization will make the best use of these advantages, facilitating hi-tech industries, international and domestic trade, tourism, health-care and training functions.

Within this framework, three strategic economic growth areas have been accorded particular importance to boost the national economy, namely: 1) Hanoi-Hai Phong-Quang Ninh Area (the "Northern Triangle"); 2) Da Nang-Dung Quat Area (the "Middle Corridor"); and 3) Ho Chi Minh-Bien Hoa-Vung Tau Area (the "Southern Triangle"). The general development strategies in these three areas are summarized in Table 2.2.4. For development in the Hanoi-Hai Phong-Quang Ninh Area, a clear structure is depicted, with east-west linkages between Hanoi and Hai Phong/Ha Long using national highways No. 5 and No. 18 and a railway. The two sea ports of Hai Phong and Cai Lan and Noi Bai Airport are incorporated into this structure.

2) Red River Delta Master Plan 2010 (RRDMP)

Based on this national framework, the Department of Provincial and Regional Economy of SPC recently drew up a long-term master plan for Red River Delta Region, up to the year 2010²¹. The planning area encompasses the 10 provinces of: Hanoi, Hai Phong, Hai Hung, Thai Binh, Nam Ha, Ninh Binh, Ha Tay, Vinh Phu, Ha Bac, and Quang Ninh, with a total area of 27,846 sq.km and a population of 19,152 thousand in 1994. The RRDMP specifies the general guidelines for socioeconomic development policies/strategies, and a spatial framework structure including priority transport projects. In this master plan, Noi Bai International Airport is accorded a vital transport function to boost the regional economy, in association with the seaports in Hai Phong and Cai Lan.

²¹ This master plan is to be approved by the end of 1995, then, it will be implemented upon being reviewed by respective ministries, relevant agencies and people's committees.

Table 2.2.4 Development Strategies for Three Economic Growth Area

	(1) Hanoi-Hai Phong-Quang Ninh	(2) Danang-Dung Quat	(3) HCMC-Bien Hoa-Vung Tau																																				
Major Cities	<ul style="list-style-type: none"> Hanoi; Noi Bai; Hai Phong; Ha Long 	<ul style="list-style-type: none"> Da Nang; Van Tuong 	<ul style="list-style-type: none"> HCMC; Bien Hoa; Vung Tau 																																				
Major Transport Links	<ul style="list-style-type: none"> Highways No. 5 & No. 18 Railway: Hanoi-Hai Phong.; Hanoi-Kep-Ha Long 	<ul style="list-style-type: none"> Highway No. 1 Railway: South-North Trans Vietnam 	<ul style="list-style-type: none"> Highway No. 51 Waterway: Sai Gon 																																				
Gateways	<ul style="list-style-type: none"> Port: Hai Phong; Cai Lan Port Airport: Noi Bai; Cat Bi; Bieu Nghai 	<ul style="list-style-type: none"> Port: Lien Chieu; Tien Sa; Dung Quat Airport: Da Nang; Chu Lao 	<ul style="list-style-type: none"> Port: Sai Gon; Vung Tau Airport: Tan Son Nhat; Vung Tau 																																				
Development Strategies	<ul style="list-style-type: none"> Build new highways No. 5 & No. 18, concurrently with construction of Cai Lan & Hai Phong Ports Develop industrial zones and EPZs for key industries such as: electric & electronic products; machinery, construction materials; energy; ship building; metal products; and high-quality consumable goods. Develop tourism, commercial, banking and financial, training, and cultural centers in major cities to meet international standards. 	<ul style="list-style-type: none"> Develop new highways: 1) Danang-Van Tuong; 2) Lien Chieu-Dung Quat Port. Build an oil refinery and Dung Quat Industrial Zone and EPZs for: chemical industries; construction materials; metal products; consumable goods; aquatic and agro-processing. Develop deep sea ports to function as major harbors in South-east Asian region. Develop tourism, commercial, banking & financial, training centers to serve the central regions. 	<ul style="list-style-type: none"> Build highway from HCMC to Vung Tau. Develop the largest industrial complex, including hi-tech industrial zones, EPZs for: electric & electronic products; oil & gas industries; maritime industries; and high quality consumable goods. Develop national and international centers for tourism, entertainment and banking & finance. 																																				
Percentage Contribution to the National Economy (%)	<table border="1"> <thead> <tr> <th></th> <th>GDP</th> <th>Industry & Services</th> </tr> </thead> <tbody> <tr> <td>1994:</td> <td>13%</td> <td>16.5%</td> </tr> <tr> <td>2000:</td> <td>14%</td> <td>17.5%</td> </tr> <tr> <td>2010:</td> <td>16%</td> <td>18.0%</td> </tr> </tbody> </table>		GDP	Industry & Services	1994:	13%	16.5%	2000:	14%	17.5%	2010:	16%	18.0%	<table border="1"> <thead> <tr> <th></th> <th>GDP</th> <th>Industry & Services</th> </tr> </thead> <tbody> <tr> <td>1994:</td> <td>1.8%</td> <td>2.1%</td> </tr> <tr> <td>2000:</td> <td>3.0%</td> <td>4.0%</td> </tr> <tr> <td>2010:</td> <td>4.0%</td> <td>4.5%</td> </tr> </tbody> </table>		GDP	Industry & Services	1994:	1.8%	2.1%	2000:	3.0%	4.0%	2010:	4.0%	4.5%	<table border="1"> <thead> <tr> <th></th> <th>GDP</th> <th>Industry & Services</th> </tr> </thead> <tbody> <tr> <td>1994:</td> <td>28%</td> <td>37%</td> </tr> <tr> <td>2000:</td> <td>34%</td> <td>42%</td> </tr> <tr> <td>2010:</td> <td>38%</td> <td>44%</td> </tr> </tbody> </table>		GDP	Industry & Services	1994:	28%	37%	2000:	34%	42%	2010:	38%	44%
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Source: "Development Orientation for Regional Master Plan in 2010", Institute of Development Strategy, SPC, 1995

Some of the noteworthy planning concepts and projections of economic development which appear in the RRDMP are:

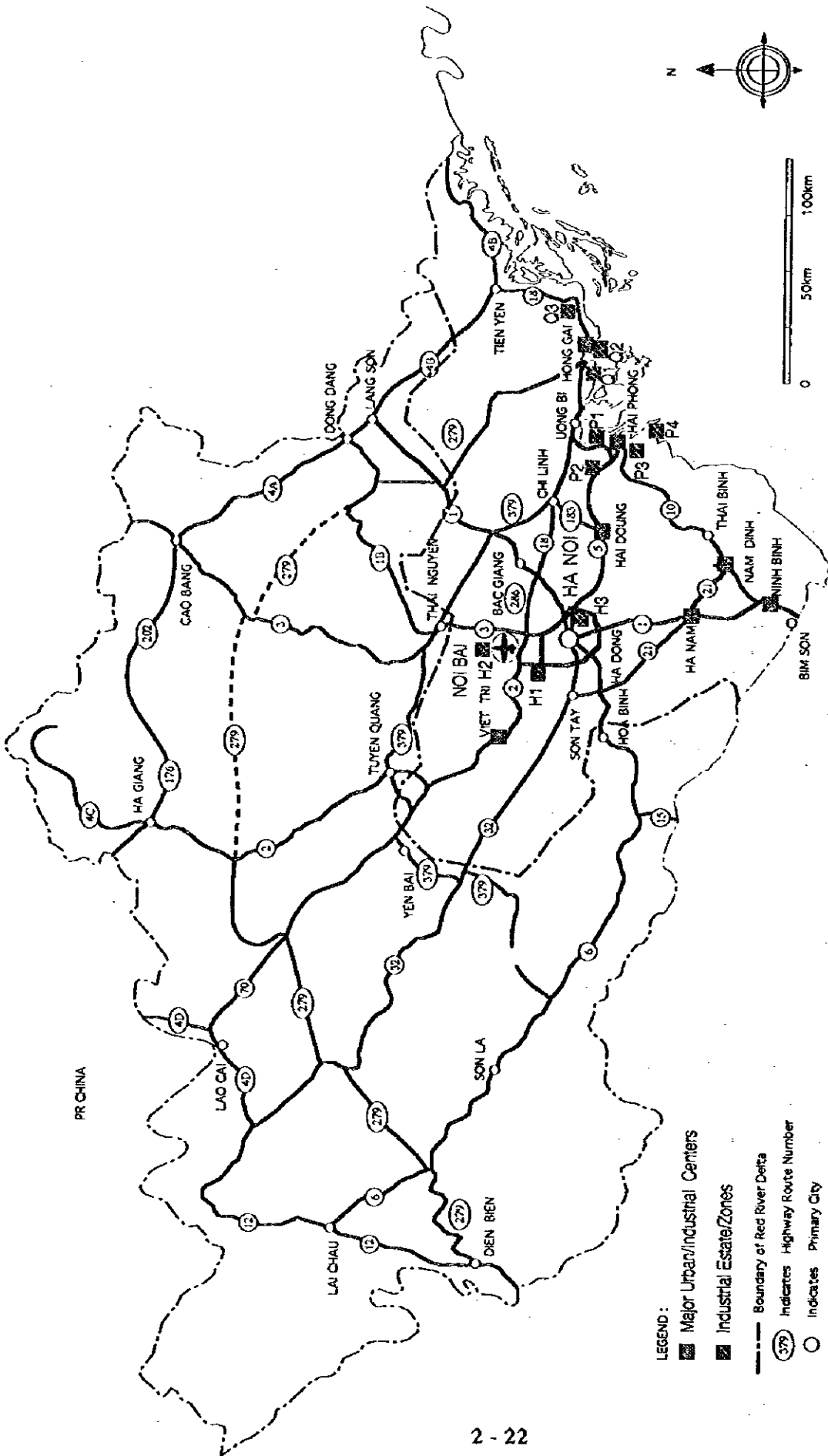
- a) More accelerated economic growth is for the Red River Delta. This will be achieved by the exploitation of mineral resources and the promotion of manufacturing industries, tourism development and urban services through foreign investments. Table 2.2.5 summarizes the socio-economic framework for the Red River Delta.

Table 2.2.5 Long-term Socioeconomic Framework for Red River Delta

Item	Unit	1990	1993	2000	2010
Population	000	17,968	19,152	21,525	24,172
Population Growth	% p.a.	-	2.1	1.8	1.4
GDP (at 1989 prices)	Billion VND	6,942	8,745	19,650	66,420
- Agriculture	(%)	37.4	34.8	20.5	9.0
- Industry and Construction	(%)	20.5	21.8	28.5	36.0
- Services	(%)	42.1	43.4	51.0	55.0
GDP Growth Rate	% p.a.	-	8.0	11.0	13.0
- Agriculture	% p.a.	-	5.5	4.5	4.0
- Industry and Construction	% p.a.	-	10.2	14.5	15.5
- Services	% p.a.	-	9.1	13.0	14.0
GDP per capita on average	US\$	202	239	478	1,406
Rate to the whole country		0.89	0.91	1.10	1.30
GDP per capita in Urban Areas	US\$	557	661	1,261	3,281
GDP per capita in Rural Areas	US\$	133	152	257	602
*GDP Growth Rate in the Whole Country	% p.a.	-	7.6	9.6	11.2

Source: "Main Direction on Socioeconomic Development Master Plan in Red River Delta, 1994-2010", SPC (Nov. 1994)

- b) A number of urban centers are identified as sub-regional growth centers endowed with potential for industrial, commercial and tourism development in the Red River Delta Region, all of which need to be integrated into the entire regional economy with an adequate road transport network, as illustrated in Figure 2.2.2.
- c) To encourage foreign direct investment in the industrial sector, a number of new industrial zones, including EPZs, have been planned for the region as shown in Table 2.2.6. Their locations are identified in Figure 2.2.2.



Source: Modified by the Study Team based on "Main Direction on Socioeconomic Development Master Plan in Red River Delta: 1994-2010", (SPC, Nov. 1994)

Figure 2.2.2 Proposed Regional Structure in 2010 for Red River Delta Region in the Northern Part of Vietnam

Table 2.2.6 New Industrial Zones to be developed by 2010

Province	Industrial Zones	Major Types of Industries	Notes
Hanoi	H1: South Thang Long*	Electric and electronic appliances; High-quality construction materials; Optical products;	300ha
	H2: Soc Son Industrial Zone (EPZ)*	Electric and electronic appliances/parts; Computer-related industries; Optical products; Precision machinery; Toys	300-450ha
	H3: Sai Dong - Gia Lam*	Electric products/appliances; Packaging industries; Machinery/part; Food processing; Beverages	600ha
Hai Phong	P1: Minh Duc	Ship repairing; Construction materials	2,000ha on-going
	P2: Thuong Li - Quan Toan*	Ship repairing; Construction materials; Food processing	
	P3: Doan Xa	Food processing; Enamel wares; Chemical products; Glass works; Construction materials	800ha
	P4: Doson (EPZ)*	Electric and Electronic products; Optical equipment; Precision Machinery; Toys	
Quang Ninh	Q1: Cai Lan - Hoanh Bo (EPZ)*	Electric appliances; Machinery; equipment and parts; Food and aquatic processing; Tourism services	300ha
	Q2: Hon Gai - Bai Chay	Coal; Machinery; Construction materials; Garment; food processing; Printing	
	Q3: Cam Pha - Dong Huy	Coal; Engineering; Construction materials; Garment; Printing; Food processing	

Notes: 1) * attached to the name of industrial zones stands for projects given "high priority".
2) Locations can be referred to Figure 4.2**.

Source: "Main Direction on Socioeconomic Development Master Plan in Red River Delta, 1994-2010", SPC (Nov. 1994)

- d) Noi Bai International Airport is regarded as a key facility for the surrounding areas earmarked for industrial and tourism development. Air passenger traffic demands in Red River Delta over the long-term, in comparison with total traffic by all modes, have been projected in the master plan as shown in Table 2.2.6. A higher growth of air passengers than for all other traffic demands is forecasted. It will reach more than 15 million in 2010 with a 2.2% share of all traffic demands. Since Noi Bai Airport has about 80% of the total air traffic in the Red River Delta Region, about 12 million passengers would pass through Noi Bai Airport in 2010.

Table 2.2.6 Air Traffic Forecast in Red River Master Plan 2010

Year	Air Traffic Passengers in Red River Delta *	All Traffic Demands	Share of Air
1991	650,000	48,707,000	1.3%
2000	3,345,000	151,956,000	2.2%
2010	15,170,000	680,603,000	2.2%
G/R 1991-2000	20.0% p.a.	13.5% p.a.	-
G/R 2000-2010	16.3% p.a.	16.2% p.a.	-

Notes: * includes international and domestic passenger traffic

Source: Red River mater Plan 2010, SPC

3) Hanoi City Master Plan 2010 and Relevant Projects/Plans

Hanoi People's Committee has "Hanoi City Mater Plan 2010". A number of projects proposed in this master plan have been approved for the implementation and are on-going, however, some will be verified or reconsidered, depending upon another large-scale projects such as Noi Bai International Airport. The most vital compornents in the master plan are the road transport network and new land development to meet urbanization and industrialization. The main initiatives in this regard are:

- a) A new urban structure, as conceptually illustrated in Figure 2.2.3, will be formulated, with the Hanoi Ring Road and several national trunk highways connecting the other regions such as: Highways No. 1, No. 3, No. 5, No. 6, No. 18 and No. 32. Of particular importance is the Hanoi Ring Road which will integrate new urban development in the outskirts with the central urban area and, more importantly, will contribute greatly to upgrading the level of airport access from the center of Hanoi City.
- b) Urban areas will be expanded mainly in areas outside the Hanoi Ring Road along the national trunk road. For orderly infrastructure preparation, a new town concept will be applied with environmental preservation policies, rather than allowing an urban sprawl. The Dong Anh, Soc Son and Tu Lien districts will be focal areas for new town developments.
- c) New industrial development will be encouraged primarily areas on the northern banks of the Red River, namely the Gia Lam, Dong Anh, Soc Son districts. Tourism development projects have also been planned for these areas.

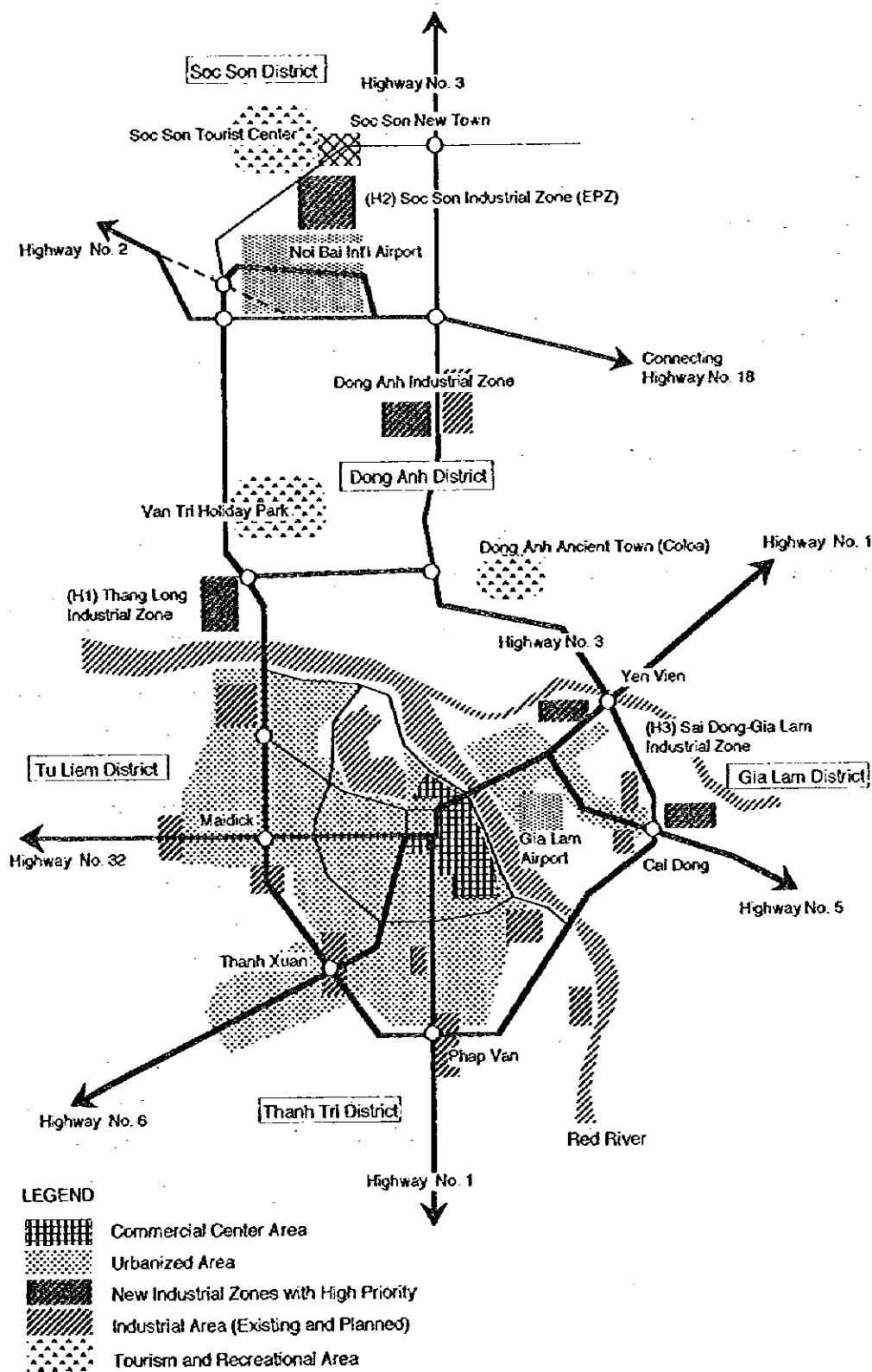


Figure 2.2.3 New Urban Structure Planned in Hanoi City Master Plan 2010

4) Development in the Soc Son District

The new development of Noi Bai International Airport will have a significant impacts on the Soc Son District. This is a rural community with a 220,000 population (as of end 1994) and a 2.2% p.a. population growth rate. Most of the people are engaged in agricultural activities. Using the opportunity of this airport project, the Soc Son District authorities are planning a shift from the present predominantly agriculture economy. This will involve creating industrial and tourism centers, while still maintaining a significant agricultural presence.

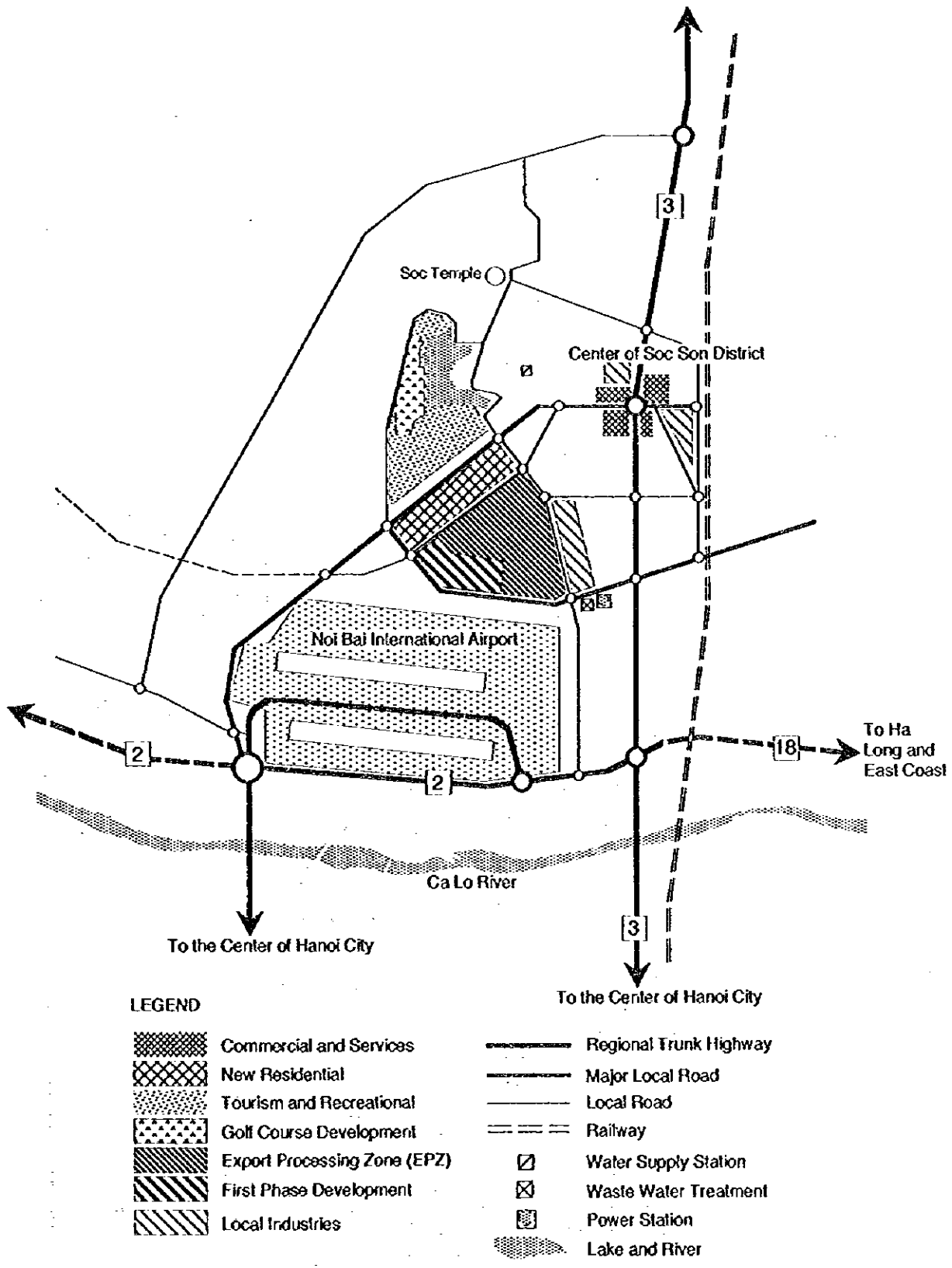
There are a few current and planned large-scale projects, adjacent to the airport, which will benefit significantly from the new development of the airport. These are an industrial estate, a new town and a tourism center. In connection with these, the Soc Son District People's Committee has prepared a master plan in Noi Bai Area, as illustrated on Figure 2.2.4.

However, because of its geographical conditions, Soc Son District is facing a shortage of domestic water and the lack of an adequate drainage system and local roads. Moreover, with the new development of Noi Bai Airport, Soc Son District itself may have to assume part of responsibility for relocation of families from the project area to a new land area with adequate infrastructure. This would also involve tough negotiations with the affected families. Since it is always difficult to reach a successful consensus on compensation, a careful resettlement scheme for these families needs to be prepared in association with the Government²². These potential problems should be resolved concurrently with the Project.

5) Relevant Projects/Plans to Noi Bai Airport

The existence of an enlarged international gateway, Noi Bai International Airport, will greatly influence the future urbanization processes in terms of land-use and the locations of urban economic activities in the northern part of Hanoi City. Undoubtedly, the Soc Son and Dong Anh districts will be focal areas for new urbanization towards the next century.

²² It should be noted here that the entire relocation costs including the compensation for families to be moved need to be born by the Government of Vietnam in principle, even if OECF agrees to provide the financial support for the new development of Noi Bai International Airport to be expanded in the south side area of the existing access road.



Source: Soc Son People's Committee (modified by the Study Team)

Figure 2.2.4 Soc Son District Master Plan

Gia Lam district is another potential area for forthcoming industrialization due to its strategic location: the crossing point of National Highways No. 1, No. 5 and No. 18, all of which help to integrate industrial economies in the north-western part of Vietnam. With the improvement and upgrading of National Road No. 3 and the Hanoi Ring Road, Gia Lam will become more directly influenced by activities of Noi Bai International Airport.

Table 2.2.7 shows a summary of major ongoing and planned projects which should be taken into account during the new development of Noi Bai Airport. These are most likely to benefit from and/or be influenced by the Project.

Table 2.2.7 Major Projects/Plans Closely Related to New Development of Noi Bai Airport

Sector	Project	Descriptions	Target Year	Remarks
Roads	Nat'l Road No. 2	<ul style="list-style-type: none"> o Connecting with Noi Bai and North-western provinces o Up-grading to highway with Grade-3 to Viet Tri Province (15 Km) o Needs realignment depending upon the development of the southern airport 	2000	VRA
	Nat'l Road No. 3	<ul style="list-style-type: none"> o Connecting with Hanoi and Thai Nguyen (68 km) o Up-grading to highway with Grade-3 and 4 lanes o Part of the Hanoi Ring Road between Gia Lam and Dong Anh o Functioning as alternative access to the Noi Bai Airport to/from Hanoi City 	2000 and after 2000	VRA
	Nat'l Road No. 18	<ul style="list-style-type: none"> o Major trunk connecting with Hanoi and Ha Long City (118 km long) and reaching the border of China o Up-grading to highway with Grade-3 with links connecting National Highway No. 5 o Expected as "Industrial Corridor" alongside 	2000	PMU-18 and VRA
	New Expressway of National Route 18	<ul style="list-style-type: none"> o Strengthen the east-west linkage between Hanoi and Cam Pha (Quang Ninh Province) o Planned as a tollway with a high design standard o Expecting industrial zones development alongside together with existing National Road No. 18 	2010	MOT and PMU-18
	Provincial Road No. 286	<ul style="list-style-type: none"> o Connecting the Noi Bai Airport directly with National Road No. 18 and/or New Express No. 18 o Expected to be upgraded as part of National Road No. 18. 		VRA
	Noi Bai-Thai Long Highway	<ul style="list-style-type: none"> o Existing airport access with 4 lanes, connecting directly to Hanoi Ring Road o Needs to be further upgraded, depending upon future traffic, with 6 lanes 		HPC

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Sector	Project	Descriptions	Target Year	Remarks
	Hanoi Ring Road	<ul style="list-style-type: none"> o Presently completed up to Maidick (crossing with National Road No. 32), and awaiting further construction of the rest of sections, to make the airport access functional. o Two alternative routes between Maidick and Phap Van (crossing National Road No. 1) under discussion: <ul style="list-style-type: none"> - Alt-1: Outer Ring (55 km in total); - Alt-2: Inner Ring (51 km in total) o Third Red River Bridge (in southern part) to connect Gia Lam o In preliminary design with 6 lanes plus 2 lanes for non-automobiles in outskirts, and elevated 4 lanes in built-up areas 	2000 and 2010	HPC
Railway	Noi Bai Access Transit	<ul style="list-style-type: none"> o Just a project idea launched by TESI o Depends upon the further traffic demands 	-	MOT
Industry	Soc Son Industrial Estate (Export Processing Zone: EPZ)	<ul style="list-style-type: none"> o Has been approved by the Government as a JV project with Malaysian investor. o Hi-tech industrial park with a total of 450 ha. adjacent to the international airport function. o Area with 100ha, being designed as the first phase, for which the compensation for land acquisition is under process. o Expected to generate a great number of job opportunities for local people 	up to 2000	MOSTE, MOLI, SCCI, HPC
	Thang Long Industrial Estate Development	<ul style="list-style-type: none"> o Planned as one of priority industrial estate projects with a total of 350ha, located nearby the Thang Long Bridge, in-between Noi Bai Airport (15 km) and Hanoi (15 km). o Being studied for its feasibility by JICA 	up to 2000	MOSTE, MOLI, SCCI, HPC
	Dong Anh Industrial Estate Development	<ul style="list-style-type: none"> o Two projects are being planned: 1) Extension (additional 150ha) of the existing Dong Anh Estate; and 2) New development of "Dong Anh II" with 350ha. o Located along National Road No. 3. access road to Noi Bai Airport. o The existing Dong Anh industrial area with automobile, motorbike and bicycle parts and electrical equipment industries. 	up to 2000	MOSTE, MOLI, SCCI, HPC
Tourism	Tourist Center in Soc Son District	<ul style="list-style-type: none"> o Has been approved by the Government as a HPC's project for "Week-end & Holiday Village" located nearby the Noi Bai Airport. o A total of 500ha, of which 200ha has been prepared and ready to invite foreign investors; and 300ha will be approved by HPC o Planned to develop a complex with hotels, recreational facilities in association with natural and historical assets such as pine forest, lake and Thanh Giong Temple. 	2000 and after 2000	HPC, SCCI, Soc Son Dist.

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Sector	Project	Descriptions	Target Year	Remarks
	Golf Course Project in Soc Son District	<ul style="list-style-type: none"> o Has been approved as a JV project with Malaysian investor, for a golf course with 100ha, adjacent to "Week-end & Holiday Village", nearby Noi Bai Airport o Compensation of the land has been completed. 	up to 2000	HPC, SCCI, Soc Son Dist.
	Dong Anh Ancient Town (Cola Fortification)	<ul style="list-style-type: none"> o One of 5 tourist area development projects planned by HPC. o Valuable historical heritage in Vietnam, and to be improved as a tourist destination, located in-between Noi Bai Airport and Hanoi City, along National Road No. 3 	up to 2000	HPC
	Van Tri Holiday Park	<ul style="list-style-type: none"> o One of 5 tourist area development projects planned by HPC. o Planned to be a holiday complex with sports and entertainment facilities in natural atmosphere, located between Noi Bai Airport and Hanoi City, along Than Long Express. 	2010	HPC
New Town	Dong Anh New City	<ul style="list-style-type: none"> o Just a project idea proposed by some of urban planners working for HPC, taking into account expanding urbanization in Hanoi City o One of potential sites for new town development, including industrial, commercial, residential, tourism and urban services functions o Comparative location advantage is given by its transport infrastructure with national roads and railway. 	-	HPC
	Soc Son New City	<ul style="list-style-type: none"> o Proposed in the Master Plan of Noi Bai Airport for a new residential area for people to be relocated from the new development site of Noi Bai Airport o May become another urban core for Soc Son industrial and tourism development o Should a full-scale Soc Son industrial estate development with 450ha be completed, approximately 50,000-60,000 jobs will be created. Therefore, a new town with a population of 250,000-300,000 will be possible, including all the employees' families. 	-	Project idea

Notes: MOT: Ministry of Transportation; PMU: Project Management Unit; MOSTE: Ministry of Science, Technology and Environment; MOLI: Ministry of Light Industries; SCCI: State Committee of Cooperation and Investment; VRA: Vietnam Road Administration; HPC: Hanoi People's Committee;

Source: The Study Team, based on hearings with relevant agencies.