No.

JAPAN INTERNATIONAL COOPERATION AGENCY
HOA LAC HIGH-TECH PARK MANAGEMENT BOARD

THE STUDY FOR UPDATE OF HOA LAC HIGH-TECH PARK MASTER PLAN IN THE SOCIALIST REPUBLIC OF VIETNAM

FINAL REPORT
SUPPORTING REPORT, VOLUME II
APPENDIXES

November 2007

NIPPON KOEI CO., LTD.

PACIFIC CONSULTANTS INTERNATIONAL

ALMEC CORPORATION

SD
JR
07-83

TABLE OF CONTENTS
Final Report
Supporting Report, Volume II

Appendixes

SECTION C: ENVIRONMENTAL AND SOCIAL CONSIDERATION

SECTION D: CONSTRUCTION MANAGEMENT FOR HHTP

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

AAGR	Average Annual Growth Rate
AGR	Annual Growth Rate
BOT	Build Operation Transfer
DONRE	Department of Natural Resources and Environment
EIA	Environmental Impact Assessment
EN	Exchange of Notes
EU	European Union
EVN	Electricity of Vietnam
FDI	Foreign Direct Investment
FPT	Financing and Promoting Technology Corporation
FS	Feasibility Study
GDP	Gross Domestic Product
GOV	Government of Vietnam
HAIDEP	The Comprehensive Urban Development Programme in Hanoi Capital City
HBI	Hoa Lac Business Incubator
HHTP	Hoa Lac High-Tech Park
HHTP-MB	Hoa Lac High-Tech Park Management Board
HRD	Human Resources Development
IEE	Initial Environmental Evaluation
IUCN	International Union for Conservation of Nature and Natural Resources
INST	Institute for Nuclear Science and Technology
JBIC	Japan Bank for International Cooperation
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
L/A	Loan Agreement
LACB	Land Acquisition and Compensation Board
LARAP	Land Acquisition and Resettlement Action Plan
LURC	Land Use Rights Certificate
MARD	Ministry of Agriculture and Rural Development
MOC	Ministry of Construction
MOF	Ministry of Finance
MOI	Ministry of Industry
MONRE	Ministry of Natural Resources and Environment
MPT	Ministry of Post and Telecommunication
MOST	Ministry of Science and Technology

MOSTE	Ministry of Science, Technology and Environment
MOT	Ministry of Trade
MOU	Memorandum of Understanding
MP	Master Plan
MPI	Ministry of Planning and Investment
NCST	National Center for Science and Technology
NGO	Non-governmental Organization
NIHE	National Institute of Hygiene and Epidemiology
NISTPASS	National Institute for Science and Technology Policy and Strategy Studies
NH	National Highway
OECD	Organization for Economic Cooperation and Development
RAP	Resettlement Action Plan
R&D	Research & Development
SAPROF	Special Assistance for Project Formation
SEA	Strategic Environmental Assessment
TCVN	Tieu Chuan Vietnam
TOR	Terms of Reference
UNESCO	United Nations Educational, Scientific and Cultural Organization
VINASHIN	Vietnam Shipbuilding Industry Corporation
VINACONEX	Vietnam Construction and Import Export Corporation
VITEC	Vietnam Information Technology Examination & Training Support Center
VMI	Vietnam Metrology Institute
VND	Vietnamese Dong
VNRD	Vietnam's National Reserve Department
WTO	World Trade Organization

SECTION A

ECONOMIC OR SOCIAL CONDTION RELATED TO HHTP

1. ECONOMIC SITUATION OF VIETNAM

1.1 Change of GDP and its Structure

1.1.1 Economic Growth in General

GDP of Vietnam reached at 837,858 billion VND or US$ 51.6 billion in 2005. As the same was US$ 20.7 billion in 1995 and US$31.1 billion in 2000, it has grown constantly with an Average Annual Growth Rate (AAGR) of 7.6%, which is ranked at 4th in the world in the record of past 15 years after China, Myanmar and Cambodia. However, the ranking of GDP of Vietnam has been maintained at 59th in the world since 1995 to date. This means that the GDP of other countries ranked more than 59th have also expanded their GDP sharply as Vietnam has experienced over this period of time.

The economy maintained a rapid rate of growth in 2006, supported by robust exports, rising consumption spending, and strong investment. Inflation also stayed high. Membership of the World Trade Organization (WTO) from January 2007 has added impetus to development and market-oriented reforms, provided that the structure reform will progress further.

The total population of Vietnam reached at 83.5 million in 2005, thus, the GDP per capita in 2005 is estimated at US$ 614. It was US$ 288 in 1995. This means that in 10 years the GDP per capita has increased to more than twice as much. The ranking of GDP per capita of Vietnam was 155th in the world in 1995 and it has rose to 142nd after 10 years as well.

Figure 1.1-1 illustrates the change of output or GDP in total and by economic sector in the period of 1995 - 2005.

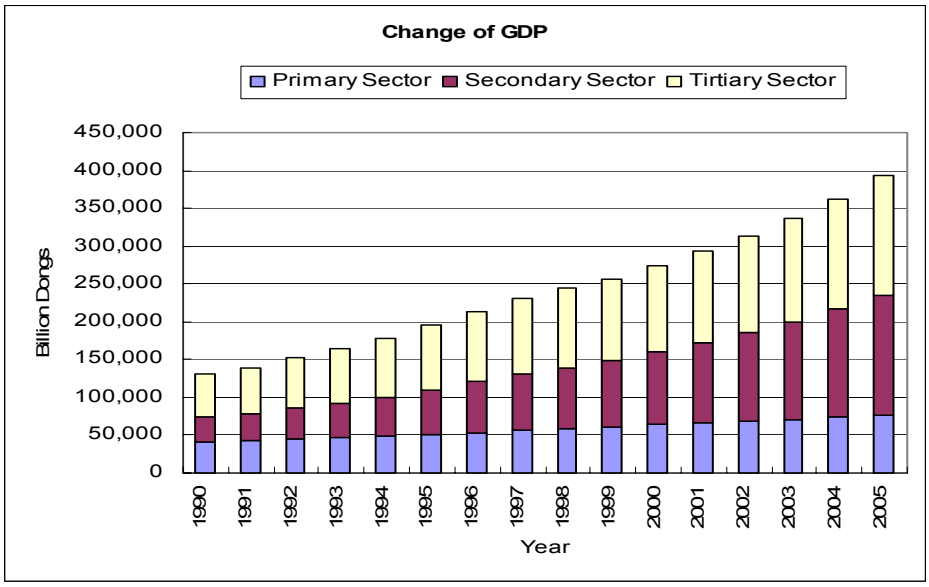


Figure 1.1-1 Changes of GDP in Total and by Economic Sector

As illustrated in Figure.1.1-1, the secondary sector's growth is larger than that of both tertiary sector and primary sector which have been marginal. The secondary sector's

output in 2005 was 343,807 billion VND or US$ 21.1 billion which accounted for around 42% of GDP in total.

This implies clearly that the secondary sector's (or in other word, industrial and manufacturing sector) growth is a major factor of pushing up Vietnam's GDP at a remarkable pace which is ranked 4th in the world. However, the top two countries are quite small country in terms of population and emerged suddenly. The third ranked country is China. Thus, Vietnam's GDP growth rate is ranked substantially 2nd in the world following China.

1.1.2 Economic Growth by Economic Sector

The AAGR of economic sector differs respectively in each period of time. Table 1.1-1 presents the AAGR of different period of time by each economic sector and manufacturing sub-sector of secondary sector.

Table 1.1-1 AAGR of Output by Different Period of Time (%)

Period	Time Span	Total	Primary	Secondary	Tertiary	Manufacturing
1990～95	5-years	8.19	4.10	12.02	8.60	11.97
1996～00	5-years	6.96	4.42	10.63	5.72	11.26
2001～05	5-years	7.51	3.84	**10.24**	6.97	**11.70**
1990～05	15-years	8.09	4.41	11.75	7.60	11.62

Source: JICA Study Team by compilation of data from General Statistics Office
Note: AAGR means Average Annual Growth Rate

As this table shows that the growth rate of each sector has been quite stable although the same of the primary sector is in a trend of decline. As an AAGR of manufacturing sector in 2001-05 is computed at 11.70% it clearly shows that the manufacturing sector is a leading factor to realize a relatively high growth rate of GDP of Vietnam at the rate 7.51% as a whole. A slight decline of the average annual growth of manufacturing sector in the period of 1996～2000 might be attributed by the adverse effect of Asian financial crisis. It can be said that the pace of growth has been back to the first rapid growth period of 1990～1995 since 2000 after the shock of Asian financial crisis.

The annual growth rate (AGR) of GDP in 2004, 2005 and 2006 were 7.8%, 8.4% and 8.7%, respectively. This implies the growth of economy has been accelerating further to the future.

Figure 1.1-2 illustrates the change of output of secondary sector in total and by each sub-sector composing the secondary sector such as manufacturing, mining and quarry, power and gas, and construction in the period of 1990 - 2005.

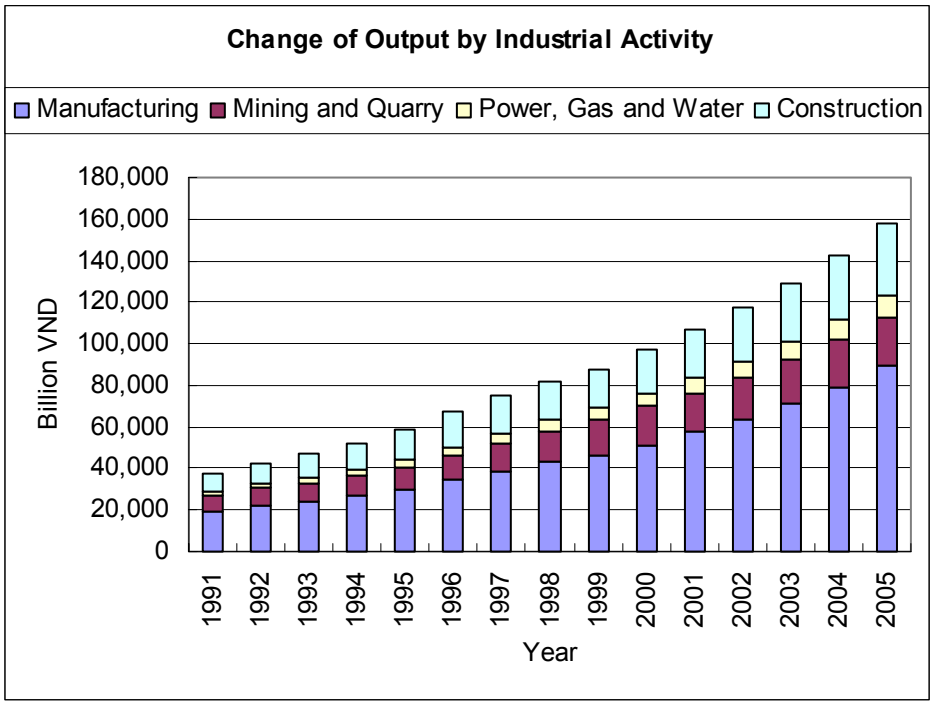


Figure 1.1-2 Changes of Output by Economic Activity of Secondary Sector

As illustrated in the above table, the growth of industrial / manufacturing sector is the largest among other sub-sectors. The AAGR of manufacturing sector in the period 2001 – 2005 was 11.7%, which is quite remarkable in comparison with the same indicator in the other countries in the world.

1.1.3 Share of Output by Economic Sector in Total GDP

The GDP of 2005 in total was 837,858 billion VND composed of primary sector at 145,048 billion VND (20.9%), secondary sector at 343,807 billion VND (41.0%) and tertiary sector at 319,003 billion VND (38.0%). The output of manufacturing sector was 173,463 billion VND or **10.7** billion US$ and accounted for around 20.7% of the total GDP. The change of the share of each sector shows which sector has grown most. The change of share by each economic sector is presented by sector and by period of time in Table 1.1-2.

Table 1.1-2 AAGR of Changes of Share by Sector in Total GDP (%)

Period	Time Span	Primary	Secondary	Tertiary	Manufacturing
1990～95	5-years	-3.56	4.24	0.01	2.94
1996～00	5-years	-2.39	3.37	-1.12	3.97
2001～05	5-years	-3.41	2.55	-0.50	3.90
1990～05	15-years	-3.09	3.33	-0.58	3.65

Source: JICA Study Team by compilation of data from General Statistics Office

As this table shows that the share of the output of secondary sector alone has been expanding but the primary sector has been comparatively shrinking and tertiary sector has been stagnating. Or in other way, the expansion of share of the secondary sector is overwhelming the other sector's share. As the latest average annual rate of expansion of

manufacturing sector is larger than that of secondary sector in total, it implies that the manufacturing sector is clearly the leading force of expanded output not only of secondary sector but the whole economy of Vietnam.

1.2 Change of Export and its Structure

The total amount of export in 2005 reached at US$32.4 billion. As this year's GDP was 837 trillion VND which is equivalent to US$51.6 billion. The share of export value in the total GDP was 62.8%. Table 1.2-1 shows the changes of this share since 1995.

As this table shows that the export plays a vital role of expansion of GDP year after year. Figure 1.2-1 illustrates the historical changes of GDP and the share of export value in GDP.

Table 1.2-1 Changes of Share of Export in GDP

Calendar Year	Unit	1995	2000	2005
GDP (Current Price)	Billion VND	228,892	414,646	837,858
Exchange Rate	VND/US$	11,040	14,027	16,227
GDP (Current Price)	Billion US$	20.7	29.6	**51.6**
Export Value	Billion US$	5.4	14.5	**32.4**
Share of Export	%	26.0	48.9	62.8

Source: JICA Study Team by compilation of data from General Statistics Office

The engine which realizes a stable and relatively higher growth of GDP that is ranked 4th in the world is clearly shown in this figure, that is the export. Table 1.2-2 shows the AAGR of export value in different period of time.

Table 1.2-2 AAGR of Export Value (%)

Period	Time Span	Total Trade	Export	Import
1990～95	5-years	23.4	19.3	27.3
1996～00	5-years	17.9	22.1	15.0
2001～05	5-years	18.5	**17.9**	19.1
1990～05	15-years	19.9	19.8	20.5

Source: JICA Study Team by compilation of data from General Statistics Office

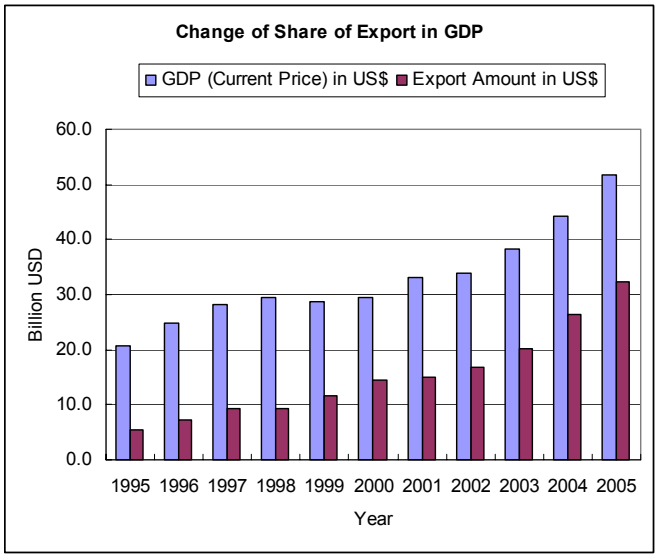


Figure 1.2-1 Changes of Share of Export in GDP

As shown in the above table, the AAGR of export in the past 10-years is 19.8% which is remarkable. However, the growth of import follows or overwhelmed the same of export since 2001. This might be attributed by two major reasons. One is an increase of imported raw material and component for growing re-export of manufactured products by assembling of imported component and the other one is an increase of imported consumer products attributed by an increased income of consumers especially in major urban areas. Figure 1.2-2 illustrates the sharp growing trend of export as well as import.

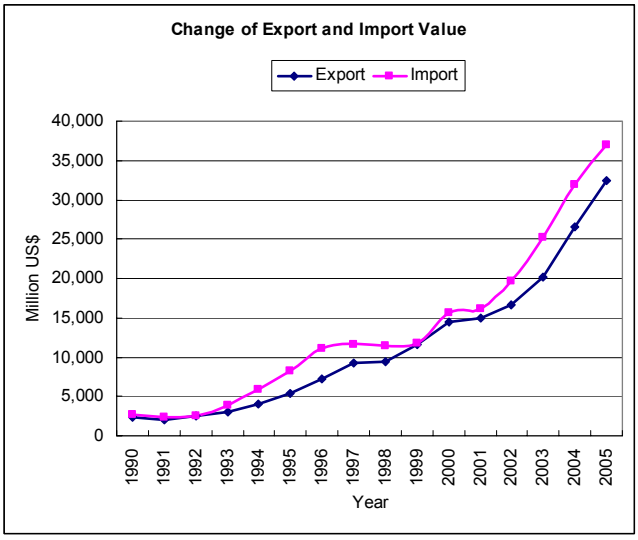


Figure 1.2-2 Changes of Export and Import by Value (1990 – 2005)

The AAGR of export in the period of 2001 – 2005 was 17.9%. Table 1.2-3 shows the composition and contents of export products group and their value by commodity group. As shown clearly in this table, the major force of pushing up export is an increased export value of manufactured / industrial products.

Table 1.2-3 Export Amount and Share by Commodity Group (Unit: Million US$)

Calendar Year	1995	2000	2005
Export Amount			
Total Export Amount	5,408	14,482	32,471
Heavy Industrial Products including mineral	1,337	5,382	10,965
Light Industrial Products and Handicrafts	1,550	4,903	13,074
Agriculture Products	1,746	2,563	5,523
Aquatic Products	621	1,478	2,739
Forest Products	154	156	170
Share by Commodity Group (%)			
Total Export Amount	100.0	100.0	100.0
Heavy Industrial Products including mineral	24.7	37.2	33.8
Light Industrial Products and Handicrafts	**28.7**	**33.8**	**40.3**
Agriculture Products	32.3	17.7	17.0
Aquatic Products	11.5	10.2	8.4
Forest Products	2.8	1.1	0.5

Source: JICA Study Team by compilation of data from General Statistics Office

Figure 1.2-3 illustrates the change of export value by commodity group from 1995 to 2005.

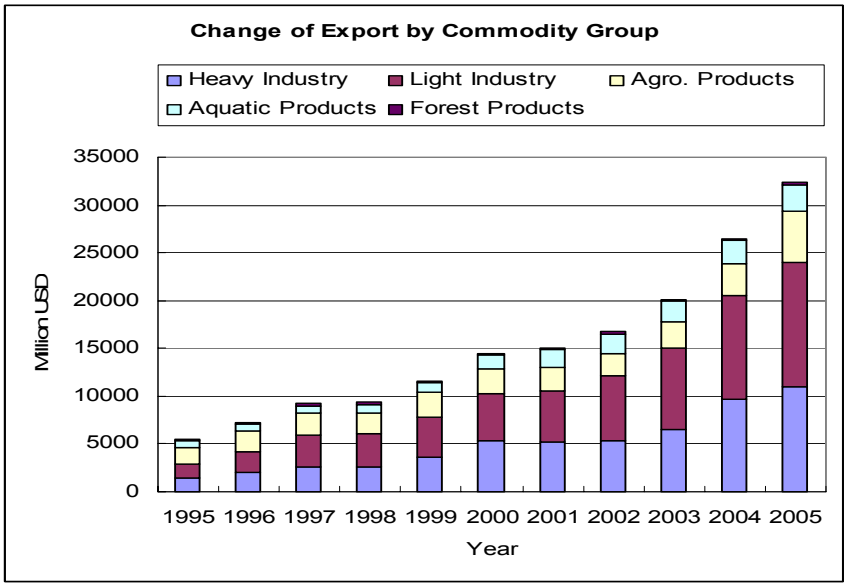


Figure 1.2-3 Changes of Export Value by Commodity Group

Table 1.2-4 presents the AAGR of export value by commodity group for different period of time.

Table 1.2-4 AAGR of Export Value by Commodity Group (%)

Period	Time Span	Heavy Industrial Products	Light Industrial Products	Agriculture Products	Aquatic Products	Forestry Products
1995～00	5-years	32.7	27.4	8.3	19.9	1.9
2001～05	5-years	16.6	**21.9**	19.0	13.2	-1.2
1995～05	10-years	24.6	24.6	13.6	16.6	0.3

Source: JICA Study Team by compilation of data from General Statistics Office
Note: Heavy industrial products group include the oil and gas as well as mining products.

As shown in the above table, the growth of export of light industrial products group which include the handicraft has increased remarkably at an AAGR of 21.9% in the period of 2001 – 2005, which was the highest among other group of products. This increasing trend of export of light industrial products seems to continue for coming years or it may be accelerated further because of ever strong inflow of foreign direct investment into Vietnam in general and into the light industrial sector in particular.

1.3 Change of Output of High-Tech Products

The products fall under the category of high-tech products is wide and its level of technology used or applied varies much. However, the group of commodity regarded or categorized as high tech products are fall under the category of light industry.

Table 1.3-1 shows the changes of output of manufactured goods and the goods fall under the category of high-tech products.

Table 1.3-1 Change of Output by Manufacturing Sector and High-Tech Sector

(Unit: Billion VND)

Calendar Year	1995	2000	2005
Manufactured Goods	63,260	158,098	353,951
High Tech Products	7,059	18,269	46,196
Share of High Tech Products in Total	8.5%	11.6%	**13.1%**

Source: JICA Study Team by compilation of data from General Statistics Office

The share of high-tech sector in the total manufactured goods in 2005 was 13.1%.

The average annual growth of products fall under the light industrial products in the past 10 years was 24.6%. The same of the high-tech products is analyzed and its result is shown in Table 1.3-2.

Table 1.3-2 AAGR of Manufactured Goods And High-Tech Products (%)

Period	Time Span	Manufactured Products	High-Tech Products
1995～00	5-years	13.7	21.1
2001～05	5-years	17.5	**20.4**
195～-05	10-years	15.6	20.8

Source: JICA Study Team by compilation of data from General Statistics Office

The estimated average annual growth of output of high-tech products in the period of 2001 – 2005 is 20.4%.

1.4 Change of Foreign Direct Investment and its Structure

As discussed in preceding paragraph, the export has driven economy of Vietnam substantially. Then it is clear that the major products of export leading such increase of GDP are the industrial products manufactured or assembled in Vietnam. However, those industrial products exported are mainly produced by the manufactures operating by foreign manufactures in a form of joint venture or direct operation.

Table 1.4-1 shows the changes of export value by sector in view of investment for the production facilities or ownership of enterprises.

Table 1.4-1 Changes of Export Value by Ownership (Million US$)

Calendar Year	1995	2000	2005
Total Export Value	5,448	14,482	32,442
Domestic Economic Sector	3,975	7,672	13,888
Foreign Direct Investment Sector	1,473	6,810	18,554
Share of FDI Sector in Total Export	**27%**	**47%**	**57%**

Source: JICA Study Team by compilation of data from General Statistics Office

As shown in the above table, the share of export amount by foreign direct invested sector has increased drastically from 1995 and it has exceeded over the export value of domestic sector in 2005. Table 1.4-2 shows the comparison of AAGR of export amount by ownership in the past 10 years.

Table 1.4-2 AAGR of Export Value by Ownership (%)

Period	Time Span	Domestic Sector	FDI Sector
1995～00	5-years	14.4	37.3
2001～05	5-years	12.7	**23.1**
1995～05	10-years	13.5	30.2

Source: JICA Study Team by compilation of data from General Statistics Office

The AAGR of export value by FDI sector in the period of 2001 – 2005 was 23.1%. Figure.1.4-1 illustrates the comparison of export value by ownership in the past 10 years.

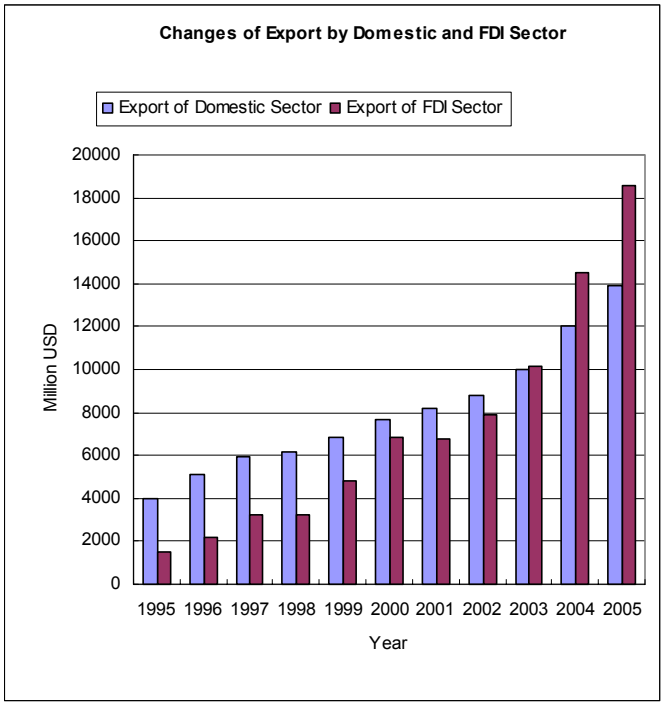


Figure 1.4-1 Changes of Export Amount by Ownership

As discussed in preceding section, the export of industrial sector has lead the growth of economy as a whole and it has been driven by the foreign invested sector in the industrial sector in general and in the light industrial sector in particular since most of

the foreign direct investments in the industrial sector have been directed to the light industrial sector in Vietnam. The share of high tech or quasi high tech industry in the light industrial sector has started to increase since the later part of 1990s in general and since 2000 in particular.

Then, it is likely that such drive of export or output of high tech industrial products has been driven by the foreign direct invested sector as well.

1.5 Foreign Direct Investment

1.5.1 Present Situation of FDI and its Record of Growth:

The foreign direct investment has been allowed and commenced from 1988 as one of the key Doi Muoi policy. The accumulated direct capital investment amount from foreign countries (FDI) has reached to around US$ 32 billion and the number of FDI reached to 2,852 in 2004 as shown in Table 1.5-1.

Table 1.5-1 Record of FDI since 1988

Year	Calendar Year	FDI Invested Amount	Nos.	AGR (Invested Amount)	AGR (Number of Project)	Capital	Acc. Nos.	Accumulated Invested Amount Accumulated	Authorized Capital Accumulated
		Million USD		%	%	Million USD		Million USD	
1	1988	288	38	-		321	38	288	321
2	1989	311	68	8.0	78.9	525	106	599	846
3	1990	407	108	30.9	58.8	735	214	1,006	1,581
4	1991	329	151	-19.2	39.8	1,292	365	1,335	2,873
5	1992	575	197	74.8	30.5	2,208	562	1,910	5,081
6	1993	1,017	274	76.9	39.1	3,347	836	2,927	8,428
7	1994	2,040	367	100.6	33.9	4,535	1,203	4,967	12,963
8	1995	2,556	408	25.3	11.2	7,697	1,611	7,523	20,660
9	1996	2,714	387	6.2	-5.1	9,735	1,998	10,237	30,395
10	1997	3,115	358	14.8	-7.5	6,055	2,356	13,352	36,450
11	1998	2,367	285	-24.0	-20.4	4,877	2,641	15,719	41,327
12	1999	2,334	311	-1.4	9.1	2,264	2,952	18,053	43,591
13	2000	2,413	389	3.4	25.1	2,695	3,341	20,466	46,286
14	2001	2,450	550	1.5	41.4	3,230	3,891	22,916	49,516
15	2002	2,591	802	5.8	45.8	2,963	4,693	25,507	52,479
16	2003	2,650	748	2.3	-6.7	3,145	5,441	28,157	55,624
17	2004	2,852	723	7.6	-3.3	4,222	6,164	31,009	59,846

Source: JICA Study Team by compilation of data from General Statistics Office

The AAGR of FDI in different time span is as tabulated in Table 1.5-2.

Table 1.5-2 AAGR of FDI (%)

Period of Time	Amount	Number
1988～2004	19.6	23.2
1988～1995	42.5	41.7
1996～2000	-0.2	0.2
2001～2004	4.3	19.3

Source: JICA Study Team by compilation of data from General Statistics Office

As shown in the above table, the FDI has been stagnated in the period of 1996 – 2000. This is due to an adverse effect of Asian financial crisis. However, the flow of FDI has restarted again since 2001 to date with somewhat accelerated figures year after year. The size of FDI per one investment has been in trend of decline. This means that the size of investment per one FDI become smaller but the number has become bigger.

Figure 1.5-1 illustrates the change of FDI in terms of invested amount and the number of investment.

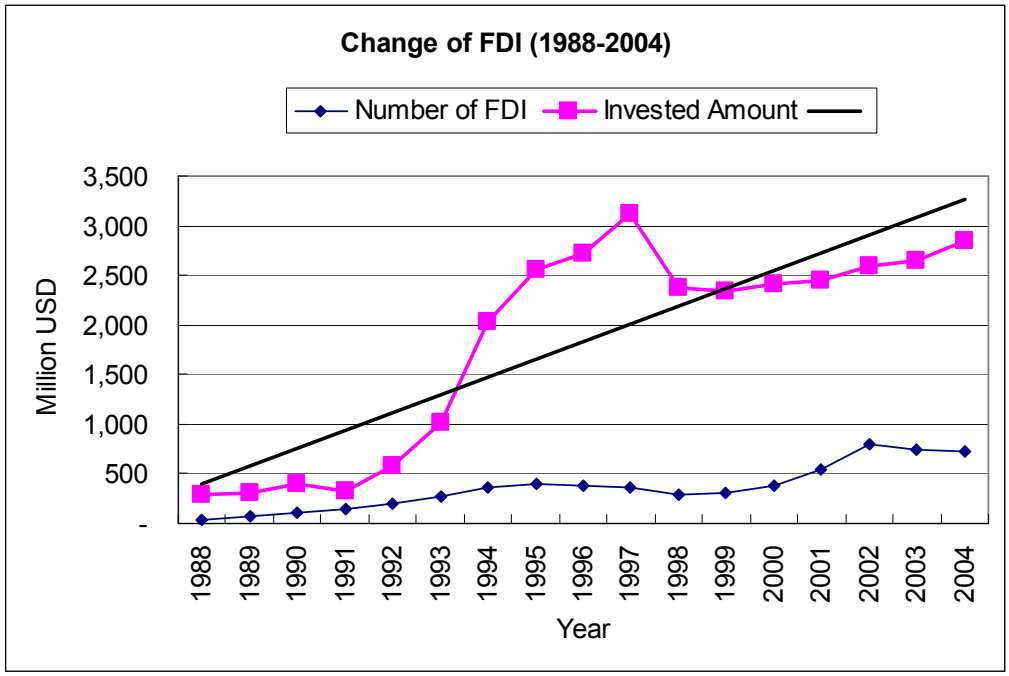


Figure 1.5-1 Trend of FDI in Amount and Number Approved (1988 – 2004)

As shown in this figure, the growth of FDI is predicted to increase at a modest rate or it would be increased at more rapidly because of changes of international market situation especially for light industrial products taking into account of implementation of WTO agreements among member countries.

1.5.2 FDI by Sector

The total accumulated amount of investment reached to US$ 31 billion and the number of FDI reached to 6,164 in 2004. Table 1.5-3 shows the invested amount and the number of FDI by field of economic activity.

Table 1.5-3 Number and Invested Amount of FDI by Sector (1988-2004)

	Invested Amount (Million USD)	Number of FDI	Average Size (Million USD)
Total	31,009	6,164	5.0
Forestry	1,679	474	3.5
Fishery	174	141	1.2
Manufacturing	13,184	3,978	3.3
Oil & Gas	6,252	91	68.7
Construction	824	177	4.7
Tourism	2,085	215	9.7
Trans and Comm.	1,283	182	7.0
Finance	592	53	11.2
Culture	567	189	3.0
Other	3,366	664	5.1

Source: JICA Study Team by compilation of data from General Statistics Office

1.5.3 FDI by Country

Table 1.5-4 presents the number of foreign direct investment and investment amount executed up to 2005 since 1990 in order of investment amount executed by country and the group of countries such as EU.

When the European countries are combined as EU, EU is ranked as top group of countries in terms of foreign direct investment amount accumulated. In terms of number of investment, Taiwan is ranked as a top country. The origin countries using tax heaven countries such as British Virgin Island, Cayman Island, British West Indies, Channel Island, Isle of Man, Saint Kitts and Nevis, Grand Cayman, etc. is not known. However, the private enterprises of Taiwan often use these tax heaven countries for their foreign investment conduits. If the investment from these tax heaven countries and Taiwan are combined, then, Taiwan is ranked as the top country of investing into Vietnam in terms of investment amount and the number of investments.

Among all foreign direct investments the number of FDI aiming at manufacturing light industrial products especially high tech products is not clear from the data available from the statistical office. However, it would be in a range of 20 to 30% of the total number of FDI.

Table 1.5-4 Number of FDI and Investment Amount by Country

Country or Group of Countries	Investment Amount (Million USD)	Number of Investment	Share (%)	Average Size of Investment
Total	25,018	7,236	100.0	3.5
EU	5,253	681	21.0	7.7
ASEAN	3,900	964	15.6	4.0
Taiwan	3,437	1,615	13.7	2.1
Japan	2,657	684	10.6	3.9
South Korea	2,248	1,185	9.0	1.9
China	2,049	958	8.2	2.1
North America	1,160	401	4.6	2.9
Tax Heaven Countries	2,600	394	10.4	6.6
Former Eastern Block	785	124	3.1	6.3
Oceania	785	180	2.9	4.1
Others	196	50	0.8	3.9
Taiwan + Tax Heaven	6,038	2,009	24.1	3.0

Source: JICA Study Team by compilation of data from General Statistics Office

1.5.4 Number of FDI

The number of FDI approved in 2005 was 970. The FDI application was first accepted in 1988 and its number was 37. However, it has increased continuously to 1996 at an AAGR of 43%. Then, it has stagnated for subsequent 3 years continuously due to the Asian financial crisis at – 0.11%. Since 2000 the number of FDI has increased again at 21.5% per year in an average. Figure 1.5-2 illustrates the trend of number of FDI in the past 17-years.

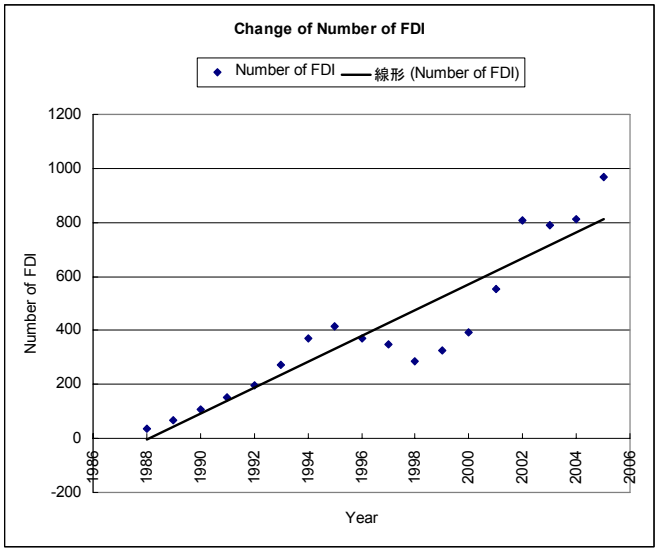


Figure 1.5-2 Trend of Number of FDI Approved

1.5.5 Geographical Distribution of FDI

Table 1.5-5 summarizes the geographical distribution of FDI in terms of number and amount of investment accumulated from 1988 to 2005.

Table 1.5-5 Geographical Distribution of FDI

	Number	Total (Million US$)	Average Investment Amount (Million US$)	Share of Number	Share of Investment Amount
Total	7,279	66,244	9.1	100.0	100.0
Red River Delta	1,474	16,969	11.5	20.3	25.6
North East	326	2,140	6.6	4.5	3.2
North West	27	105	3.9	0.4	0.2
North Central Coast	112	1,428	12.7	1.5	2.2
South Central Coast	318	3,762	11.8	4.4	5.7
Central Highland	106	1,025	9.7	1.5	1.5
South East	4,571	35,941	7.9	62.8	54.3
Mekong River	296	1,978	6.7	4.1	3.0
Petroleum and Gas	49	2,898	59.1	0.7	4.4

Source: JICA Study Team by compilation of data from General Statistics Office

As the above table shows that South East Region led by Ho Chi Minh City accounts for around 55% of FDI and Red River Delta Region led by Hanoi accounts for around 25% of FDI in combination of the accumulated number of FDI and investment amount since 1988 to date. Since 2000, the share of FDI by northern region has been increasing constantly.

2. ECONOMIC CONDITIONS OF HA TAY PROVINCE

As shown in Table 2.1-1, Ha Tay province has the largest area among those in the Hanoi Metropolitan Area; however, Ha Tay province has a lower urbanization ratio.

According to the Statistical Year Book of Vietnam for 2006, the Ha Tay province received 807 million UD dollars of Foreign Direct Investment (FDI) which is second ranked after Hanoi city in the region. The FDI in the province in 2005 was only 6 million UD dollars, therefore it was drastically increased in 2006. Investment climate in Ha Tay Province is deemed to be improving at a rapid pace. The number of FDI in the province was reported to be 17 in 2006, while it was only 6 in 2005.

Table 2.1-1 Statistical Data of Study Area in 2006

Items	Unit	Ha Tay Province	Hanoi City	Vinh Phuc Province	Bac Ninh Province	Hungyen Province
Population	1,000 people	2,453	3,217	1,180	1009	1,142
Area	km^2	2,192	921	1,371	808	923
Population Density	Person/km^2	1,160	3,493	861	1,249	1,237
Urban Population （Urbanization Rate）	1,000 （%）	261 (10.3%)	2,101 (65.3%)	165 (14.0%)	133 (13.2%)	126 (11.1%)
FDI Amount （Number）	Million USD （cases）	807 (17)	1,091 (133)	146 (23)	169 (18)	209 (26)

Source: JICA Study Team by compilation of data from Statistical Yearbook of Vietnam 2006
Note : Urbanization Rate= Urban Population/Total Population

The major economic indicators for Ha Tay province are indicated below;

Table 2.1-2 Major Economic Indicators for Ha Tay Province 2000-2005

Indicators	Unit	Year					Ratio
		2000	2002	2003	2004	2005	2005/2000
Average population	1000 people	2,421	2,473	2,479	2,500	2,526	104%
Population of working age	1000 people	1,705	1,757	1,772	1,791	1,810	106%
GDP (at current prices)	Bill.dong	7,622	9,453	10,673	12,570	15,175	199%
Gross output of industrial sector	Bill.dong	3,080	4,488	5,099	5,835	7,047	229%
Investment outlays	Bill.dong	1,891	2,785	4,000	4,269	4,798	254%
Export value	1000 USD	46,807	57,500	65,750	78,500	94,600	202%
Revenues of state buget	Bill.dong	364	684	714	1,208	1,650	454%
Expenditure of state buget	Bill.dong	856	1,219	1,495	1,887	2,351	275%

Source: Statistical Yearbook of Ha Tay Province in 2005

As shown in the above table, the population of the province has not changed remarkably over the past 5 years, however, such indicators as GDP, gross output of industrial sector, investment outlay and export values have almost doubled between 2000 and 2005.

Table 2.1-3 shows the number of people in the labor force for the industrial sectors in Ha Tay province. The labor input to FDI projects is still low at 3% of the total laborers in 2005.

Table 2.1-3 Number of People in the Labor Force for the Industrial Sectors in Ha Tay Province

Category	Year					Ratio
	2000	2002	2003	2004	2005	2005/2000
A.By ownership						
1.Domestic economic sector	98,083	188,115	211,141	196,868	205,125	209%
2.Foreign invested economic sector	3,586	3,287	4,225	5,393	5,960	166%
Total	101,669	191,402	215,366	202,261	211,085	208%
B.By kind of industrial activities						
1.Mining and quarrying	1,646	2,451	3,159	1,834	1,650	100%
2.Manufacturing	99,816	188,714	211,955	200,069	208,977	209%
3.Electricity, gas and water supply	207	237	252	358	458	221%
Total	101,669	191,402	215,366	202,261	211,085	208%

Source: Statistical Yearbook of Ha Tay Province in 2005

3. SOCIO-ECONOMIC CONDITIONS OF THE STUDY AREA

3.1 Introduction

3.1.1 Background

Establishment and development of Hoa Lac High-Tech Park is in a close relation with existing and future development of Hanoi capital city and other satellite cities surrounding Hanoi. At the same time, it helps to integrate development of two key corridors passing the hi-tech park. These corridors are now under expansion and upgrading.

- Expressway corridor of Hanoi - Hoa Lac – Hoa Binh: This road connects with the development plan of five urban areas, including Ba Dinh urban center in the territory of Hanoi, An Khanh, Quoc Oai, Ngoc Liep and the central urban area of Hoa Lac located in Ha Tay province. In the future, when demands get higher, it is possible to consider studying one branch of BRT to run on this corridor.

- The corridor on road 21: It is to form a road corridor for the urban chain of Mieu Mon, Xuan Mai, Hoa Lac and Son Tay city.

3.1.2 Study Area

Apart from the Thach That district, the High-Tech Park of Hoa Lac covers also other urban districts, rural districts and town of two provinces of Ha Tay and Hoa Binh, including Son Tay city, districts of Ba Vi, Phuc Tho, Thach That, Quoc Oai, Luong Son and Ky Son. The study area is expanded to Hanoi, Vinh Phuc, Ha Tay, Hai Duong, Hung Yen, Ha Nam, Phu Tho and Hoa Binh (see Figure 3.3-1).

Figure 3.3-1 Study Area

- Two traffic corridors (Lan-Hoa Lac Highway and NR No. 21)

- Referred studies include: (i) Hanoi Metropolitan Area Plan under study by National Institute for Urban and Rural Planning, Ministry of Construction, (ii) Hanoi Comprehensive Urban Development Program (HAIDEP) funded by JICA, and (iii) Red River Delta Socio-economic Development Plan formulated by the Ministry of Planning and Investment and approved by the Prime Minister under Decision No.677/1997/TTg.

3.2 Profile of Provinces in the Study Area

Some socio-economical statistic data of the year 2005 of the study area

- Area of land (km^2) 16,094
- Total population (000' person) 12,640
- Density (persons/ km^2) 786

- GDP at current prices (bil.VND) 131,563
- GRDP/capita (000' VND) 10,408
- Total Import and Export (mil.USD) 15,671

3.2.1 Hanoi Capital

(1) Natural and Geographical Conditions

Hanoi is located in the center of Northern Plain, bordering with 5 provinces: Thai Nguyen at the north, Bac Ninh and Hung Yen at the east, Vinh Phuc at the west, and Ha Tay at the south. As of 2004, Hanoi is divided into 9 urban districts (Ba Dinh, Hoan Kiem, Hai Ba Trung, Dong Da, Tay Ho, Cau Giay, Thanh Xuan, Hoang Mai and Long Bien) which have 125 wards and area of 84 km^2 and 5 rural districts (Soc Son, Dong Anh, Gia Lam, Thanh Tri and Tu Lien) which have 99 communes and 5 district towns, covering 837 km^2.

The average elevation is from 5 to 10 m above the sea level, except for northern and northern west mountainous areas of Soc Son district which is in southern part of Tam Dao mountain range with elevation of 10 to 400 m and for the northern part of Dong Anh district where the elevation is higher than other areas of Hanoi. Hanoi topography inclines from north to south and from west to east. Major feature topography is the plain developed along the Hong River. There are many pools and lakes in the area. Hanoi also have mountainous topographical features in Soc Son mountainous. In term of alluvium stratum, Hanoi divided into two areas: (i) old sediment area in the left bank of the Hong River and western area of NH1 (ii) new sediment in southern Hanoi suburban area, mostly in Gia Lam, Thanh Tri, Tu Liem where the soil is soft.

In term of development of the structure of existing topography, Hanoi divided into two major areas, which are the delta and the Middle Region: (i) The delta area is a typical topography of Hanoi, sharing more than 90% natural area, including urban districts, Dong Anh, Gia Lam, Tu Liem and Thanh Tri districts and southern part of Soc Son district. The average elevation of this area is from 4 to 10 m above the sea level. (ii) The mountainous area is in northern west of Soc Son district where the slope is more than 80 and the elevation is from 50 to 100 m which is suitable for forestry development.

Hanoi is in tropical monsoon climate. The average temperature is 24oC. The average humidity in the air is 80-82%, the average rainfall is 1,660 mm/year. The most noticeable feature of Hanoi climate is the difference between the summer and the winter. The summer prevails from May to September and the winter is from November to April. Between two seasons, there are two transition period in April and October. Due to that, Hanoi is considered to have 4 seasons of spring, summer, autumn and winter.

(2) Natural Resources

Total natural area is 921 km^2, of which, suburban shares 91% and urban center shares only 9%. The agricultural land shares 47%, shares of forestry land, specific land,

housing land and unused land are 8.6%, 22.3%, 12.7 and 9%, respectively.

Hanoi soil is classified into 3 types: (i) alluvium soil of the Hong river which shares 91% and is the fertilized soil, suitable for various types of tropical plants; (ii) grey impoverished soil (177km^2 =19%); (iii) and yellowish red soil (84km^2).

Hanoi has 6,740 ha forest, sharing 7.3% total natural area, mainly in Soc Son and a small part in Dong Anh and Gia Lam. Far from Hanoi 50 to 100 km are famous forests such as Cuc Phuong national park, Ba Vi national part and Tam Dao forest.

Hanoi and its neighboring provinces, there are more than 800 mines and ore of 40 types of minerals. The majors are coal, brown coal, peat in 2 average mines, 18 small mines with total reserve of more than 200 million ton. In addition, Hanoi have rich construction material minerals such as limestone, sand, gravel, clay.

(3) Economic Potentials

Topography, climate, and geology features of Hanoi are good conditions for flora developments, creating a "green, clean and beautiful city" to attract tourists. River and lake system is also a typical feature, creating favorable condition for tourism.

Hanoi is a cultural center with various architectures and cultural values. Thus, it also has great potentials to develop cultural tourism based on the development history of thousands year.

Located in the Hong River Delta and as the center of northern Vietnam, Hanoi has great advantages to develop economy, culture, international trading and tourism.

(4) Major Socio-economical data in 2005

- Population (000' person) 3,145
- Area (km^2) 921
- GDP at current prices (bil.VND) 70,326
- GDP/ capita (USD) 1,406
- Total import & Export (mil.USD) 13,698
- % poor and starveling 1.2

(5) Major targets up to 2010

- Population, 2010 (million) 3.5
- GRP growth rate (%/year) 10.5-11.5
- GRP per capita (%) 2,300
- Growth rate of export value (%) 16-18

- Population growth rate (%/year) 1.05-1.1
- Urban unemployment ratio (%) <5.5
- Training labor ratio (%) 60-65
- Poor household ratio (%) <4.5
- Clean water per person per day (litter) 170

3.2.2 Vinh Phuc Province

(1) Natural and Geographical Conditions

Vinh Phuc is situated inside the Northern Region, more to the mountainous and hilly areas. The province shares boundary with Thai Nguyen and Tuyen Quang (north), Ha Tay (south), Phu Tho (west), Hanoi (east). Total land area is 1,371 km². Vinh Phuc has 2 town, 7 districts, 150 communes, including 1 district and 39 communes in mountainous areas.

Vinh Phuc is located on NH2 and Hanoi – Lao Cai railway line, close to Noi Bai International Airport, and is the terminal of the East-West corridor connecting the western part to ports of Hai Phong and Cai Lan. At this location, it is easy to access other provinces and to develop industrial zones.

Plain is the dominant landscape. The midland area covers 24,900 ha while the mountainous area covers 653 km^2. There are several lakes, including big lakes such as Dai Lai, Xa Huong, Van Truc, Lien Son, Dam Vac which are both reservoirs for agricultural activities, aquaculture as well as ideal locations for development of recreation and sport zones.

There are two separable seasons, namely hot season (April – November) and cold season (December - March). Average rainfall is 1,500 – 1,700 mm. Average temperature is 23.2ºC with an exception of Tam Dao area (18ºC). Average humidity is 84-85%. Flood, draught, tornados, sleets, frosts and high humidity have had significant impacts on local life.

(2) Natural Resources

Of the total land area of 1,370 km^2, agriculture land shared 667 km^2, accounting for 49%, forestry land 304 km^2 (22%), special-purpose land 188 km^2 (14%), residential land 52km^2 (4%) and unused land 161 km^2.

Some rare mineral resources are found in Vinh Phuc, yet at small reserve and in scattered locations, making it difficult to extract.

Though forestry area in the province is not large, plantation on bare hills and mountains has been well conducted that green coverage is spreading properly. Resources are diversified with plenty of species of fauna and flaura, including rare ones.

(3) Economic Potentials

Construction material production is the most advantageous industry. Vinh Phuc has a pleasant recreation zone of Tam Dao with altitude of 900m, surrounded by primitive forests home to rare animals. Big lakes such as Dam Va, Dai Lai, Dam Vac of 500-600 ha each, also surrounded by either forests or fields. There are many historical and cultural heritages, many of them have been categorized (Tay Thien Pagoda, Binh Son Tower, Hai Ba Trung Temple and hundreds of others). Craft villages such as Huong Canh (ceramics), Ly Nhan (metal products), Bich Chu (wood products) which are attracted to tourists. The province with unique lancscape such as Tay Thien, Tam Dao where tourism destination developments are especially favorable. There are as many as 500 historical vestiges, of which, 67 is at national ranks.

(4) Major Socio-economical data in 2005

- Population (000' person) 1,169
- Area (km^2) 1,371
- GDP at current prices (bil.VND) 9,565
- GDP/ capita (USD) 515
- Total Import & Export (mil.USD) 673
- % poor and starveling 6.0

(5) Major targets up to 2010

- GDP growth rate (price in 1994): 14.0-14.5%/year;
- Export turnover by 2010: USD 380 million
- GDP structure in 2010: industry-construction 58.4%; service 27.4%; agriculture-forestry-aquaculture 14.2%.
- GDP per capita (current price) to reach national level in 2006; 1.2-1.5 times of national level in 2010, and 85-90% to average level of the NFEZ.
- Natural population growth in 2010: less than 0.95%
- 24,000 – 25,000 jobs are created each year
- Trained worker percentage in 2010: 40-45%
- Poor household percentage in 2010: less than 5% (new standards)

3.2.3 Ha Tay Province

(1) Natural and Geographical Conditions

Ha Tay is adjoined to Hanoi. Provincial neighbors are Vinh Phuc and Phu Tho to the north, Hung Yen to the east, Hoa Binh to the west, Ha Nam to the south. Population is of

2.5 million. Population density is 1,100 capita/ km².

Topographical of Ha Tay are various with hilly land in the west and planes in the east. In the mountainous areas of 170 km^2, altitude is 300m, gradient to the southeast at 25º. Limestone mountains concentrate in the southwest. In the plain areas, it is rather flat, characterized by the Red River Delta.

There are three zones with different climate conditions in Ha Tay. Plain areas are affected by Red River Delta climate and breeze from the seas; average temperature is 23.8ºC, average rainfall 1,700 mm – 1,800 mm. Hilly areas are affected by dry winds from Lao PDR, 24.5ºC averagely and with rainfall of 2,300 mm – 2,400 mm. Mountainous areas, mostly in Ba Vi, are cool, 18ºC averagely.

(2) Natural Resources

Total land area of the province is 2,193 km^2, including agriculture land of 1,222 km^2 (55.7%), forestry land of 151 km^2 (6.88%), special-purpose land of 397 km^2 (18.14%), urban residential land of 645 ha (0.29%), rural residential land of 123 km^2 (5.59%), and unused land of 293 km^2 (13.38%).

There are two natural forests, namely national forest of Ba Vi, covering 7,400 ha, home to plenty of rare fauna and flaua, and Huong Pagoda forest (My Duc) where there are also many rare species.

Mineral resources are available in Ha Tay, such as limestone in My Duc, Chuong My with a reserve of 7.2 million tons; clay in Son Tay town and in Tien phuong (Chuong My) with a remarkable volume, mud coal in Phu Cat (Quoc Oai), Tran Phu, Phuong Vo, gold in Phu Man, Xuan Mai (Chuong My), domolite in Phuong Cach (Quoc Oai), etc.

(3) Economic Potentials

There are as many as 2000 historical vestiges in Ha Tay, including 12 particularly important ones in addition to plenty of pagodas, temples, communal houses, local traditional festivals associated with popular legends.

There are many pagodas with high architectural and religious values, name ly Dau Pagoda (Thuong Tin), Tay Phuong Pagoda (Thach That), Thay Pagoda (Quoc oai), Boi Khe Pagoda, Tram Gian Pagoda, Tram Pagoda, Va Temple, Mia Pagoda, Ngo Quyen Mosoleum, Nguyen Trai Temple, Son Tay Citadel, among others, which are all famous destinations.

Three tourism clusters are Son Tay – Ba Vi cluster is for cultural – eco tourism, recreation, historical excursion etc. Huong Pagoda cluster is more for religious tourism, historical excursion, landscape, cave explorers. Ha Dong cluster is more for greenery tourism, craft village tours and the like.

Ha Tay is adjoined to Hanoi capital, and has favorable natural and geographical

conditions, beautiful landscapes, which are just right for development into a satellite city of agriculture, industry and services.

(4) Major Socio-economical data in 2005

- Population (000' person) 2,526
- Area (km^2) 2,192
- GDP at current prices (bil.VND) 15,175
- GDP/ capita (USD) 378
- Total Import & Export (mil.USD) 219
- % poor and starveling 4.5

(5) Major targets up to 2010

- GDP growth rate: 13-13.5% per year;
- Food production volume: 900,000 tons
- Agriculture-Forestry-Aquaculture production growth rate: 3.49% per year
- Industry-Construction production growth rate: 25.8% per year
- Retails and consumption growth rate: 17.6% per year
- Tourist growth rate: 17.7% per year
- Export turnover growth rate: 22.65% per year
- Economic structure by 2010: 48.5% for industry-construction, 18.5% for agriculture-forestry – aquaculture, 33% for services-tourism.
- Agriculture production: VND 38 million / ha / year
- Poor household ratio: 2% (new standards), trained workers: 35%

3.2.4 Hai Duong Province

(1) Natural and Geographical Conditions

Located in the Northern Focal Economic Zone, Hai Duong Province is 60km to the west of Hanoi, 45km from Hai Phong Port. To the north, Hai Duong is neighbored by Bac Ninh and Bac Giang provinces, while to the west, east and south it share boundaries with Hung Yen-Hai Phong, Quang Ninh and Thai Binh, respectively.

In Hai Duong territory, land is higher to the west and lower to the southeast; hilly land covers as much as 11% of natural area while the rest 89% is plain area.

Affected by tropical climate with monsoon, the province has four identifiable seasons (spring, summer, autumn, winter) and an annual rainfall of 1,300 mm – 1,700 mm.

Temperature in average is 23.3ºC and average sunny hours are 1,524, yearly. Humidity is recorded at 85%-87%.

(2) Natural Resources

The 1,662 km² of land in Hai Duong include 2 major zones of hilly and plain areas. Further to the north is hilly land, covering 11% to total- a low hilly land area. Plain land, 89%, is rather fertile.

Of the administrative area (1662 km^2), 63.1% is designated for production. Cultivation land is based mostly on Thai Binh River silted areas actively supported by regular irrigational. Howevwr, a small portion of cultivation land in the northern part is rather thin and less fertile, supported mainly by natural drainage.

Forests cover some 91 km^2 in Hai Duong, including 23 km^2 of natural forests and 68km^2 of planted forests.

Some mineral products come in large reserve and high quality, sufficient to support industrial development, especially local demands for construction material production as well as exportation to other provinces. Lime stone in Kinh Mon District is good enough for porcelain production; kaolin in Kinh Mon and Chi Linh is also in good quality for cement production and for porcelain production. Clay in Chi Linh is material for production of fireproof bricks.

(3) Economic Potentials

Hai Duong is favored with high potential for tourism development thanks to availability of 1,900 cultural and historical heritages. There are also several other legendary destinations such as Con Son Pagoda, Kiep Bac temple, Tran Lieu temple, Tran Hung Dao monument, An Phu pagoda, Kinh Chu grotto.

Hai Duong is situated in the NFEZ, 60km from Hanoi, 45km from Hai Phong and 80km from Ha Long Bay. The province is equipped with smooth transport network of rail, road and waterway. NH5, NH18, NH183 crosses the province. Hanoi – Hai Phong railway line runs in parallel with NH5. Kep – Pha Lai railway line supplies coal for Pha Lai thermo electricity plant. Inland waterway network is comprised of 16 routes, 400km in total, and able to facilitate navigation for river vessel up to 500dwt. Such geographical locations and convenient transport network make it easy for Hai Duong to conduct economic exchange activities with other provinces and other countries.

Hai Duong possesses a large reserve of mineral resources for onsite production of construction materials (limestone, kaolin, fireproof clay).

Work force is abundant and it was reported at 54.6% of the provincial population in 2002. Trained laborers are at 19-20% while those having passed secondary schools make up 60-65%.

(4) Major Socio-economical data in 2005

- Population (000' person) 1,712
- Area (km^2) 1,652
- GDP at current prices (bil.VND) 13,665
- GDP/ capita (USD) 502
- Total Import & Export (mil.USD) 363
- % poor and starveling 5.0

(5) Major targets up to 2010

To achieve GDP growth rate of 10-11% per year or higher; by 2010 average income per capita is 2.5-2.6 times higher than in 2000 and 1.5-1.6 times higher than in 2005.

To push economic structure more towards industry sector, to enhance efficiency in production and competitiveness of the products as well as the whole economy; to pursue the share model of agriculture – industry – services from 27.5% - 43% - 29.5% in 2005 to 22% - 46% - 32% in 2010.

To develop agriculture towards commodity production concept with agricultural production value increasing 4.5-5% per year, industry sector grows 17% per year or higher, foreign-invested industries by 25.2% per year.

Service sector grows by 12-13% per year, export turnover by 17.0-17.5% per year Mobilized funds for investments reach VND 35,000 – 36,000 billion.

Average birth rate is 0.2-0.3% per year, natural population growth by 0.85%-0.90% per year, to reach a population size of 1.78 million by 2010 where urban population shares 22-25%.

3.2.5 Hung Yen Province

(1) Natural and Geographical Conditions

Hung Yen is located in the Red River Delta, in the NFEZ. It shares boundaries with Hanoi, Ha Tay, Bac Ninh, Hai Duong, Ha Nam and Thai Binh. The province includes 10 administrative units, those are Hung Yen town, Van Lam, my Hao, Yen My, Van Giang, Khoai Chau, Kim Dong, An Thi, Tien Lu, and Phu Cu district. Total natural area of the province is 923 km^2. The population density is 1,227 pesons/km^2.

Hung Yen has the feature of a delta province: flat topography, lowering from northern west to southern east. The average elevation is from 2 to 4.5 m. The high land is mainly in northern west area of the province, including Van Lam, Van Giang and Khoai Chau districts while the low land is in Phu Cu, Tien Lu and An Thi district.

Hung Yen is affected tropical monsoon climate. There are two identifiable hot and cold seasons in the province. The average sunshine is 1,519 hours per year and the average number of sunny days is per month is 24. Average temperature is 23.2oC in the summer and 16oC in the winter. The average rainfall is between 1,450-1,650mm and the rainfall from May to October accounts up to 70% of the year's total. The average humidity is 86%.

(2) Natural Resources

Agricultural land of Hung Yen is 641 km^2, of which, short-crops area is 571 km^2 (88.9%) and perennial tree area is 716 ha (1.1%) and surface water area is 4000 ha. In addition, there are plentiful rivers and lakes which have not been utilized to promote economic development. Minerals are limited and the main mineral is brown sand along Red River and Luoc River. There also has a large clay reserve which could be exploited to produce construction material. In addition, Hung Yen has a brown coal source which has not been exploited. It is a great potential to develop the mining industry, meeting the energy demand in the domestic market and export.

(3) Economic Potentials

Tourism potential is limited. The province is investing in construction of infrastructure to connect tours from Hanoi through Hung Yen to Hai Phong, Quang Ninh, Ha Nam, Thai Binh, etc. There are 800 historical and cultural relics in the province and some of them are popular such as Pho Hien, Da Hoa, Da Trach, etc.

With very long historical development of rice civilization, Hung Yen has many traditional festivals which shall be promoted to attract tourists' participation. Hung Yen is situated in the NFEZ, equipped with smooth transport network of rail, road and waterway. NH5 crosses the province. Such geographical locations and convenient transport network make it easy for Hung Yen to conduct economic exchange activities with other provinces.

(4) Major Socio-economical data in 2005

- Population (000' person) 1,134.1
- Area (km^2) 923.1
- GDP at current prices (bil.VND) 8,239
- GDP/ capita (USD) 457
- Total Import & Export (mil.USD) 395
- % poor and starveling 4.0

(5) Major targets up to 2010

- To achieve GDP growth rate of 12% per year.

- To pursue the share model of agriculture – industry – services of 22% - 46% - 32% in 2010.
- GRP per capita will be 16 million VND in 2010.
- The export revenue increases at 21.3% per year, hits 500 million US$ in 2010.
- Population growth rate will be maintained at less than 1% per year in 2005
- 85% household number could access to clean water.
- To create additional 25,000 jobs for the workforces; 40% workforce is trained.
- Hung Yen town and Pho Noi urban area will meet the urban town class 3 standards.

3.2.6 Ha Nam Province

(1) Natural and Geographical Conditions

Ha Nam is located to the southwest of the Red River Delta, and also is a south gateway leading to Hanoi Capital. Total area is of 850 km^2. Phu Ly town, 58 km away from Hanoi, is an economic-political-cultural center of the province. NH 1A running through the province from north to south has favorable conditions to boost economic development.

Topography of the province is complicated with plain areas, half-mountain half-plain areas and depression areas. The mountainous area to the west of the province is rich in natural resources, especially lime stone for construction material production industry and favorable to develop tourism. The fertile plain areas are suitable for agricultural production, for developing agricultural products processing industry and for ecological tourism.

Ha Nam bears characteristics of a tropical monsoon climate. The annual average temperature is around 230C with the lowest of 150 C in January and highest of 290C in June. The average sunny time is about 1,100-1,200 hours. Annual average rainfall ranges from 1,700 to 2,200 mm but it is not distributed equally with 70% of rainfall in summer (from May to October) and less rainfall in dry season lasting from November to April of the following year.

(2) Natural Resources

Land for agriculture makes up 472 km^2, aquaculture 4,529 ha, forestry 9,635 ha, specialized land 11,692 ha, residential land 4,326 ha, and unused land 7,564 ha.

The primary mineral resource of the province is limestone. This is provided for cement production, construction, rock powder production. Marble is found in Thanh Liem, Kim Bang district. Clay is estimated at 390 million tons, and 11 million-m3 reserve of peat is found in Ho Tam Chung – Ba Sao, Dong Han lake in Thanh Son commune, Kim Bang District. Construction sand is considerable reserve, especially black sand on Hong, Day, Chau and Nhue River.

(3) Economic Potentials

Cement and construction material production industry plays a leading role. Besides, there are garment and textile industry and small-scale industry with silk production village of Nha Xa, in Moc Nam commune, Duy Tien district, fabric weaving village in Hoa Hau commune, Ly Nhan district and others. Craft village in Hoang Dong/Duy Tien, AnLao/BinhLuc produces bamboo and decorative products to export.

Ha Nam has many attractive tourist sites like Ngu Dong Son, Truc Temple worshiping Ly Thuong Kiet, a national hero under Ly dynasty. Ngu Dong Son is famous tourist resort is 7km far away from Phu Ly town on NH 21. In addition, there are many others popular tourism sites e.g Tran Thuong Temple in Ly Nhan district, worshiping Tran Quoc Tuan, Tam Chuc lake, 70km away from Hanoi, in Ba Soa commune, Kim Bang district with water surface area of 585ha and the surrounding ecological area of 600ha etc...

(4) Major Socio-economical data in 2005

- Population (000' person) 823
- Area (km^2) 852
- GDP at current prices (bil.VND) 4267
- GDP/ capita (USD) 326
- Total Import & Export (mil.USD) 63
- % poor and starveling 10

(5) Major targets up to 2010

- Province's GRDP increase: 11.7%
- GRDP per capita in 2010: 8.9 million VND
- Agriculture production value (including cultivation, husbandry, forestry, and aquaculture) increases 4%/year.
- Crop output: 410,000 tons
- Industry, small-scale industry production value increase: 20%/year
- Export turnover increase: 10%/year.
- 65,000 additional jobs to be created in five years.
- Annual birth rate decrease: 0.4%o.

3.2.7 Phu Tho province

(1) Natural and Geographical Conditions

Phu Tho is a province in northern mountainous and midland area. It borders with Ha Tay at the east, Vinh Phuc at the northern east, Son La at the west, Yen Bai at the northern west, Hoa Binh at the south and Tuyen Quang at the north. Located at the river intersection at the western gate of Hanoi, Phu Tho is 80 km far from Hanoi. It has a convenient transport system of road (NH2, NH70, NH32), railway, and inland waterway connecting to China border, to Hanoi and Hai Phong. Phu Tho seem to be the economic – cultural – technological hub of northern delta and northern west mountainous area.

Phu Tho province is divided into 12 administrative units, namely Viet Tri city, Phu Tho town, districts of Doan Hung, Ha Hoa, Thanh Da, cam Khe, Phu Ninh, Lam Thao, Tam Nong, Thanh Thuy, Thanh Son and Yen Lap. Viet Tri city is the political – economic – cultural center of the province. There are 274 commune units of which there are 214 mountainous, 7 high mountainous and 50 communes are very difficulty and remote one to access.

Phu Tho is a mountainous province its topography, thus, is divided into two sub-areas: (i) the high mountainous area in western and southern Phu Tho which has favorable conditions for forestry, mine exploitation and farm economy development (ii) hilly and plain area along Hong, Lo and Day River which is suitable for development of industrial plants, paddy and husbandry.

Affected by tropical monsoon climate, Phu Tho has two seasons: the winter and the summer. The average temperature is 23ºC. The average rainfall is 1,600 to 1,800 mm and the average humidity is 85-87%.

(2) Natural Resources

Total natural area of Phu Tho is 3,520 km^2. Soil is divided in 2 groups: (i) yellowish red feralit soid (1163km^2=67%), and (ii) normal soil which is suitable for forestry development.

Only 54.8% land has been exploited. 812 km^2 has not been used, including 579 km^2 hilly and mountainous land.

It could be assessed that the most of land is an advantage to cultivate plants providing materials for some processing industries. Forest area is quite large (42% total area) 1443km^2. Forestry sector has provided a huge material amount for wooden processing industries.

Moreover, Phu Tho has some valuable materials such as kaolin, fenspat, and mineral water, limestone, pyrites, etc

(3) Economic potentials

Phu Tho is considered as the native land of the founders of Vietnam where there are more than 200 historical and cultural relics such as Hung Temple (Lam Thao), Ao Chau lagoon, Ao Gio, Suoi Tien, Xuan Son primeval forest, Thanh Thuy Spa, Au Co temple, Lau Thuong commune house, Hung Lo, etc.

Phu Tho also is the area where there are many intangible cultural values, i.e. Hung Temple festival, Phet festival Hien Quang, "Xoan" singing, v.v. with rich tourism resources, Phu Tho could develop its tourism to be a key economic sector of the province.

In addition, Phu Tho has a great potentiality to develop agro-forestry processing industries, and also Moreover, Phu Tho also has favorable conditions for development of mineral exploitation industries.

(4) Major Socio-economical data in 2005

- Population (000' person) 1,328
- Area (km^2) 3,520
- GDP at current prices (bil.VND) 6,397
- GDP/ capita (USD) 328
- Total Import & Export (mil.USD) 236
- % poor and starveling 7

(5) Major targets up to 2010

- To achieve annual GRP growth rate of 9.5-10% in 2006 – 2010 period.
- Volume of food and food-stuffs: 400 – 500 thousand ton
- Growth rate of export value: 12 – 15%
- Economic structure: 44,4% - 37.6% - 18% (industry – service – agriculture)
- GRP per capita: 550 – 580 USD
- Annual population growth rate: <1%
- Number of telephone: 9-10 units/100 persons
- Ratio of poor household: <5%.

3.2.8 Hoa Binh Province

(1) Natural and Geographical Conditions

Hoa Binh is a mountainous province. There are roads and river ways linking to Phu Tho,

Ha Tay, Ha Nam, and Ninh Binh province. Located in the northwest, it is 76km far away from Hanoi Capital to the Southeast. It borders Phu Tho and Ha Tay to the north, Ninh Binh and Thanh Hoa to the south, Ha Tay and Ha Nam to the East, and Son La to the West.

There are 10 districts and towns including Đà Bắc, Mai Châu, Tân Lạc, Lạc Sơn, Kim Bôi, Lương Sơn, Lạc Thuỷ Yên THuỷ, Kỳ Sơn and Hoà Bình town with 214 communes in total.

Hoa Binh is dominated by high mountains with high sloping decree. Mountain ranges are located in the direction of Northwest-Southeast and divided into 2 area: (i) high mountain ranges from 600-700m, covering an area of 2217 km^2 (44.8% of the total area) to the Northwest (ii) lower mountain ranges are located to the Southeast with area of 2622 km^2 (55.2% of the total area) and average sloping degree of 20-250 and average height of 100-200 m.

The province is affected by monsoon tropical climate with little rainfall and low temperature in winter and much rainfall and high temperature in summer. Average temperature is 230C; the temperature reaches highest level of 27-290C in July, and lowest level of 15.5-16.50C in January.

Đa, Boi, Buoi, Lang and Bui River form the river system of the province.

(2) Natural Resources

Total area of the province is 4,662 km^2, of which 1730 km^2 are forest (37%), 650 km^2 for agriculture production (14%), and unused land 1700 km^2. Thus, Hoa Binh can develop agriculture, forestry and wood processing industry. The province is also endowed with some kind of mineral with big and medium reserve.

Forest cover rate was about 41%, equal to 1943 km^2. Wood reserve is estimated at 3.3 million m^3.

Among minerals, some have been exploited, such as fossil coal, mineral water (mainly in Kim Boi and Lac Son district), and lime stone, of which, mineral water and clay are in huge reserve. In addition, there are gabrodiaba stone and granite. Kaolin and some other mineral are also in huge reserve. Some other kinds of minerals scatter in the province, including gold, copper, lead, zinc, mercury, antimony, pyrites, phosphorus, etc.

(3) Economic Potentials

With big reserve of clay and lime stone, construction material production is one of the leading industries of the province. Besides, it has some small cement plants with capacity of 880,000 tons/year for each plant in Luong Son, Yen Thuy, and Hoa Binh town.

Hoa Binh is suitable to grow industrial plants (sugar-cane, cassava, tea, bamboo sprout,

etc.), fruit trees, and then develop agricultural product processing industry.

Mechanic, electronic, textile and garment industry development is possible in the province due to big potential of labors. Currently, there are some developed companies in these fields.

Beautiful landscape of the province is suitable to tourism development. There are 6 minority groups of Muong, Kinh, Thai Tay, Dao, Mong different culture and traditions will be basis for cultural tourism development.

Thanks to its location adjoining to the Red River Delta, Hoa Binh can play host to conferences, weekend vacations, etc.

(4) Major Socio-economical data in 2005

- Population (000' person) 813
- Area (km^2) 4,663
- GDP at current prices (bil.VND) 3,389
- GDP/ capita (USD) 262
- Total Import & Export (mil.USD) 23
- % poor and starveling 9

(5) Major targets up to 2010

- GDP growth rate: 9%; agriculture, forestry and aquaculture make up 4.5%, industry-construction 18-19%, and service 10.5%.
- Economic structure in 2010: agriculture, forestry and aquaculture 32.1%, industry-construction 32.8% and service 35.1%.
- Export-import turnover: 75 million USD, of which export turnover make up 45 million USD, import turnover 30 million USD.
- Average income per capita: more than 7 million/year
- Natural population increase rate: 1.0%
- Annual employment generation: 15,000-16,000 job/year
- Poor households reduce to below 3%.
- 90% of the rural population access to fresh water
- 95% of the population access to national electricity grid.

3.2.9 Summary of Main Indicators

(1) Population

Population in the study area developed stably at the rate of 1.3% in the period of 1995-2000 and 2000-2005 (no reduction). This was against the national population trend of reduction from 1.5% down to 1.35% in the two periods. This is attributed mostly to immigration growth and fast-paced urbanization process in Hanoi and urban centers surrounding the project area.

Urban population in comparison with total population in the study area grew to 17%, 21.8% and 25.9% in 1995, 2000 and 2005 respectively.

Table 3.2-1 Historical Demographic Change

Provinces & Cities	1995		2000		2005		
	Total	Urban	Total	Urban	Total	Urban	Densit (p/km^2)
Vietnam	71,995.5	14,938.1	77,635.4	18,771.9	83,119.9	22,418.5	252
Hà Nội	2,230.1	1,200.0	2,739.2	1,586.5	3,145.3	2,055.0	3,415
Vĩnh Phúc	1,050.0	59.8	1,105.9	118.7	1,169.0	163.4	852
Hà Tây	2,293.7	180.4	2,414.1	193.2	2,525.7	259.4	1,152
HaiDuong	1,673.6	91.4	1,664.7	230.9	1,711.5	266.4	1,038
Hưng Yên	1,070.2	54.0	1,080.5	101.4	1,134.1	125.7	1,229
Hà Nam	801.9	74.0	795.5	63.6	822.7	79.6	965
Phú Thọ	1,241.9	109.7	1,274.6	184.4	1,328.4	208.6	377
Hoà Bình	744.1	119.6	767.8	106.3	813.0	124.9	174
Study area (%)	11,105.5 (100.0)	1,888.9 (17.0)	11,842.3 (100.0)	2,585.0 (21.8)	12,649.8 100.0	3,283.0 (25.9)	786 -

Sources: GSO and DSO

(2) GDP

National average GDP growth rate in two five year periods of 1995-2000 and 2000-2005 was 7% and 7.5% respectively while GRDP of the study areas in the same periods was 11.1%.

GDP per capital in the study area in USD value in 1995 was lower than national average (247 USD versus 289 USD/person). Remarkably, it exceeded the national average per capital GDP in 2005 (654 USD versus 634 USD/person – see also Table 3.2-2 and Figure 3.2-1). Hanoi metropolitan city has the highest level over regional and national average.

Table 3.2-2 GDP and Its Sectoral Composition by Province and City

	1995				2000				2005			
	Total	Sector			Total	Sector			Total	Sector		
		Agri.	Indus.	Services		Agri.	Indus.	Services		Agri.	Indus.	Services
Hà Nội	12,021	643	3,704	7,674	19,999	776	7,178	12,045	34,073	858	13,403	19,812
HaTay	3,432	1,640	871	921	5,737	2,318	1,807	1,612	9,168	2,916	3,739	2,513
Hai Duong	3,231	1,224	1,225	782	5,036	1,613	2,023	1,400	8,422	1,956	4,145	2,321
Hưng Yên	1,348	766	161	421	2,978	1,429	773	777	5,312	1,779	1,959	1,574
Hà Nam	1,255	650	207	398	1,875	793	548	534	2,892	922	1,196	774
Hoà Bình*	971	544	147	281	1,585	818	344	423	2,332	1,042	474	816
Phú Thọ	1,857	666	574	617	2,794	861	1,043	890	4,445	1,207	1,835	1,403
Vĩnh Phúc	1,303	664	170	469	3,034	1,008	1,175	851	6,242	1,367	3,254	1,621
Study Area	25,417	6,796	7,058	11,562	43,037	9,616	14,890	18,532	72,885	12,047	30,005	30,833
Vietnam	195,567	51,319	58,555	85,698	273,666	63,717	96,913	113,036	393,031	76,888	157,867	158,276

Note:*not including HB hydro power plant

Sources:GSO and DSO

Table 3.2-3 GDP/Capita Change (USD)

	1995	2000	2005
Hà Nội	589	816	1406
HaTay	156	224	378
Hai Duong	210	263	502
Hưng Yên	145	270	457
Hà Nam	162	213	326
Phú Thọ	165	213	328
Hoà Bình	130	169	262
Vĩnh Phúc	132	252	515
Study Area	***247***	***368***	***654***
Vietnam	**289**	**404**	**634**

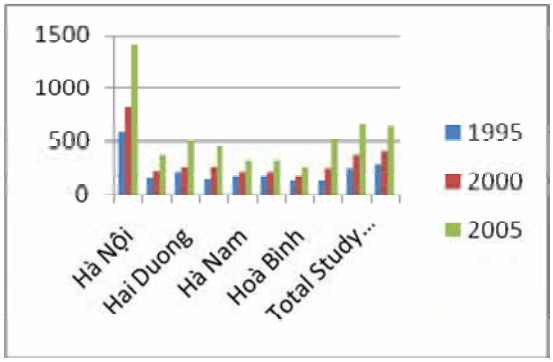


Figure 3.2-1 GDP/Capita Comparision

(3) Export and Import

Import and export growth rate of the study area in 2000-2005 was higher than national average (21% versus 18%). One of the most visible disadvantage of this area is the import-led feature (import grew by 22.5% while export growth was 17%) (see Table 3.2-4). Value of imports to and exports from this area was 25.5% of national total value in 2005.

Table 3.2-4 Export & Import Rate

	Area	2000	2005	Growth %
A	Total study Area	6,752	17,643	21.1
	Export	1,663	3,638	17.0
	Import	4,358	12,033	22.5
B	All country	30,119	69,208	18.1
	Export	14,483	32,447	17.5
	Import	15,637	36,761	18.7
A/B %		22.4	25.5	

(4) Investment

Investment in the study area in the five year period of 2000-2005 was 214 billion VND, accounting for 15.7% total national investment capital. Hanoi took the largest share of 55% of investment in the area.

Table 3.2-5 Proportion Shared by Provinces of Socio-Economic Investment

Province	Implemented 2001-2005			
	Total central & local		of which: Local	
	Total	State budget	Total	State budget
Hanoi	57.7	48.8	64.2	49.4
HaTay	8.4	8.1	9.3	6.6
HaiDuong	9.8	8.9	3.6	6.5
HungYen	5.3	3.8	5.9	3.9
HaNam	1.8	2.6	1.6	3.2
VinhPhuc	7.2	6.1	6.5	8.3
HoaBinh	2.5	5.0	2.6	6.4
PhuTho	7.3	16.7	6.3	15.7
TOTAL	100.0	100.0	100.0	100.0

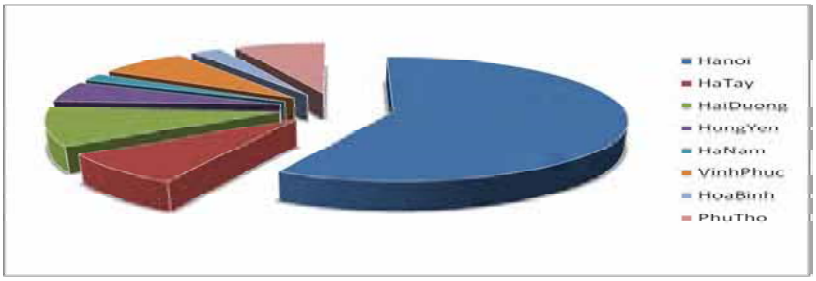


Figure 3.2-2 Proportion Shared by Socio-Economic Investment by Provinces at the Area

FDI from 1988 to the end of 2006 was 14.2 billion USD in 1167 projects. 5.8 billion USD has been implemented. (see Figure 3.2-3)

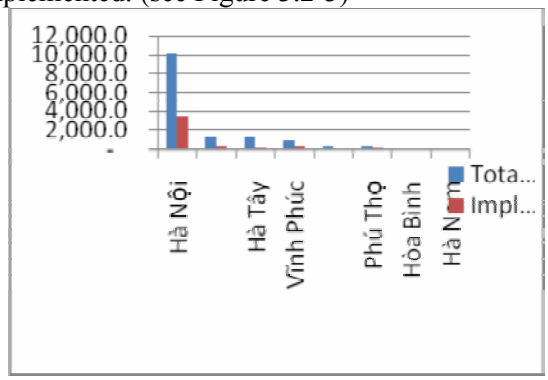


Figure 3.2-3 FDI by Provinces

3.3 Profile of Districts and Towns in the Study Area

3.3.1 Son Tay Town

- Area: 113.47 km².
- Population: 110,827 people
- Administrative unit: six urban ward and nine communes
- GDP growth rate: 9.8% per year
- Economic structure: Industry = 43.2%; trade-tourism-service = 36.1%; agriculture = 20.7% per year.
- Average per capita income = 4 million VND/person/year.
- Average food output: 360 kg/person/year.

Son Tay town is located in the North of Ha Tay province and 40 km far away from Ha Dong Town and Hanoi city. There are a good number of places of interest, cultural and historical sites such as Dong Mo Lake, Son Tay ancient citadel, Duong Lam ancient village, Mia pagoda, Va temple festival, etc.

As the second center of Ha Tay province, Son Tay is transforming itself strongly, indicated by high economic growth rate of 9.8%.

There are two key roads passing the town of Son Tay NH21A and NH32 connecting Son Tay to Ha Noi and other provinces. The berth of Son Tay is favorable for inland waterway transport.

The town enjoys great potentials for development of tourism and trade.

Remarkably, industry and home industries account for 43% of GDP. Industrial production value reached growth rate of 12.5% per year. Recently, Son Tay town has planned the industrial point of Phuc Thinh, Son Dong and further developed three industrial clusters.

Tourism is identified as one of focal economic development direction of the town with planned development in historical, cultural zone of Duong Lam, tourism site of Dong Mo, Xuan Khanh. Trade-tourism-service of the province has recorded a growth rate of 14% per year.

Accounting for 21% of GDP, agricultural production is experiencing stable development. Crop restructuring in agriculture is conducted effectively. Husbandry value makes up 50% of total agricultural value. Agriculture sector is growing at 4.6% per year.

Key socio-economic development targets by 2005-2010

- GDP growth rate: 8-10% per year.
- Economic structure: Industry-home industries = 48%; trade-tourism-service = 37%; agriculture-forestry = 15%.
- Per capita income: 5 million VND/year.
- Budget revenue: 5%/year.
- Reducing poverty rate by 1 – 1.5 per year.
- 30% of villages and streets to be recognized as cultural street
- Keeping and raising quality of education, striving to have two or three schools recognized as national standard schools; 100% of schools built permanently.
- Birth rate: 0.1% per year.

Famous places of interests in Son Tay town

Son Tay town is home to a good number of cultural and historical sites famous nationwide.

- Son Tay ancient citadel: is a precious relic that should be kept intact.
- Cultural and historical site of Duong Lam: is located 4km from the center of Son Tay and in the land of ancient Vietnam. Visitors can see laterite walls, houses, villages gate of hundreds of years old, many other ancient temples, pagodas and communal houses in the area.
- Dong Mo resort: is in the hilly and valley area north of Ba Vi Mountain. It is the picturesque beauty of Dong Mo lake. Ngai Son, including the reservoir area of 1450 ha and 21 islands of sizes. At present, the complex of Dong Mo – Ngai Son is a critical link in the ecological chain with Hanoi capital city.

3.3.2 Ba Vi District

Ba Vi is the semi-mountainous region northwest of Ha Tay, 53 km far away from Ha Dong and Hanoi city. It is connected with other provinces and Hanoi by NH32, provincial road 89A, etc. and inland waterway on Hong, Da River, with favorable conditions of road and inland waterway transport.

Terrain is divided into mountainous, hilly and flat land areas. The plain has been built up by Hong and Da River. Land is fertile for crop cultivation and agricultural production. Agriculture is the key sector boosting development of the district, accounting for 95% of total area for rice growing.

Strong emphasis on development of industrial crops and fruit trees (e.g. tea, litchi, longan) in mountainous and hilly area. Husbandry, strength of Ba Vi is cow breeding.

Ba Vi puts a special focus on tourism and service development, with a good combination of water, mountain, original forests like Ba Vi (42% of natural area). Springs, streams and tens of lakes like Ao Vua, Khoang Xanh, Thac Mo, Tien spring, Suoi Hai lake, hot mineral spring Thuan My.

However, the weakness of Ba Vi district is development of industry and handicrafts. Ba Vi is home to some factories like Nestle, Sanam Fruit Processing factory, Chinh Nhan tea company, outputs are for local market mainly and a part for export.

Schooling facilities have been much developed. Rate of graduation at all levels gets higher over years. One central hospital, three regional hospital and 32 commune clinic. Quality of health care has been improved constantly. Natural population growth rate is curbed less than 1.02%.

Key socio-economic development targets in 2005 and 2010

Targets	Unit	2005	2010
GDP	Billion VND	1,500	2,358
GDP growth rate	%	11.4	9.5
Total food output	Ton	88,000	92,000
Average per capita income	Million VND	3.5	6.0

Socio-economic development orientations by 2010

In 2001-2003, growth rate was 9% per year, comparing to provincial of 7.8% per year. Living condition of local people has been much improved. Ba Vi set out following socio-economic orientations by 2010:

- Agricultural sector focus more on high-value crops. Husbandry, the district shall diversify livestock and increase the cow herb to rise quantytive and quality of productions.
- For tourism and service sector, policy is to renew operational method to grasp with market changes and meet requirement of development. Tourism and service revenue shall be higher than existing status, creating jobs with stable incomes for about 6000 people.
- Industries and handicrafts shall be promoted by calling FDI and local private investors. Land use planning shall be conducted for development of industry.

3.3.3 Phuc Tho District

- Natural area: 117 km²
- Population: 155 thousand people
- Administrative unit: 22 communes, 1 town
- GDP growth rate: 8% year year
- Economic structure: 52% for agriculture; 23.6% for industry and construction; 24.4% for trade and service

Overall economic development targets by 2005 and 2010

- GDP: 9% per year
- Economic structure: 40% for agriculture; 30% for industry and 30% for service and tourism
- Food output: 430 kg/person/year
- Per capita income: 4 million VND/year

Recent years, Phuc Tho has been taking use of its advantages to become one of three largest agricultural production localities in the province. Agricultural accounting for 65% of total natural area, Phuc Tho is viewed as the district with greatest potential for agricultural production. Annual agricultural growth rate is 5%, higher than provincial average. Husbandry of Phuc Tho district has been transforming to become the key production industry in agricultural structure (40% - 45%).

And also places emphasis on development of industries and handicrafts, including garments, agricultural processing and construction materials. Industrial value growth is about 20% per year. Highest growth rate was 31% per year for making of construction materials and 19% of cassava starch processing. Service sector has also high growth rate of 24% over recent years. Thanks to robust development of service sector, rural employment structure has been positively changed.

Improvement of infrastructure

Half of Phuc Tho area is in the flood-discharge area, system of dyke is important. Most of rural and village paths have been built concrete, newly construction of schools, clinics, roads. System of dyke, embankment, ditch and irrigation cannels, etc. has been upgraded. Rural appearance and living condition of local people has been much improved. Regarding agriculture, the district shall proceed with crop restructuring and planning of concentrated cultivation and husbandry area matching its potentials and strengths. With respect to industry, there are now 23 planned industrial points and programs such as expansion of NH32, new digging of Day River, dyke concrete embankment.

Target of 30% of GDP of trade and service, the district has been upgrading existing rural market, commercial centers to meet increased consumption demand of the public. Moreover, it is to take advantage of abundant historical, cultural sites, traditional craft villages, farms to promote eco and cultural tourism.

3.3.4 Thach That District

- Area of land (km^2) 128.1
- Average population (person) 151,845
- Density (persons/km^2) 1,185

- Labour in econnomy industries (person) 68,828

Taking advantages of industries and handicraft as dynamic for economic development

Thach That is a semi-mountainous district located in the northwest of Ha Tay, adjoining Phuc Tho in the north, Luong Son in the south (Hoa Binh province), Quoc Oai in the east and south. It is 28 km southeast of Ha Dong and 40 km east of Hanoi.

Thach That has favorable geographic, land and human resources for industrial and handicraft development. Economic structure of the district is transforming to be more focal on industrial, service share.

In the near future, many large-scale projects such as Hoa Lac city, urban township of Binh Yen, Dong Truc, Vietnam cultural village and industrial parks, clusters shall be implemented.

Promoting existing potentials

Located in the north of Ha Tay, the district is connected with many key roads such as NH32, expressway of Lang-Hoa Lac and the provincial road linking Thach That and Hanoi, NH21A connecting Thach That with northwestern provinces, provincial road 80, 84 linking with neighboring districts. It enjoys enabling conditions for economic and trade cooperation.

The formation of Hoa Lac high-Tech Park, North Phu Cat IP, VNU, VN cultural village and other industrial clusters in Binh Phuc, Phung Xa, etc, it emerges as the district experiencing highest and most robust industrial development of the province.

There is a variety of craft villages in the district such as Trang Son carpentry village, Phung Xa metallurgy village, Huu Bang, etc.. As such, it is highly potential in developing home industries, handicrafts. Thach That is also home of hilly area and other places of interests, historical and culture sites, it is very enabling for tourism development.

Overall economic picture of the district

Although per capita cultivate area is shrinking, crop restructuring has helped to raise output and quality of produce. Over recent years, the district has been more attentive to planning of concentrated production area such as high-output rice in Dai Dong, Di Nau, Thach Xa, fruits in Kim Quan. Husbandry and crop are also experiencing robust development in both terms of scale and quality.

Thach That achieved a growth rate of 6.4% per year. Agricultural share dropped from 47% in 2003 to 41% in 2003. Agricultural structure itself has been transformed positively.

Recent years, industries and handicrafts have been identified as a dynamic and

motivation for socio-economic development of the province. The district manages to complete site clearance for 3000 ha (one fourth of total natural area, in which 1,650 ha is for the hi-tec park of Lang-Hoa Lac, 150 ha is for Bac Phu Cat industrial park and 200 ha for the Vietnam National University/ VNU). The district has received 43 project proposals for renting land for investment.

Industrial and handicraft production grows at 19.6% per year. Share of industries and handicrafts increased from 24% in 2000 to 31% in 2003. Industrial labor force is growing in both quality and quantity. In 2003, labor in industries and handicraft in the district accounted for 24% (an increase of 5% against 2000) while that of trade and service and tourism; agriculture was 3% and 68% respectively.

Socio-economic development orientation by 2005 and 2010

District shall accelerate crop and livestock restructuring and planning of specialized and concentrated areas for production of rice, vegetables of kinds matching advantages of each area. A better focus should be placed on breeding of milk cow, cattle for meat and high-lean pigs. It is planned to gradually form feed production for cattle, poultry on farming and industrial scale.

In near future, district shall be home to large-scale industrial parks such as Hoa Lac hi-tec park, Bac Phu Cat IP. It is now developing the industrial cluster of Binh Phu covering 21 ha and Phung Xa industrial point covering 16.8 ha.

There are policies on agricultural, industrial and handicraft production, infrastructure development such as transport network, healthcare system, favorable investment environment, strengthening of potential of each economic sector and creation of jobs for labors. Priorities shall be given to education and training, especially vocational training for workers. This is the key to ensure sustainable economic development of Thach That district.

3.3.5 Quoc Oai District

- Area of land (km^2) 129.5
- Average population (person) 149,109
- Density (persons/km^2) 1,151
- Labour in economy industries (person) 75,116

Present situations

Located in the west of Ha Tay, 20 km from Ha Dong and Hanoi, Quoc Oai has favorable transport conditions supported by the expressway of Lang – Hoa Lac, NH21A and provincial roads 80 and 81. Two rivers of Day and Tich flow in parallel through the district to facilitate inland waterway transport and act as fruitful water resources for irrigational purpose and economic development.

Agriculture: Quoc Oai is considered as one with high potential for agricultural development. The practice shows that contribution of agriculture to GDP is the largest. Over recent years, agricultural production of the district is gaining high output, both in crops and husbandry.

In 2002, total food production output was 63,160 tons, an increase of 14.5% against 2001. Total export value of cultivation was 147.5 billion VND, an increase of 1.9% comparing of 2000. In 2003, in spite of two big storms hitting the crops causing widespread flooding, rice output was still reached 98% of target of the year.

Husbandry has been developed both in scale and quality of output. In 2003, total output an increase of 21% against that of previous year, accounting for 3% of GDP. Fishery or aquaculture has been stabilized within increased aquaculture area and renovated breeding methods to achieve higher economic efficiency.

Industries and handicraft industries: are developing on a minor scale. Total production value of industries and handicrafts was 291 billion VND in 2003, an increase of 16% against the target of the year or 33% higher than the target of 2002.

Service and tourism: has not yet been developed corresponding to potentials of the district. Planning of the spiritual and eco tourism site of Thay pagoda has not been implemented. Infrastructure of tourism is poor.

Future orientation

In years to come, Quoc Oai advocates promotion of industrial and handicraft development, tourism and service on the foundation of agricultural development. It is targeted that by 2005, share of agriculture, industry and service shall be 47%, 30% and 23% respectively. Development of tourism and service is a priority. To that end, in the near future, Quoc Oai shall take agricultural development as the foundation for tourism and service take-off.

The expressway of Lang-Hoa Lac has been opened, cutting four northern communes of Quoc Oai on a length of 9 km. It emerges as a great potential for Quoc Oai to develop comprehensively. NH21A passing the district along the urban chain of Mieu Mon – Xuan Mai – Hoa Lac – Son Tay shall be the key road boosting industrial development of Quoc Oai in the near future.

Apart from planning of industrial parks, urban centers and handicrafts are also concerns of the district. For the time being, the craft of making conical hat for export, rattan and bamboo wares are being restored and expanded. The district is scheduled to make plans for seven craft villages covering 55 ha. Two communes of Tan Hoa and Can Huu have already been planned.

In its orientation for tourism and service development, Quoc Oai shall deploy the project of building agricultural-forestry village of Phu Cat covering 36 ha as an eco-tourism site and a series of guest houses in service of weekend holidays.

Moreover, the district shall make plan for the tourism site of Thay pagoda covering 20 ha. At present, Quoc Oai is calling investment for tourism development in historical-sight-seeing-spiritual manner.

3.4 Regional Plans

3.4.1 Red River Delta Socio-Economic Master Plan by 1996-2010

The Red River delta (RRD) region is one of eight national sub-regions and comprises nine provinces located in the delta area with Hanoi as the northernmost province. The area covers 12,632km^2 and has a population of 15.4 million. The Master Plan for Socio-economic Development in the Red River Delta was approved in 1997 and plans up to 2010.

(1) Goal/ Objectives:

- Develop the RRD as the center for industrial and agricultural development in Vietnam.
- Modernize the production force and achieve basic electrification.
- Restructure the economy toward the industrial and service sectors and reduce the agricultural sector.
- Reduce the gap in living standards between rural and urban areas and improve education, health, and cultural life in the region.

(2) Economic Development:

- The average annual GDP growth rate of the region should be 14% in 2001-2010.
- The GDP share shall be about 7% for primary, 43% for secondary and 50% for tertiary sector by 2010.

(3) Social Development:

- Raise the quality and efficiency of educational and training system.
- Expand the network of primary healthcare, medical examination, and treatment for the people.
- Incorporate national programs for socio-economic development.
- Meet the demand of clean water for production, business, and daily life.
- Basically complete electrification of the area.

3.4.2 NFEZ Socio-Economic Master Plan by 1996-2010

Vietnam is divided into six economic zones of which the NFEZ is a planning area for social and economic development for the Hanoi region. It comprises eight provinces, covers an area of 15,287 km^2, and has a population of 13.2 million. The Socio-economic Development Plan of the Northern Key Economic Region 2010, with a Vision toward

2020 was approved in 1997.

(1) Goal/ Objectives:

- Promote industrial development through foreign investments.
- Ensure the zone has a leading role and position in the north and the country, therefore boosting and assisting other regions, especially those facing huge difficulties.
- Be in the forefront of national industrialization and modernization with specific respect to international cooperation and investment attraction.
- Gain faster and more sustainable development than other regions.

(2) Economic Development:

- GDP growth: 1.3 times the average national GDP growth up to 2010 and 1.25 times up to 2020.
- Increase region's share to national GDP to 24% in 2010 and 29% in 2020.
- Raise the annual average per capita export value from US$ 447 (2005) to US$ 1,200 (2010) and US$ 9,200 (2020).
- By 2010 raise percentage of trained labor to 55%.
- By 2010 reach the advanced technology rate of around 45%.
- Reduce poor households to 1.5% by 2010 and 0.5% by 2020.

(3) Social Development:

- Reduce the natural population growth rate to 1% by 2010 and under 0.8% by 2020.
- Urbanization of NFEZ should be 51% by 2010 and 65% by 2020.
- Develop and raise the capacity of material and technical foundations in service of education.
- Develop medical establishments, equipment and services.
- Build cultural centers.
- Upgrade the central television tower.
- Build a safe and healthy economic-social-natural environment for children.
- Accomplish and modernize.

3.4.3 Hanoi Metropolitan Area Plan and vision until the year 2020 (MOC)

The Hanoi metropolitan area (HMA) includes Hanoi City and eight surrounding provinces. The area covers 13,379 km^2 and has a population of 12 million. The Hanoi Metropolitan Area Development Plan is to be finalized in 2005 and has a vision toward

2020 and onward.

(1) Goal/ Objectives:

Develop HMA as the major economic area in Vietnam and promote it to a prominent economic and cultural position in Southeast Asia and Pacific.

- Ensure that HMA is an important national and regional cultural and historical area and tourism center as well as an area for science and labor training.
- Develop HMA as a favorable investment area with high living conditions in both urban and rural areas and ensure a sustainable environment.

(2) Economic Development:

- GDP annual growth: 9.5% up to 2010 and 8.8% up to 2020.
- GDP shares by 2010: Agriculture 16.7%, industry 46%, and services 42%.
- GDP shares by 2020: Agriculture 7.3%, industry 49.8%, and services 43%.
- Annual industrial growth of 12% in 2004-2010 and 9.8% in 2011-2020.
- Annual agriculture growth by 3.4% in 2004-2010 and 3.1% in 2011-2020.
- Annual services growth by 9.4 in 2004-2010 and 9.1% in 2011-2020.
- Raise by 2010 the share of total labor force of agriculture 44.6%, industry 25% and services 30%.

(3) Social Development:

- Regional population should increase to 13.5 million in 2010, 15 million in 2020, and 16.5 million in 2030.
- HMA urbanization (currently 23%) should be around 30% in 2010 and 55-62% in 2020.
- Create the education triangle of Hanoi-Hai Phong-Nam Dinh to provide services to the region.
- Increase number of colleges and vocational schools from 56 to 70 by 2020.
- Each province should have at least 1-2 universities.
- Establish high-quality healthcare service centers in Hoa Lac, Hai Duong, Vinh Yen, and Ha Nam urban areas to reduce pressure on Hanoi hospitals.
- Supply clean water to 90% of urban and town centers by 2010 and 100% by 2020.
- Supply clean water to 85% of small towns and urban areas by 2010 and 95% by 2020.

4. DEMAND PROJECTION FOR HIGH-TECH INDUSTRIAL ZONE

The demand projection on the area of industrial estate of which quality meeting with the requirement of high-tech industries in HHTP has been carried out taking into consideration of projection of increased number of FDI into the manufacturing of light industrial products of which major part falls under the category of high-tech products, geographical proportion of FDI for high-tech industries as well as the forecast on the availability of human resources matching to the need to develop and promote further the high-tech industries within a context of development of science and technology of Vietnam.

The demand projection has been carried out in accordance with the following steps.

Step-1 Analyze the historical change of the number of FDI in total
Step-2 Analyze the historical change of share of FDI for manufacturing industries
Step-3 Analyze the historical change of share of FDI for high-tech industries
Step-4 Determine the annual growth rate of FDI in total up to 2020
Step-5 Determine the share of FDI for high-tech industries in high-tech industry
Step-6 Obtain the number of FDI for high-tech industry
Step-7 Analyze and determine the regional distribution of FDI for high-tech industries to the northern part of Vietnam
Step-8 Obtain the number of FDI for high-tech industry in the northern part of Vietnam
Step-9 Determine the average area requirement by on investor for high-tech industries
Step-10 Obtain the demand of industrial estate for high-tech industry by multiplying an average area needed by one investor for high-tech industry and number of investor for high-tech industry projected.
Step-11 Analyze and determine the geographical distribution of number of FDI for high-tech industry for Hanoi and its vicinity
Step-12 Obtain the projected area requirement by FDI in total in Hanoi and its vicinity
Step-13 Analyze the present area of industrial estate developed in Hanoi and its vicinity
Step-14 Subtract the present area of industrial estate from the projected requirement of area for high-tech industries in Hanoi and its vicinity for each year up to 2020

The number of FDI has increased since 1988 and reached to 6,164 projects in 2004, of which the number of FDI for manufacturing sector accounts for around 4,000. Average share of FDI for manufacturing sector was around 33% in the total number of FDI in 1988 – 1999. This has been increased to 53% in 1999 – 2004. As such the share of FDI for manufacturing sector has been expanding year by year. It is projected that the share of FDI for manufacturing sector in 2004 was around 60%. The average number of FDI per year in the period of 1988 – 1995 was 230, 1996 – 2000 was 350 and 2001 – 2004 was 710. The number of FDI registered in 2004 was around 750. As the share of FDI for

manufacturing sector accounts around 60% the number of FDI for manufacturing sector in 2004 was estimated at around 450 - 500.

The regional distribution of number of FDI in the total number of FDI for high-tech industry to the northern part of Vietnam is estimated at 40% and further the geographical proportion of Hanoi and its vicinity is estimated at 60% in year 2004 which is set at base year for the projection of area requirement of the Project by 2020. An average area requirement by one FDI for high-tech industry is estimated at around 4.0 hectares. The present area developed and operated as the industrial estate designated for the investment into the manufacturing is estimated at around 3,000 hectare in total. Of which around 600 hectares are owned and operated by foreign-local joint venture industrial estate developers. Thus, around 600 hectare of existing industrial estate is considered to meet with the quality requirement of high-tech industry.

The area requirement by FDI for the manufacturing of products fall under the category of high-tech industrial products in the vicinity of Hanoi by 2020 is computed based on the basic conditions mentioned above as shown in Table 4.1-1 for conservative case and Table 4.1-2 for high case, respectively.

Table 4.1-1 Projection of IZ Area Requirement for Hi-Tech Industries in the Vicinity of Hanoi (Conservative Case)

Year	Nos. of FDI for Mfg. Sector	AGR of FDI Investment	Share of High Tech	Total FDI for Hi-tech	Regional Distribution to North	FDI for Hi-tech in North	Area Requirement per Hi-tech Park	Area Requirement	Share of Hanoi Vicinity in North	Present IZ Area for Hi-tech Ind.	Area Requirement in Hanoi and Its Vicinity
Unit	Nos.	%	%	Nos.	%	Nos.	Ha.	Ha.	%	Ha.	Ha.
2007	860	20	20	260	42	110	4.0	440	62	600	**-160**
2010	1,490	20	30	450	44	200	4.0	800	64	600	**200**
2012	2,150	20	30	650	45	290	4.0	1,160	65	600	**660**
2015	3,720	10	30	1,120	47	520	4.0	2,080	67	600	**1,480**
2020	6,000	10	30	1,800	50	900	4.0	3,600	70	600	**3,000**

Source: JICA Study Team

Table 4.1-2 Projection of IZ Area Requirement for High-Tech Industries in the Vicinity of Hanoi (High Case)

Year	Nos of FDI for Mfg.	AGR of FDI Investment	Share of High Tech	Total FDI for Hi-tech	Regional Distribution to North	FDI for Hi-tech in North	Area Requirement per Hi-tech Park	Area Requirement	Share of Hanoi Vicinity in North	Present IZ Area for Hi-tech Ind.	Area Requirement in Hanoi and Its Vicinity
Unit	Nos.	%	%	Nos.	%	Nos.	Ha.	Ha.	%	Ha.	Ha.
2007	860	20	40	340	42	140	4.0	560	62	600	**-40**
2010	1,490	20	40	600	44	260	4.0	1,040	64	600	**440**
2012	2,150	20	40	860	45	380	4.0	1,520	65	600	**920**
2015	3,720	10	40	1,490	47	690	4.0	2,760	67	600	**2,160**
2020	6,000	10	40	2,400	50	1,200	4.0	4,800	70	600	**4,200**

Source: JICA Study Team

In 2010, the requirement of industrial estate designed for high-tech industrial sector is

expected to be filled completely. Therefore, the development of such industrial estate would become necessary from 2010 or so to meet with the new demand occurring after 2010. In 2012, it is projected that around 300 (=800-500) to 620 (=1,520-500) hectares of industrial estate designed for high-tech industry is to be ready for entrance of tenants. In 2015, around 1,580 (=2,080 - 500) to 2,260 (=2,760-500) hectares of industrial estate for high-tech industry will be required by investors in the field of high tech industry sector.

Figure 4.1-1 illustrates the projection of industrial estate designed for high-tech industries in the vicinity of Hanoi by 2020 under a conservative case. As shown in this figure in 2010 the existing industrial estate suitable for the production of high-tech products will fully be occupied by tenants.

Judging from this projection of demand on industrial estate for high-tech industry as a conservative case, the planned area in Hoa Lac High Tech Park which is 340 hectares (excluding reserved area) at present would become available to accommodate such needs by 2014 or so. In other word, the demand on industrial estate for high-tech industry projected in Hanoi or its vicinity is much more than the area provided in Hoa Lac High Tech Park for high-tech industries.

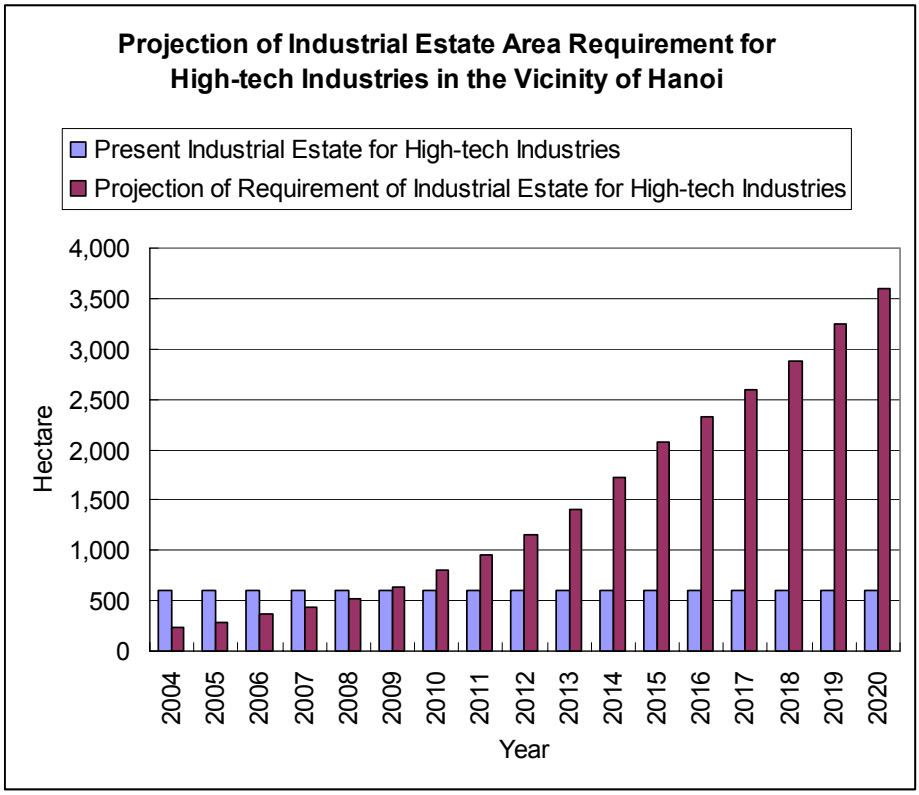


Figure 4.1-1 Projection of IZ Area for High-Tech Industries by 2020 in the Vicinity of Hanoi (Conservative Case)

SECTION B

QUESTIONAIRE SURVEY

5. Questionnaire Survey on Investors

5.1 Questionnaire Survey on Japanese Investors

5.1.1 General

With the collaboration of MPI, the JICA Study Team conducted a questionnaire survey from June 9 to June 22, 2007, with 96 Japanese manufacturing or software companies which participated in the investment seminar of Ha Tay province (February 27, 2007 in Tokyo), or visited HHTP. Effective answers were obtained from 16 out of 96 companies for a 17% effective respondent ratio.

Numbers of respondents are shown in Table 5.1-1 by industrial category.

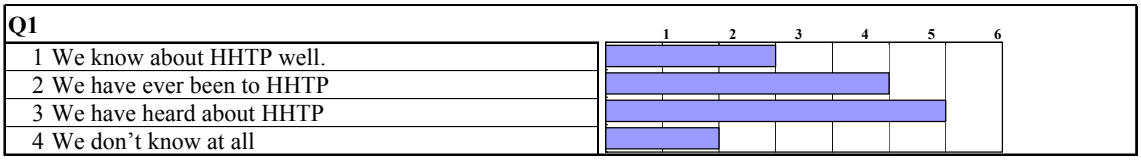
Table 5.1-1 Respondents by Industrial Category (Japanese Investors)

Industrial Category	No.	Industrial Category	No.
Software	4	Electric and Electronics	4
Machinery & Precision Machinery	3	Iron and Steel	1
Metalworking	1	Chemical	1
Plastics	1	Textile & Garments	1
Total	16		

5.1.2 Questions and Answers

(1) Degree of Recognition

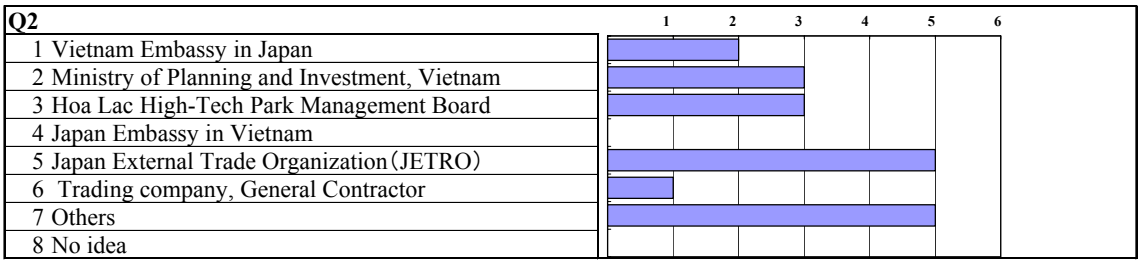
Q1: How well do you know about HHTP?



A total of 5 respondents have been to HHTP. Additionally, 9 respondents answered "We know about HHTP well." or "We have heard about HHTP."

(2) Information Source

Q2: The person who answers 1 or 2 in Q1→ How did you get information?
The person who answers 3 or 4 in Q1→ How will you get information about HHTP, if you are interested?



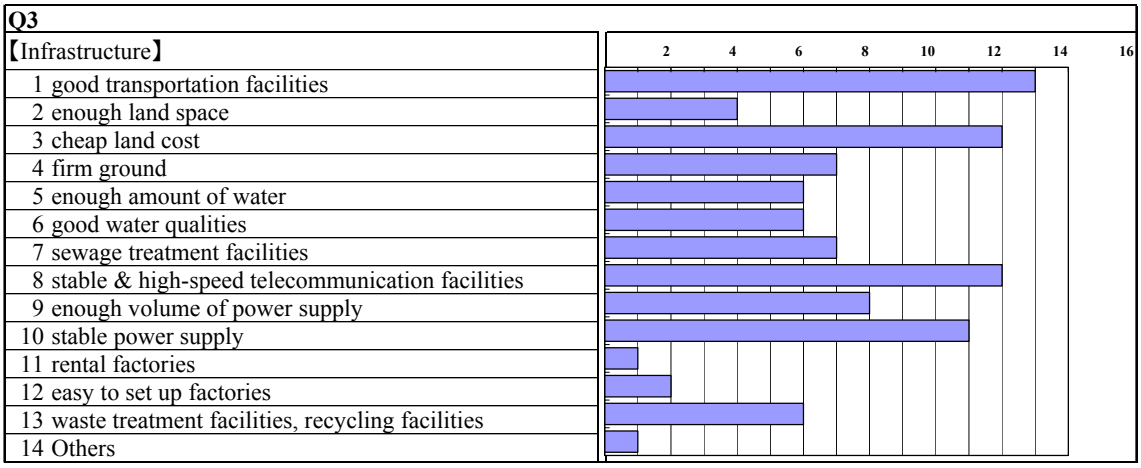
A total of 5 companies got information regarding HHTP from JETRO, followed by

"from HHTP-MB" (3 companies) and MPI (3 companies). Banks are included in "others" as an information source.

(3) Conditions Desired for Setting up Facilities in HHTP

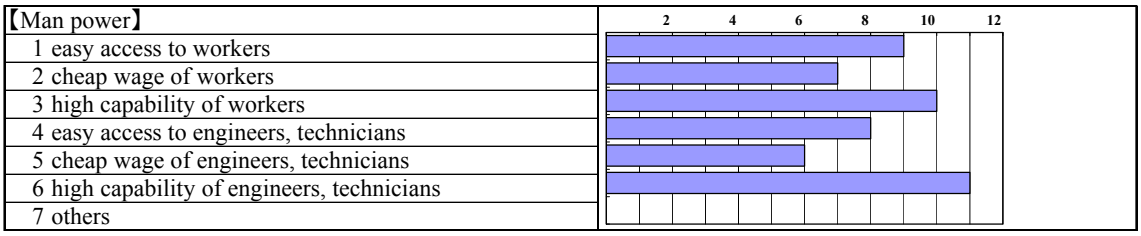
Q3: If your company set up facilities in HHTP, what kind of conditions do you want? (Multiple answer)

Q3



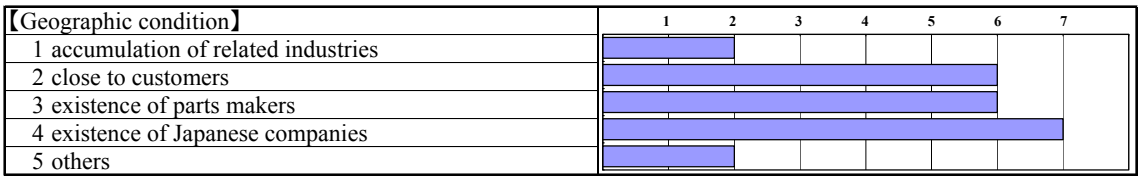
The most desired infrastructure was "transportation" (13 companies); followed by "cheap land" (12 companies), "stable & high-speed telecommunication facilities" (12 companies), "stable power supply" (11 companies), and "enough volume of power supply" (8 companies).

Additionally, one respondent desired mass transportation to be set up between Hanoi and Hoa Lac for commuters.

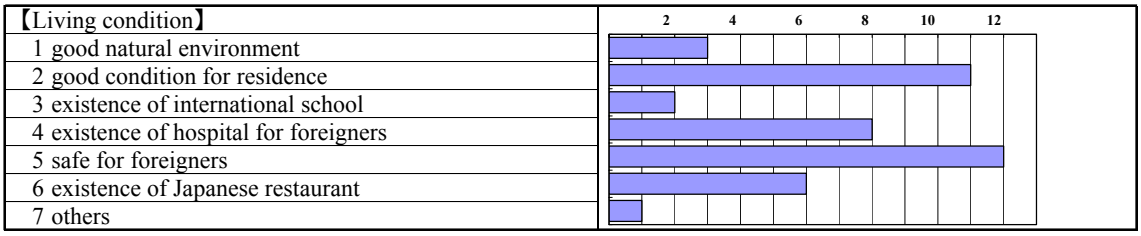


The most desired condition of manpower was "high capability of engineers, and technicians" (11 companies); followed by "high capability of workers" (10 companies), "easy access to workers" (9 companies), and "easy access to engineers and technicians" (8 companies).

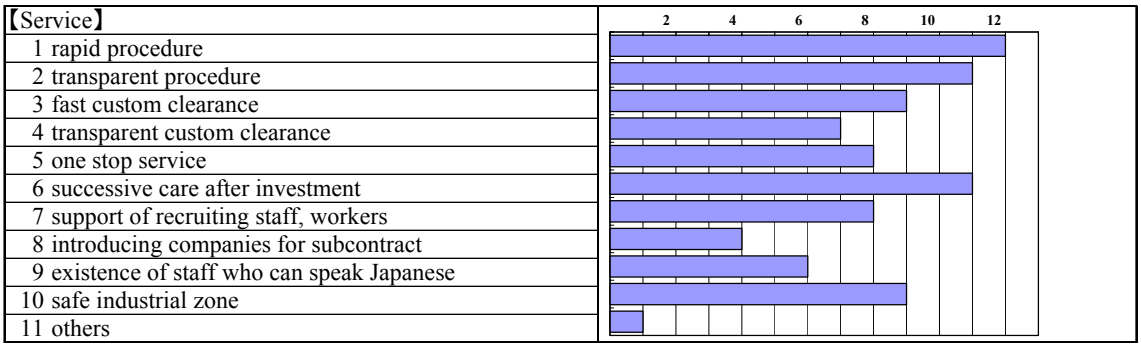
Additionally, one respondent desired a technical university and higher IT education institutions be set up.



The most desired geographic condition was "existence of Japanese companies" (7 companies).



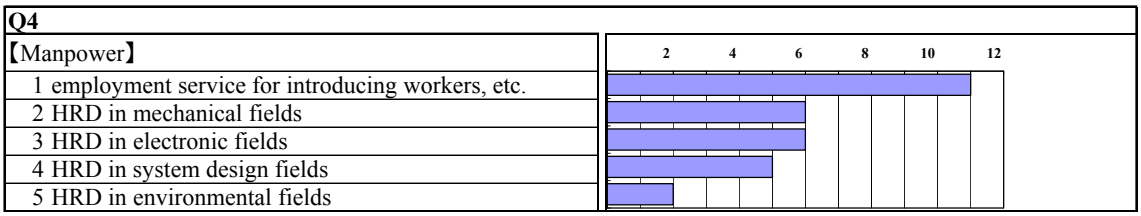
The most desired living condition was "safe for foreigners" (12 companies); followed by "good condition for residence" (11 companies), and "existence of hospital for foreigners" (8 companies). Additionally, one respondent desired housing for workers.



The most desired service was "rapid procedure" (12 companies); followed by "transparent procedure" (11 companies), "successive care after investment" (11 companies), "fast custom clearance" (9 companies), "safe industrial zone" (9 companies), "one stop service" (8 companies), "support of recruiting staff" (8 companies). Additionally, one respondent desired permanent tax incentives.

(4) Desired Functions in HHTP

Q4-1: If your company set up facilities in HHTP, what kind of functions do you want in HHTP? (Multiple answer)



A total of 11 companies out of 16 desired an employment service. Desired fields of human resources development (HRD) vary from one company to another. The most desired field was mechanical (6 companies) and electronic (6 companies), followed by system design fields (5 companies) and the environmental field (2 companies).

【Testing & Analysis】	1 2 3 4 5 6 7
6 testing & analysis in mechanical fields	
7 testing & analysis in electronic fields	
8 testing & analysis in environmental fields	

The most desired testing and analysis field was electronics (7 companies), followed by mechanical (4 companies) and environmental (2 companies). Desired fields of testing and analysis vary from one company to another, just like the fields of HRD.

【Subcontracting】	1 2 3 4 5 6 7
9 mechanical processing	
10 software development	
11 circuit design	

The most desired fields of subcontracting were mechanical processing (7 companies), followed by software development (5 companies) and circuit design (1 company).

【Others】

Additionally, one respondent desired one stop service that is truly workable.

(5) Merits of HHTP

Q5: What are the merits, if your company set up facilities in HHTP?

1	HHTP is close to Hanoi.
2	The road to Hoa Lac is well developed.
3	HHTP has an extensive site.
4	Distribution will be improved by completion of road projects.
5	HHTP is provided with backup of GOV.
6	FDI will make serious investigations of HHTP, if HHTP can satisfy with the conditions of infrastructure, living, HRD, permanent tax incentives, and service.
7	Tax incentive is available.
8	HHTP is relatively close to Hanoi, and transportation will be improved.
9	Human resource development of software needs to be enriched. One respondent wanted to know the progress of the FPT University relocation project.
10	Prime Minister of Vietnam called for FDI to HHTP.
11	Compared with Hanoi, lower fixed cost is expected in HHTP.

(6) Demerits of HHTP

Q6: What are the demerits, if your company set up facilities in HHTP?

1	There is not stable and high-speed telecommunications
2	Lot size is too large for plastic mold factory.
3	There is not a hotel for foreigners near the site of HHTP.
4	Hoa Lac is too far from cities because road development is not sufficient.
5	Development speed is missing.
6	Difference in language and culture may be a large barrier for sharing the investor's know-how of manufacturing.
7	HHTP is inconvenient place at present.
8	There is not a restaurant for foreigners near HHTP.

9	There is only a small number of investors at present.
10	Investment approval procedure is unclear.
11	Future plan of infrastructure development is not clear at present.
12	Road construction project is not completed.
13	HHTP is not a good location at present, compared with industrial parks located along the road connecting the air port and Hanoi, and another road connecting the China Border and Hanoi. One respondent looked forward to future development and an academic city.
14	HHTP is located at an inconvenient place for parts procurement and product shipment.
15	HHTP has a disadvantage for recruiting workers.
16	Infrastructure is not developed well, especially for power, telecommunications, and transportation.
17	If Japanese staffs stay with their families in Hanoi, there is a risk of traffic accidents while commuting between Hanoi and HHTP.

5.1.3 Analysis of Results

(1) Respondents mostly desired the following conditions, if they set up facilities in HHTP.

- Services, especially rapid procedures, care after investment, fast customs clearance, safe industrial zone, one stop service, and support of recruiting staff.
- Infrastructure, especially, transportation, cheap land, stable and high-speed telecommunications, stable power supply, and adequate power supply.
- Manpower, especially, high capability of engineers and technicians, high capability of workers, easy access to workers, and easy access to engineers and technicians.
- Living conditions, especially, safety for foreigners, good residential conditions, and existence of a hospital.

If HHTP can satisfy the conditions of infrastructure, living, HRD, permanent tax incentives, and service, FDI will make serious investigations (written by one respondent).

(2) Respondents mostly expected that HHTP would need to have the following functions, if they set up facilities in HHTP.

- An employment service, and human resource development in the mechanical, electronic, and software design fields.
- Testing and analysis functions for mechanical and electronics fields.
- Subcontractors for mechanical processing and software development.

(3) Respondents envisaged the following as merits of HHTP:

- HHTP is relatively close to Hanoi, and transportation will be improved.
- HHTP has an extensive site.
- Tax incentives are available. In addition, compared with Hanoi, lower fixed cost is expected in HHTP.
- The Prime Minister of Vietnam called for FDI to HHTP.

(4) Respondents envisaged the following as demerits of HHTP:

- HHTP is not a good location at present, compared with industrial parks located along the road connecting the air port and Hanoi, and another road connecting the China Border and Hanoi.
- HHTP is an inconvenient place at present. There is only a small number of investors at present.
- Infrastructure is not developed well, especially for power, telecommunications, and transportation.
- Investment approval procedures are not clear.
- Future plan of infrastructure development is not clear at present.
- HHTP has a disadvantage for recruiting workers

5.2 Questionnaire Survey on Local and Foreign Investors

5.2.1 General

The JICA Study Team conducted a questionnaire survey from July 20 to August 3, 2007, with 30 manufacturing or software companies which are operating in Vietnam. They are local companies and foreign companies other than Japanese firms. Effective answers were obtained from 15 out of 30 companies for a 50% effective respondent ratio.

Numbers of respondents are shown in Table 5.2-1 by industrial category.

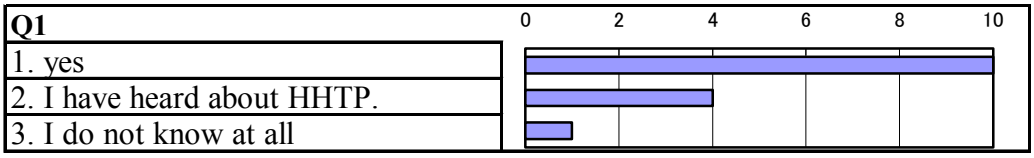
Table 5.2-1 Respondents by Industrial Category (Local and Foreign Investors)

Industrial Category	No.	Industrial Category	No.
Software	4	Electric and Electronics	4
Machinery & Precision Machinery	3	Chemical	1
Metalworking	1	Others	2
Total	15		

5.2.2 Questions and Answers

(1) Degree of Recognition

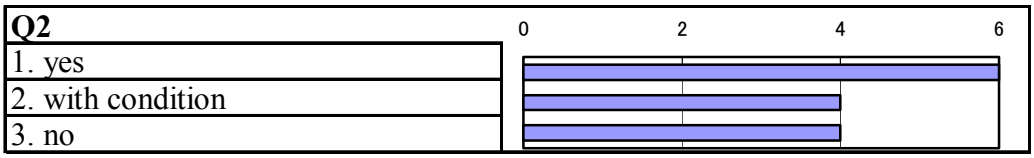
Q1: Do you know about HHTP?



A total of 10 respondents answered “Yes.” And 4 respondents answered “We have heard about HHTP.”

(2) Intention to locate in HHTP

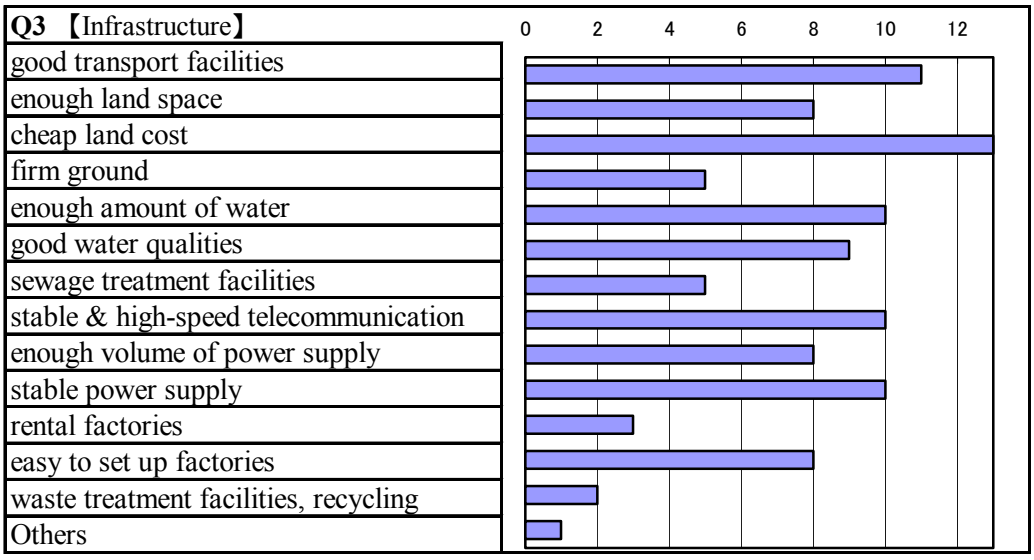
Q2: Do you intend to move to HHTP or to set up another facility in HHTP?



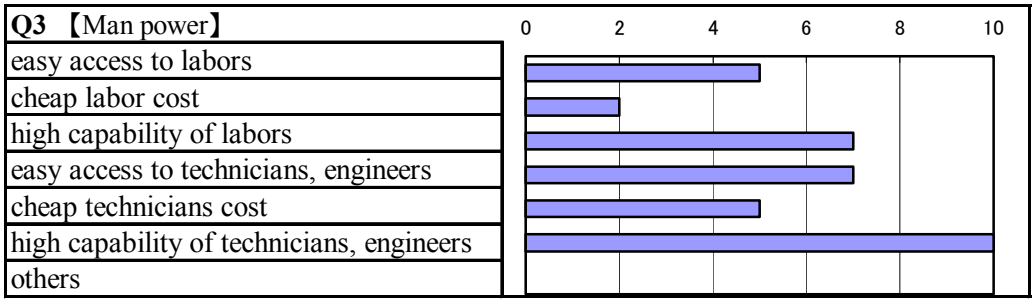
A total of 6 companies answered “yes” and 4 companies answered “with condition”.

(3) Conditions Desired for Setting up Facilities in HHTP

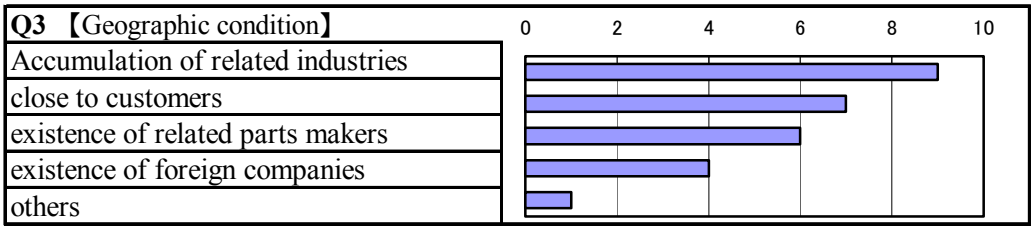
Q3: If your company set up facilities in HHTP, what kind of conditions do you want HHTP to have?（Multiple answer）



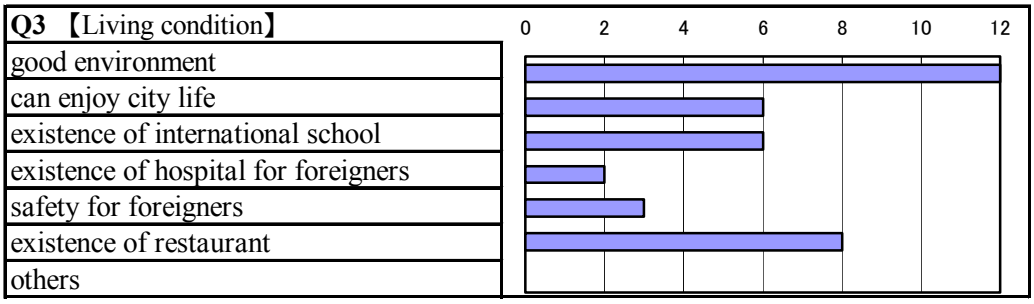
The most desired infrastructure was “cheap land” (13 companies); followed by “good transport facilities” (11 companies), “enough amount of water” (10 companies), “stable & high-speed telecommunication” (10 companies), and stable power supply” (10 companies).



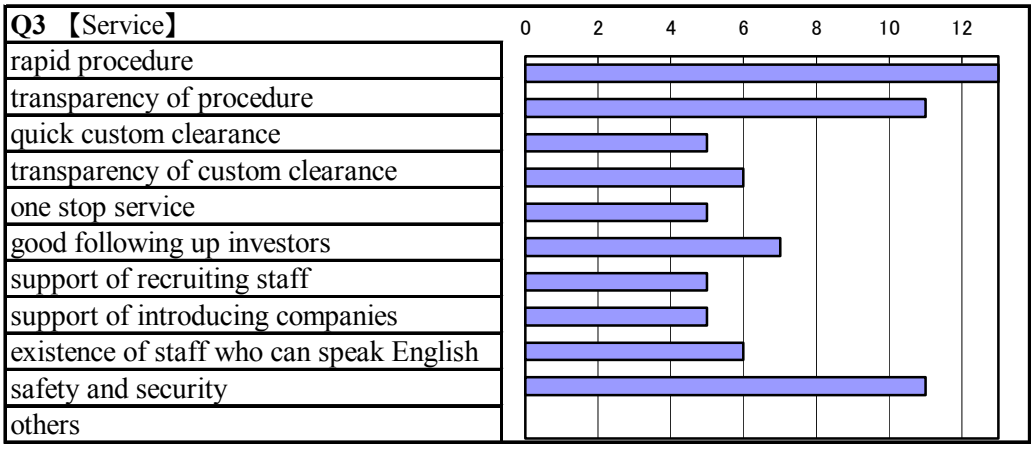
The most desired condition of manpower was “high capability of engineers, and technicians” (10 companies); followed by “high capability of workers” (7 companies), and “easy access to engineers and technicians” (7 companies).



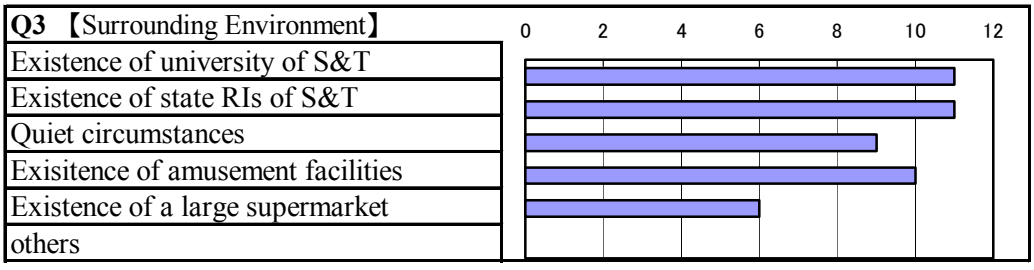
The most desired geographic condition was “accumulation of related industries ” (9 companies).



The most desired living condition was “good environment” (12 companies); followed by “existence of restaurant” (8 companies).



The most desired service was “rapid procedure” (13 companies); followed by “transparency of procedure” (11 companies), “safety and security” (11 companies), and “good following up investors” (7 companies).

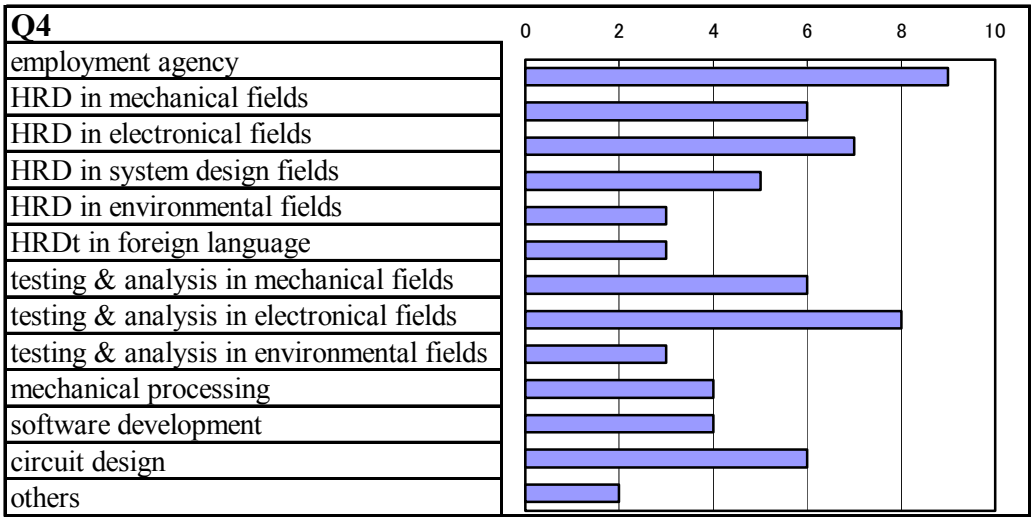


The most desired surrounding environment was existence of Science and Technology Institutions such as “existence of university of Science and Technology” (11 companies) and existence of research institutions of Science and Technology” (11 companies); followed by “existence of amusement facilities” (10 companies) and “quiet

circumstances" (6 companies).

(4) Desired Functions in HHTP

Q4: If your company set up facilities in HHTP, what kind of functions do you want in HHTP to have? (Multiple answer)



A total of 9 companies out of 15 desired an employment service. Desired fields of human resources development (HRD) vary from one company to another.

The most desired field was electronic (7 companies) and mechanical (6 companies), followed by system design fields (5 companies), the environmental field (3 companies) and foreign language (3 companies).

The most desired field of testing and analysis was electronic (8 companies) followed by mechanical (6 companies), and the environmental field (3 companies) .

The most desired field of subcontract was circuit design (6 companies) followed by mechanical processing (6 companies), and software development (6 companies) .

(5) Impression of HHTP

1	Slow development, complicated regime and procedure, no good support from local authority, compared with SHTP.
2	In the past, people thought that it is a rather far distance to go from Hanoi to HHTP site, however, in the near future it is necessary to follow up the HHTP development and implementation progress to view the attraction ability, what will be the incentives so that it is a great attraction to the potential tenants. However, so far implementation for HHTP is very slow. It is required to provide appropriate and specific policies and incentives which should be great advantages over the other hi-tech park.
3	HHTP is one of the first Vietnam's hi-tech parks with an area of 1,650 ha near to Hanoi and Noi Bai International Airport, convenient in terms of transport, with good infrastructure accompanied by complete service executed by reputable contractors and managers in the world. HHTP would attract businesses which operate in the field of IT, science and industry...etc.
4	The size of design for HHTP is rather good. However, the development progress is very slow. It is necessary to show clear basis on policies and regimes. Slow progress of land acquisition. HHTP MB should accelerate infrastructure development and construction.
5	We believe that if HHTP is well developed it can help improve economic growth and in the future it will be the place for consumption of electro-mechanical equipment and generate good opportunities to co-operate with foreign entities..
6	Not been able to attract many investors
7	HHTP is designed with convenient traffic condition, near to urban city and trade center, of large size dimension.

5.2.3 Analysis of Results

(1) Respondents mostly desired the following conditions, if they set up facilities in HHTP.

- Services: especially rapid investment procedures, safe and security and support for recruiting staff.
- Infrastructure: especially, transportation, cheap land, stable and high-speed telecommunications and stable power supply.
- Manpower: especially, highly capable engineers, technicians and workers, and easy access to engineers and technicians.
- Living conditions: especially, safety, good residential conditions, and existence of restaurants.
- Accumulation of Science and Technology institutions: especially , accumulation of related industries, existence of science and technology university and existence of science and technology research institutions.

(2) Respondents mostly expected that HHTP would need to have the following functions, if they set up facilities in HHTP.

- An employment service, and human resource development in the mechanical, electronic, and software design fields.
- Testing and analysis functions for mechanical and electronics fields.
- Subcontractors for mechanical processing and software development.

(3) Respondents had the following impression about HHTP:

- HHTP will be in good location if transportation system is well developed to make access to Hanoi and Noi Bai airport.
- The design and size of HHTP is good.
- The development of HHTP is too slow.
- The service for investment procedure and support by HHTP-MB is not enough.

Chapter 6 QUESTIONNAIRE SURVEY ON STATE RESEARCH INSTITUTES

6.1 General

With the collaboration of the HHTP-MB, the JICA Study Team conducted a questionnaire survey from August 9 to August 31, 2007.

Firstly, the HHTP-MB and JICA Study Team jointly selected the 70 State research institutes for the questionnaire survey, which is listed in Table 6.1-1. Then, questionnaires were sent to those institutes by mail.

By August 31, 2007, the JICA Study Team received answers from 32 State research institutes, and the response rate was 46%.

Table 6.1-1 State Research Institutes for the Questionnaire Survey

IDNO	Name of State Research Institutes
R1	Plant Protection Research Institute, Vietnam Academy of Agricultural Sciences
R2	National Institute of Animal Husbandry, Ministry of Agriculture and Rural Development
R3	Institute of Foodstuff Industry, Ministry of Industry
R4	Institute of Technology, Department of National Defense Industry, Ministry of National Defense
R5	Institute of Bio-technology, Vietnamese Academy of Science and Technology
R6	Institute of Information Technology, Vietnamese Academy of Science and Technology
R7	Institute of Research and Applied Technology
R8	Institute of Mechanics, Vietnamese Academy of Science and Technology
R9	Vietnam Institute of Agricultural Engineering and Post-Harvest Technology, Ministry of Agriculture and Rural Development
R10	Agricultural Genetics Institute, Vietnam Academy of Agricultural Sciences
R11	Institute of Nutrition, Ministry of Health
R12	Institute of Medicine, Ministry of Health
R13	Institute of Vietnam Petroleum
R14	Institute of Chemistry, Vietnamese Academy of Science and Technology
R15	Institute of Industrial Chemistry
R16	Institute of Natural Products Chemistry, Vietnamese Academy of Science and Technology
R17	Institute of Transportation Science and Technology, Ministry of Transportation
R18	Institute for Nuclear Science and Technology (INST), Vietnamese Academy of Science and Technology
R19	Institute of Vietnam Agricultural Sciences, Vietnam Academy of Agricultural Sciences
R20	Forest Science Institute of Vietnam
R21	Institute of Sport Gym Science
R22	Institute of Statistical Science, General Department of Statistics
R23	Institute of Construction Science and Technology
R24	Institute of Materials Science, Vietnamese Academy of Science and Technology
R25	Institute of Criminal Science , Ministry of Home Affairs
R26	Institute of Tropical Technology, Vietnamese Academy of Science and Technology
R27	Institute of Army Technique, Vietnamese Academy of Science and Technology
R28	Institute of Machinery and Industrial Devices
R29	Institute of Food Technology, Ministry of Industry and Trade
R30	National Research Institute of Mechanics Research, Ministry of Industry and Trade
R31	National Institute of Labor Protection, Vietnam Labor Union
R32	Institute of Meteorology and Hydrology, General Department of Hydrometeorology
R33	National Research Institute of Mining and Metallurgy, Ministry of Industry and Trade
R34	Institute of Vietnam Atomic Energy Commission, Ministry of Science and Technology
R35	Fruits and Vegetables Research Institute
R36	Institute of Glass, Glazed Terra-Cotta, and Porcelain Research

IDNO	Name of State Research Institutes
R37	Institute of Research, Design, and Agriculture Machinery Manufacturing, Ministry of Industry and Trade
R38	Institute of Transportation Mechanical Design Research
R39	Vietnam Research Institute of Electronics, Informatics, and Automatics Research, Ministry of Industry and Trade
R40	Research Institute of Geology and Mineral Resource, Ministry of Natural resources and Environment
R41	Institute of National Energy, Vietnamese Academy of Science and Technology
R42	Soils and Fertilizers Institute, Vietnam Academy of Agricultural Sciences
R43	Institute of Ecology and Biological Resources, Vietnamese Academy of Science and Technology
R44	Center for Geological Documentation Information.
R45	Institute of Mathematics, Vietnamese Academy of Science and Technology
R46	Institute of Medical Equipments and Construction Design, Ministry of Health.
R47	Vietnam Institute for Building Materials, Ministry of Construction.
R48	Institute of Applied Physics and Scientific Instruments, Vietnamese Academy of Science and Technology
R49	Institute of Globe Physics, Vietnamese Academy of Science and Technology
R50	Institute of Geologic Sciences, Center of National Technology and Natural Sciences.
R51	Institute of Geography, Vietnamese Academy of Science and Technology
R52	Institute of Irrigation Sciences, Ministry of Agriculture and Rural Development
R53	Institute of Environmental Technology, Vietnamese Academy of Science and Technology.
R54	Space Technology Institute, Vietnamese Academy of Science and Technology
R55	Institution of Energy
R56	Ship Building Science and Technology Institute
R57	Institute of Physics and Electronics
R58	Institute for Technology of Radioactive and Rare Elements
R59	Leather and Shoes Research Institute
R60	Institute of Engineering Physics
R61	Vietnam Aviation Institute
R62	Institute of Architecture Research
R63	National Institute of Drug Quality Control
R64	Institute for Research and Design of School
R65	National Institute of Veterinary Research
R66	National Institute of Infectious and Tropical Disease
R67	National Institute of Hygiene and Epidemiology (NIHE)
R68	National of Institute for Occupational and Environmental Health (NOIEH)
R69	Vietnam Metrology Institute (VMI)
R70	National Center for Testing of Plant Variety, Crop Products, and Fertilizer

Source: JICA Study Team

6.2 Key Data of Respondents

Table 6.2-1 summarizes the key data of the respondents replied by themselves.

Table 6.2-1 Key Data of Respondents

No.	IDNO	Name of Respondents	Regulatory Agency/ Ministry	Nos. of Employees	Research Fields
1	R2	National Institute of Animal Husbandry	Ministry of Agriculture and Rural Development	1,200	1. Bio-technology (agriculture) 2. Preserving and processing technology of agricultural products and foods(post-harvest preservation and advanced processing technologies to increase the quality, added values and strength of agricultural products and foods)
2	R5	Institute of Bio-technology	Vietnamese Academy of Science and	360	1. Bio-technology (gene decoding, new-generation vaccines, original cell

No.	IDNO	Name of Respondents	Regulatory Agency/ Ministry	Nos. of Employees	Research Fields
			Technology		technology, agriculture, aquaculture, pharmacy, environmental protection, etc.)
3	R7	Institute of Research and Applied Technology	Ministry of Science and Technology	315	1. Information-communication technology. 2. Bio-technology (original cell, and environmental protection) 3. Advanced material technology (polymer, composite materials) 4. Automation, mechanics and machinery technology (mechanic-electronic controlling system, numerical controlling technology, micro mechanic-electronic and nano mechanic-electronic systems, etc) 5. Post-harvest preserving and advanced processing technologies 6. Photon technology for defense security, communication and informatics, health.
4	R8	Institute of Mechanics	Vietnamese Academy of Science and Technology	150	1. Advanced material technology (steel, alloy, polymer, composite materials, electronics, photon materials, etc.) 2. Automation, mechanics and machinery technology (robots, mechanic-electronic controlling system, numerical controlling technology, micro mechanic-electronic and nano mechanic-electronic systems, etc) 3. Technology in the energy field (new types of energy and renewable energy; energy-efficient technology; hydro-electricity and high-pressure electricity equipment; nuclear power generation, etc.) 4. Preserving and processing technology of agricultural products and foods(post-harvest preserving and advanced processing technologies to increase the quality, added values and strengths of agricultural products and foods) 5. Space technology(remote sensing and global positioning technologies; designing and manufacturing some land receiving and broadcasting stations, satellite equipment, etc.) 6. Examination and testing (mechanical, electrical, and electronic testing)
5	R9	Vietnam Institute of Agricultural Engineering and Post-Harvest Technology, Ministry of	Ministry of Agriculture and Rural Development	393	1. Automation, mechanics and machinery technology (robots, mechanic-electronic controlling system, numerical controlling

No.	IDNO	Name of Respondents	Regulatory Agency/ Ministry	Nos. of Employees	Research Fields
		Agriculture and Rural Development			technology, micro mechanic-electronic and nano mechanic-electronic systems, etc) 2. Preserving and processing technology of agricultural products and foods(post-harvest preserving and advanced processing technologies to increase the quality, added values and strengths of agricultural products and foods)
6	R11	Institute of Nutrition	Ministry of Health	170	1. Nutrition and foods (sciences on foods)
7	R12	Institute of Medicine	Ministry of Health	225	1. Bio-technology (gene decoding, new-generation vaccines, original cell technology, agriculture, aquaculture, pharmacy, environmental protection) 2. Preserving and processing technology of agricultural products and foods(post-harvest preserving and advanced processing technologies to increase the quality, added values and strengths of agricultural products and foods)
8	R13	Institute of Vietnam Petroleum	Vietnamese Petroleum Corporation	500	1. Technology in the energy field (new types of energy and renewable energy; energy-efficient technology; hydro-electricity and high-pressure electricity equipment; nuclear power generation, etc.)
9	R16	Institute of Natural Products Chemistry	Vietnamese Academy of Science and Technology	81	1. Preserving and processing technology of agricultural products and foods(post-harvest preserving and advanced processing technologies to increase the quality, added values and strengths of agricultural products and foods) 2. Research on natural products, new materials, and bio-energy.
10	R18	Institute for Nuclear Science and Technology (INST)	Institute of Vietnam Atomic Energy Commission	150	1. Technology in the energy field (new types of energy and renewable energy; energy-efficient technology; hydro-electricity and high-pressure electricity equipment; nuclear power generation, etc.) 2. Nuclear technology application, exploitation of research nuclear pile
11	R24	Institute of Materials Science	Vietnamese Academy of Science and Technology	300	1. Advanced material technology (steel, alloy, polymer, composite materials, electronics, photon materials, etc.)
12	R26	Institute of Tropical Technology	Vietnamese Academy of Science and Technology	76	1. Advanced material technology (steel, alloy, polymer, composite materials, electronics, etc.)
13	R33	National Research Institute of Mining and	Ministry of Industry and	250	1. Advanced material technology (steel, alloy, polymer,

No.	IDNO	Name of Respondents	Regulatory Agency/ Ministry	Nos. of Employees	Research Fields
		Metallurgy	Trade		composite materials, electronics, photon materials, etc.) 2. Other technologies: mining exploitation, and mineral selecting technology, mineral process technology.
14	R37	Institute of Research, Design, and Agriculture Machinery Manufacturing	Ministry of Industry and Trade	120	1. Automation, mechanics and machinery technology (robots, mechanic-electronic controlling system, numerical controlling technology, micro mechanic-electronic and nano mechanic-electronic systems, etc) 2. Preserving and processing technology of agricultural products and foods(post-harvest preserving and advanced processing technologies to increase the quality, added values and strengths of agricultural products and foods)
15	R39	Vietnam Research Institute of Electronics, Informatics, and Automatics Research	Ministry of Industry and Trade	127	1. Information-communication technology 2. Automation, mechanics and machinery technology (robots, mechanic-electronic controlling system, numerical controlling technology, micro mechanic-electronic and nano mechanic-electronic systems, etc)
16	R40	Research Institute of Geology and Mineral Resource	Ministry of Natural Resources and Environment	250	1. Advanced material technology (materials, industrial mineral resources, new minerals substances) 2. Technology in the energy field (new types of energy and renewable energy; geothermal and radioactive waste storing) 3. Space technology(remote sensing) 4. Examination and testing (mechanical, electrical, and electronic testing)
17	R45	Institute of Mathematics	Vietnamese Academy of Science and Technology	100	1. Information-communication technology 2. Science, applied mathematics
18	R47	Vietnam Institute for Building Materials	Ministry of Construction	175	1. Advanced material technology (steel, alloy, polymer, composite materials, electronics, photon materials, etc.)
19	R49	Institute of Globe Physics	Vietnamese Academy of Science and Technology	110	1.Global physics
20	R50	Institute of Geologic Sciences	Vietnamese Academy of Science and Technology	150	1.Sciences on earth
21	R51	Institute of Geography	Vietnamese	150	1. Geographical –environmental

No.	IDNO	Name of Respondents	Regulatory Agency/ Ministry	Nos. of Employees	Research Fields
			Academy of Science and Technology		research, environmental-natural resources evaluation, calamity forecast.
22	R52	Institute of Irrigation Sciences	Ministry of Agriculture and Rural Development	874	1. Irrigation, water and environmental resources, natural calamity and flood prevention
23	R53	Institute of Environmental Technology	Vietnamese Academy of Science and Technology	150	1. Bio-technology (gene decoding, new-generation vaccines, original cell technology, agriculture, aquaculture, pharmacy, environmental protection, etc.)
24	R54	Space Technology Institute	Vietnamese Academy of Science and Technology	60	1. Bio-technology (gene decoding, new-generation vaccines, original cell technology, agriculture, aquaculture, pharmacy, environmental protection, etc.) 2. Automation, mechanics and machinery technology (robots, mechanic-electronic controlling system, numerical controlling technology, micro mechanic-electronic and nano mechanic-electronic systems, etc) 3. Space technology(remote sensing and global positioning technologies; designing and manufacturing some land receiving and broadcasting stations, satellite equipment, etc.)
25	R56	Ship Building Science and Technology Institute	Ministry of Transportation	325	1. Mechanics, and ship building technology and sea facilities
26	R57	Institute of Physics and Electronics	Vietnamese Academy of Science and Technology	200	
27	R58	Institute for Technology of Radioactive and Rare Elements	Institute of Vietnamese Energy Commission	150	1. Advanced material technology (steel, alloy, polymer, composite materials, electronics, photon materials, etc.) 2. Technology in the energy field (new types of energy and renewable energy; energy-efficient technology; hydro-electricity and high-pressure electricity equipment; nuclear power generation, etc.)
28	R63	National Institute of Drug Quality Control	Ministry of Health	160	1. Bio-technology (gene decoding, new-generation vaccines, original cell technology, agriculture, aquaculture, pharmacy, environmental protection, etc.)
29	R64	Institute for Research and Design of School	Ministry of Education and Training	140	1. Design consultancy, construction planning, building materials.
30	R67	National Institute of Hygiene and Epidemiology (NIHE)	Ministry of Health	300	1. Bio-technology (gene decoding, new-generation vaccines, original cell technology, treatment medicines, pharmacy,

No.	IDNO	Name of Respondents	Regulatory Agency/ Ministry	Nos. of Employees	Research Fields
					environmental protection, etc.)
31	R69	Vietnam Metrology Institute (VMI)	STAMEQ	110	1. Examination and testing (mechanical, electrical, and electronic testing) 2. Measurement for all sectors
32	R70	National Center for Testing of Plant Variety, Crop Products, and Fertilizer	Department of Crop Products of Ministry of Agriculture and Rural Development	90	1. Bio-technology (gene decoding, new-generation vaccines, original cell technology, agriculture, aquaculture, pharmacy, environmental protection, etc.) 2. Preserving and processing technology of agricultural products and foods(post-harvest preserving and advanced processing technologies to increase the quality, added values and strengths of agricultural products and foods)

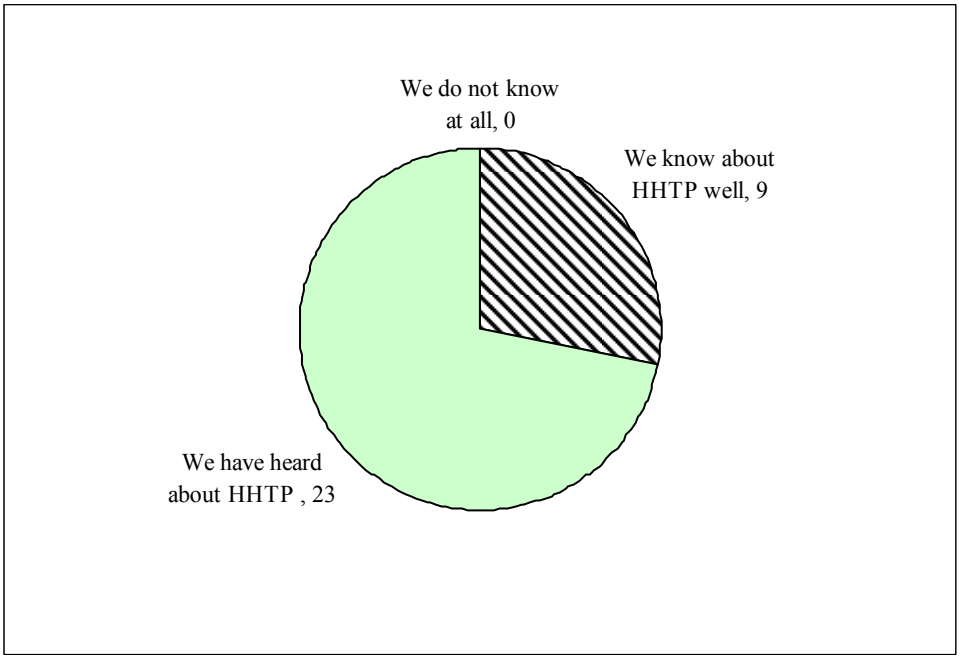
Source: JICA Study Team

6.3 Questions and Answers

(1) Publicity of HHTP

Q1: How well do you know about HHTP?

Among 32 respondents, 9 respondents answered “We know about HHTP well.”, while 23 answered “We have heard about HHTP”, as shown in Figure 6.3-1.



Source: JICA Study Team

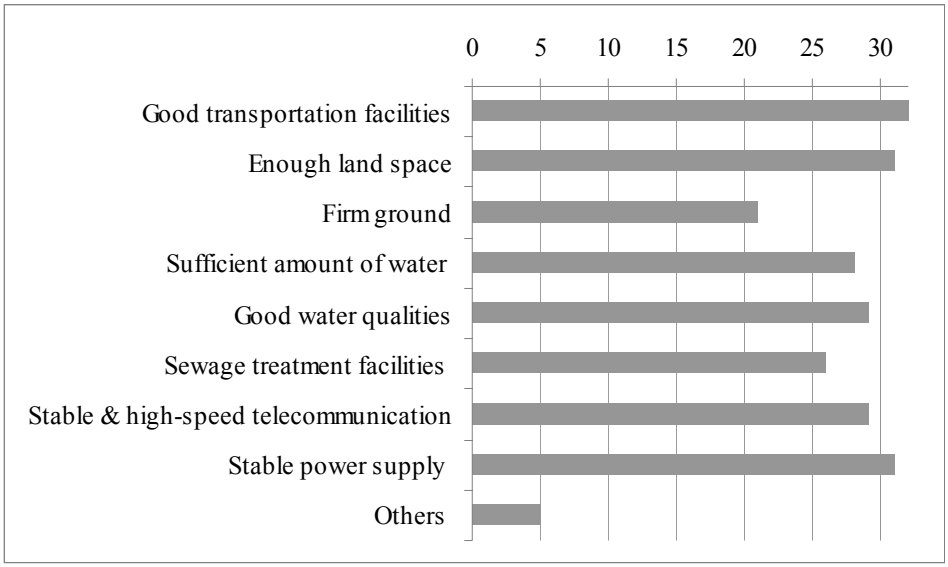
Figure 6.3-1 Publicity of HHTP

(2) Conditions for Establishing Research Institutes in HHTP

Q3: If your institute establishes a new research institute in HHTP, what conditions do you want in HHTP? (Multiple answers)

1) Infrastructure

All respondents desired "good transportation facilities". In addition, more than 25 out of 32 respondents desired "enough land space" (31), "stable power supply" (31), "good water quality" (29), "stable and high-speed telecommunication" (29), "sufficient amount of water" (28), and "swage treatment facilities" (26).

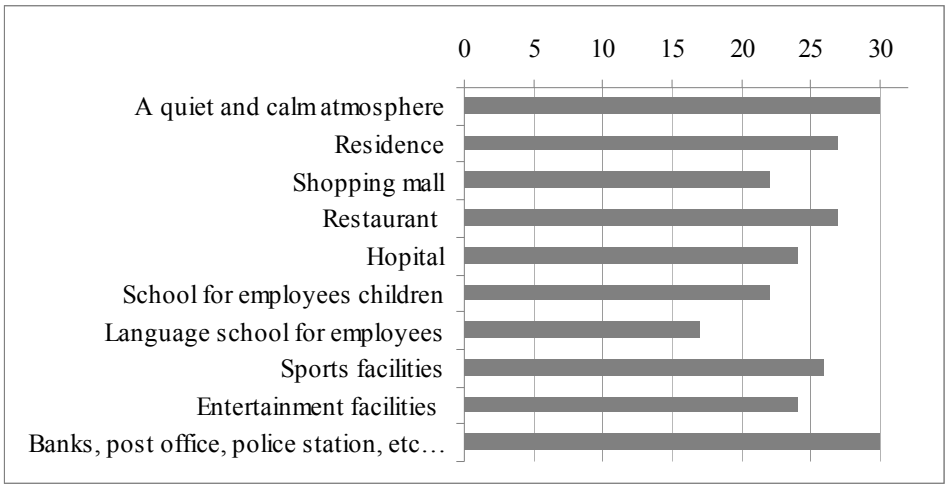


Source: JICA Study Team

Figure 6.3-2 Desire of Infrastructure

2) Working and Living Conditions

Many respondents desired working and living conditions shown on the questionnaire as choices. In particular, more than 25 out of 32 respondents desired: "bank, post office, police station, etc." (30), "a quiet and calm atmosphere" (30), "restaurant" (27), "residence" (27), and "sports facilities" (26).



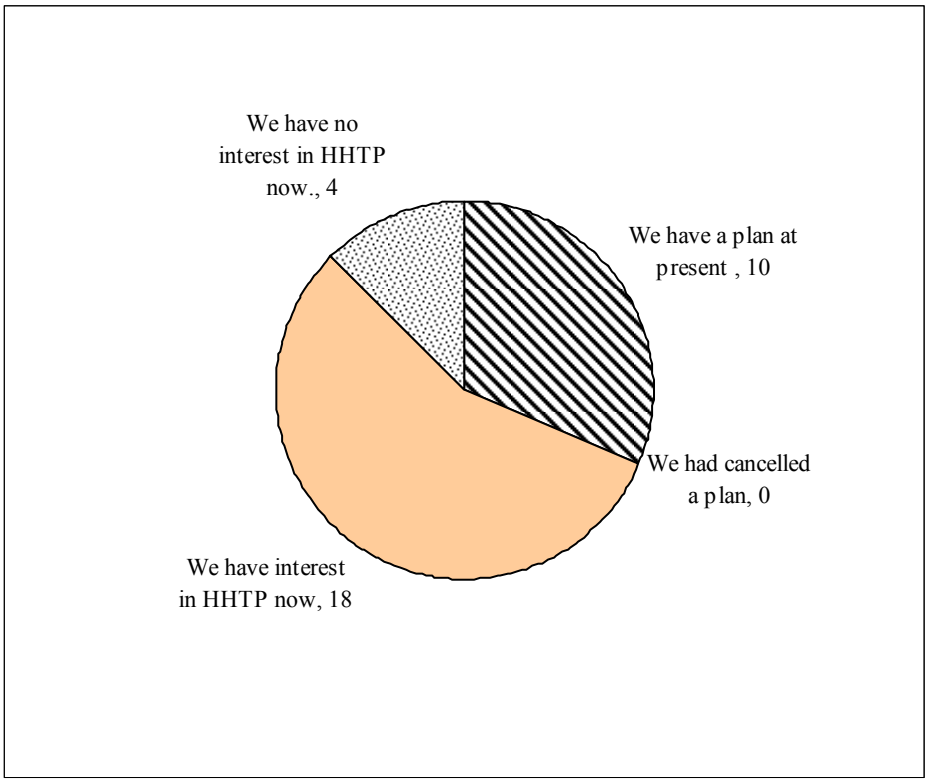
Source: JICA Study Team

Figure 6.3-3 Desire of Working and Living Conditions

(3) Establishment or Relocation Plan of Research Institutes in HHTP

(Q3) What do you think about establishing or relocating research institutes in Hoa Lac High-Tech Park?

Among 32 respondents, 10 respondents answered "We have a plan of establishing/relocating research institutes in HHTP at present.", while 18 answered "We have interests in HHTP at present."



Source: JICA Study Team

Figure 6.3-4 Attitude toward Establishment/Relocation to HHTP

(4) Question to State Research Institutes with Establishment/Relocation Plans

The following questions were addressed to the State Research Institutes that have plans of establishment/relocation of institutes in HHTP.

(1) Do you plan to establish a new institute or relocate to Hoa Lac High-Tech Park?
(2) When do you plan to start construction of your research institute in Hoa Lac High-Tech Park?
(3) Have you gotten a land use approval from the Management Board of Hoa Lac High-Tech Park?
(4) Did you obtain the fund for establishment/relocation from State?
(5) Why did you select HHTP for the site of establishment/relocation? (multiple answers)
(6) Have employees of your institute agreed to work in HHTP?
(7) Will employees of your institute move into HHTP or commute to work?

Table 6.3-1 and 6.3-2 summaries the answers given by the 10 State research institutes. Table 6.3-2 shows answers to the question (5), while Table 6.3-1 shows answered to the other questions.

Table 6.3-1 Answers Given by Research Institute with Plans of Establishment/Relocation to HHTP

No.	IDNO	Name of Institutes	Establishment/Relocation	Construction Start Year	Land Use Approval	Fund	Agreement with Employees	Move/Commute of Employees	
								No. of staff to work in HHTP	Ratio of move to HHTP and commute
1	R07	Institute of Research and Applied Technology	Relocation	2009-2010	Under discussion with the HHTP-MB Request: 5ha	Under negotiation with State	Agreed with conditions. (provision of residence and commuter bus)	n.a.	0 : 100%
2	R08	Institute of Mechanics	Establishment	2009-2010	No discussion with HHTP-MB	Not yet requested for State budget	Agreed with conditions. (provision of residence, remote area allowance and commuter bus)	n.a.	n.a.
3	R18	Institute for Nuclear Science and Technology (INST)	New Establishment	2011-2012	No discussion with HHTP-MB	Under negotiation with Government Plan to request fund from international cooperation agency	Not yet talked with employees.	70 - 100	30% : 70%
4	R39	Vietnam Research Institute of Electronics, Informatics, and Automatics Research	Establishment	End of 2008	No discussion with HHTP-MB	Not yet requested for State budget	Agreed with conditions. (provision of commuter bus)	30	50% : 50%
5	R54	Space Technology Institute	Relocation	End of 2008	Approved for 5ha	Under negotiation with State Under request to international cooperation agency	Agreed with conditions. (provision of residence and commuter bus)	180	30% : 70%
6	R56	Ship Building Science and Technology Institute	Establishment	End of 2007	Under discussion with the HHTP-MB Request: 25ha	We obtained the fund	Most of the employees agreed.	248	30% : 70%
7	R58	Institute for Technology of Radioactive and Rare Elements	Relocation	2011 – 2012	No discussion with HHTP – MB	Not yet requested the State fund	Not yet talked with employees.	n.a.	n.a.
8	R67	National Institute of Hygiene and Epidemiology (NIHE)	Establishment	2009 – 2010	Under discussion with HHTP – MB (5.67 ha)	Under negotiation with State. Under request to an	Agreed with conditions.	50	30% : 70%

No.	IDNO	Name of Institutes	Establishment/Relocation	Construction Start Year	Land Use Approval	Fund	Agreement with Employees	Move/Commute of Employees	
								No. of staff to work in HHTP	Ratio of move to HHTP and commute
						international cooperation agency.			
9	R69	Vietnam Metrology Institute (VMI)	Establishment	Beginning of 2008	Approved for 9.2ha	We obtained the fund. Under request to international cooperation agency	Most of the employees agreed.	300	30% : 70%
10	R70	National Center for Testing of Plant Variety, Crop Products, and Fertilizer	Relocation	End of 2008	Under discussion with the HHTP-MB Request: 5ha	Under request to international cooperation agency	Most of the employees agreed.	100	50% : 50%

Source: JICA Study Team

Table 6.3-2 Reason for Selecting HHTP (State Research Institute with Plan to Establishment/Relocation)

IDNO of State Research Institutes	R7	R8	R18	R39	R54	R56	R58	R67	R69	R70	Total
1. To follow the State policy	X	X				X		X	X	X	6
2. To acquire a large piece of land		X	X			X			X		4
3. To work in a quiet and calm atmosphere		X		X	X	X	X	X	X	X	8
4. To work in HHTP with high-speed internet and stable power supply					X	X		X	X	X	5
5. To work in HHTP with brand of the State R&D focal point	X		X	X	X	X	X	X	X	X	9
6. To strengthen cooperation with the foreign research institutes	X	X	X	X		X	X	X	X	X	9
7. To strengthen cooperation with the foreign high-tech industries	X	X	X	X	X	X	X	X	X	X	10
8. To strengthen cooperation with Vietnamese high-tech industries	X		X	X	X	X	X	X	X	X	10
9. To strengthen cooperation with the educational and training institutes			X	X	X	X		X	X	X	8
10. Researchers to have entrepreneurial chance to start their business	X		X	X	X	X	X	X	X	X	10

Source: JICA Study Team

(5) Question to State Research Institutes with Plans of Establishment/Relocation

(1) Do you have interests in establishment a new institute or relocation to Hoa Lac High-Tech Park?

(2) When do you plan to start construction of your research institute in Hoa Lac High-Tech Park?

(3) Have you contacted with the Management Board of Hoa Lac High-Tech Park?

(4) Did you obtain the fund for establishment/relocation from State?

(5) How many hectare of land do you want to use in Hoa Lac High-Tech Park?

(6) Why are you interested in HHTP for the site of establishment/relocation? (multiple answers)

(7) Have employees of your institute agreed to work in HHTP?

(8) Will employees of your institute move into HHTP or commute to work?

Table 6.3-3 and 6.3-4 summarize the answers given by the State research institutes with interests on establishment/relocation to HHTP. Table 6.3-4 shows answers to the question (6), while Table 6.3-3 shows answers to the other questions.

Table 6.3-3 Answers Given by Research Institute with Interests on Establishment/Relocation to HHTP

No.	IDNO	Name of Institutes	Establishment/Relocation	Construction Start Year	Contact with the HHTP-MB	Fund	Area Expected	Agreement with Employees	Move/Commute of Employees
1	R02	National Institute of Animal Husbandry	Establishment	By the end of 2008	Not yet contacted with HHTP – MB	Under negotiation with State. Plan to request the fund to an international cooperation agency	50 – 100ha	Agreed with conditions.	Some employees will move into HHTP, and the other will commute from Hanoi.
2	R05	Institute of Bio-technology	Establishment	2009 - 2010	Not yet contacted with HHTP – MB	Not yet requested the State fund	30 – 50 ha	Agreed with conditions. (provision of residence and commuter bus).	Almost all employees will commute from Hanoi.
3	R11	Institute of Nutrition	Establishment	2009 - 2010	Not yet contacted with HHTP – MB	Not yet requested the State fund	10 ha	Not yet discussed.	Some employees will move into HHTP, and the other will commute from Hanoi.
4	R12	Institute of Medicine	Establishment/ Relocation	2011 – 2012	Not yet contacted with HHTP – MB	Plan to request the fund from an international cooperation agency	10 ha	Not yet discussed.	Some employees will move into HHTP, and the other will commute from Hanoi.
5	R24	Institute of Materials Science	Establishment	No specific plan of construction	Not yet contacted with HHTP – MB	Plan to request the fund from an international cooperation agency	10 ha	Not yet discussed.	30% of employees will move into HHTP, and 70% will commute from Hanoi.
6	R26	Institute of Tropical Technology		No specific plan of construction	Not yet contacted with HHTP – MB	Not yet requested the State fund	1 ha	Not yet discussed.	Some employees will move into HHTP, and the other will commute from Hanoi.

No.	IDNO	Name of Institutes	Establishment/Relocation	Construction Start Year	Contact with the HHTP-MB	Fund	Area Expected	Agreement with Employees	Move/Commute of Employees
7	R33	National Research Institute of Mining and Metallurgy	Establishment	No specific plan of construction	Not yet contacted with HHTP – MB	Not yet requested the State fund	10 ha	Not yet discussed.	n. a.
8	R37	Institute of Research, Design, and Agriculture Machinery Manufacturing	Establishment	2011 – 2012	Not yet contacted with HHTP – MB	Not yet requested the State fund	10 ha		n.a.
9	R40	Research Institute of Geology and Mineral Resource	Establishment/ Relocation	No specific plan of construction	Not yet contacted with HHTP – MB	Plan to request the fund from an international cooperation agency	05	Not yet discussed.	n.a.
10	R45	Institute of Mathematics	Establishment	No specific plan of construction	Not yet contacted with HHTP – MB	Not yet requested the State fund	2 ha	Not yet discussed.	Some employees will move into HHTP, and the other will commute from Hanoi.
11	R47	Vietnam Institute for Building Materials	Establishment	No specific plan of construction	Not yet contacted with HHTP – MB	Not yet requested the State fund	2 ha	Work with conditions. (provision of remote area allowance and commuter bus).	30% of employees will move into HHTP, and 70% will commute from Hanoi.
12	R50	Institute of Geologic Sciences	Relocation	No specific plan of construction	Not yet contacted with HHTP – MB	Plan to request the fund from an international cooperation agency	4 ha		40% of employees will move into HHTP, and 60% will commute from Hanoi.
13	R51	Institute of Geography		No specific plan of construction	Not yet contacted with HHTP – MB	Not yet requested the State fund			n.a.
14	R52	Institute of Irrigation Sciences	Establishment	By the end of 2008	Not yet contacted with HHTP – MB	Plan to request the fund from an international	20		Some employees will move into HHTP, and the

No.	IDNO	Name of Institutes	Establishment/Relocation	Construction Start Year	Contact with the HHTP-MB	Fund	Area Expected	Agreement with Employees	Move/Commute of Employees
						cooperation agency			other will commute from Hanoi.
15	R53	Institute of Environmental Technology		No specific plan of construction	Not yet contacted with HHTP – MB	Not yet requested the State fund			n.a.
16	R57	Institute of Physics and Electronics	Establishment	No specific plan of construction (maybe by the end of 2012)	Not yet contacted with HHTP – MB	Not yet requested the State fund	10 ha		50% of employees will move into HHTP, and 50% will commute from Hanoi.
17	R63	National Institute of Drug Quality Control	Establishment	No specific plan of construction	Not yet contacted with HHTP – MB	Plan to request the fund from an international cooperation agency	20 ha		Some employees will move into HHTP, and the other will commute from Hanoi.
18	R64	Institute for Research and Design of School	Establishment	No specific plan of construction	Not yet contacted with HHTP – MB	n.a.	3 ha		30% of employees will move into HHTP, and 70% will commute from Hanoi.

Table 6.3-4 Reason for Selecting HHTP (State Research Institute with Interests on Establishment/Relocation to HHTP)-1

IDNO of State Research Institutes	R2	R5	R11	R12	R24	R26	R33	R37	R40	R45
1. To follow the State policy	X	X			X	X	X		X	
2. To acquire a large piece of land		X			X					X
3. To work in a quiet and calm atmosphere	X	X				X	X			X
4. To work in HHTP with high-speed internet and stable power supply	X	X			X	X	X			
5. To work in HHTP with brand of the State R&D focal point	X	X		X	X	X	X	X	X	
6. To strengthen cooperation with the foreign research institutes	X	X		X	X	X	X	X	X	X
7. To strengthen cooperation with the foreign high-tech industries	X	X		X	X	X	X	X	X	X
8. To strengthen cooperation with Vietnamese high-tech industries	X	X		X		X	X	X		
9. To strengthen cooperation with the educational and training institutes	X	X		X	X	X		X	X	X
10. Researchers to have entrepreneurial chance to start their business	X	X	X	X		X	X	X		

Table 6.3-5 Reason for Selecting HHTP (State Research Institute with Interests on Establishment/Relocation to HHTP)-2

IDNO of State Research Institutes	R47	R50	R51	R52	R53	R57	R63	R64	Total
1. To follow the State policy	X	X				X	X		10
2. To acquire a large piece of land						X			4
3. To work in a quiet and calm atmosphere	X	X			X	X		X	10
4. To work in HHTP with high-speed internet and stable power supply	X					X		X	8
5. To work in HHTP with brand of the State R&D focal point		X		X		X		X	12
6. To strengthen cooperation with the foreign research institutes	X			X		X		X	13
7. To strengthen cooperation with the foreign high-tech industries	X			X	X	X		X	14
8. To strengthen cooperation with Vietnamese high-tech industries	X				X	X		X	10
9. To strengthen cooperation with the educational and training institutes		X				X		X	11
10. Researchers to have entrepreneurial chance to start their business	X	X		X	X	X			12

6.4 Analysis of Results

(1) State Research Institutes with Establishment/Relocation Plan

According to the response to questionnaire, 10 research institutes listed in the table below have already prepared the plans of establishment or relocation to HHTP.

Table 6.4-1 Research Institutes with Establishment/Relocation Plan

No.	IDNO	Name of Institutes	Regulatory Agency/ Ministry
1	R07	Institute of Research and Applied Technology	Ministry of Science and Technology
2	R08	Institute of Mechanics	Vietnamese Academy of Science and Technology
3	R18	Institute for Nuclear Science and Technology (INST)	Institute of Vietnam Atomic Energy Commission
4	R39	Vietnam Research Institute of Electronics, Informatics, and Automatics Research	Ministry of Industry and Trade
5	R54	Space Technology Institute	Vietnamese Academy of Science and Technology
6	R56	Ship Building Science and Technology Institute	Ministry of Transportation
7	R58	Institute for Technology of Radioactive and Rare Elements	Institute of Vietnam Atomic Energy Commission
8	R67	National Institute of Hygiene and Epidemiology (NIHE)	Ministry of Health
9	R69	Vietnam Metrology Institute (VMI)	STAMEQ
10	R70	National Center for Testing of Plant Variety, Crop Products, and Fertilizer	Department of Crop Products, Ministry of Agriculture and Rural Development

Source: JICA Study Team

In view of fund raising, approval of land use rights, and employees' agreement for moving to HHTP, State research institutes with establishment/relocation plans are assessed in the table below. In the table, "XX" and "X" denote the following:

1) Fund Raising:
   - XX: Concerned institute has already obtained fund for establishment/relocation.
   - X: Concerned institute is under negotiation with State and/or request for an international cooperation agency.
2) Land Use Right:
   - XX: Concerned institute has obtained land use approval from the HHTP-MB.
   - X: Concerned institute is under discussion with the HHTP-MB for land use right.
3) Agreement with Employees
   - X: Concerned institute has already agreed with own employees to establish

or relocate the institute, including the case with conditions such as provision of residence and commuter bus.

4) Overall Assessment

- X: Institutes marked by "XX" or "X" for all of fund raising, land use right, and agreement with employees are valued as those having relatively matured establishment/relocation plans.

Table 6.4-2 Assessment of Research Institutes with Establishment/Relocation Plan

IDNO	Name of Institutes	Fund-Raising	Land Use Rights Approval	Employees Agreement	Overall Assess-ment
R07	Institute of Research and Applied Technology	X	X	X	**X**
R08	Institute of Mechanics			X	
R18	Institute for Nuclear Science and Technology (INST)	X			
R39	Vietnam Research Institute of Electronics, Informatics, and Automatics Research			X	
R54	Space Technology Institute	X	XX	X	**X**
R56	Ship Building Science and Technology Institute	XX	X	X	**X**
R58	Institute for Technology of Radioactive and Rare Elements				
R67	National Institute of Hygiene and Epidemiology (NIHE)	X	X	X	**X**
R69	Vietnam Metrology Institute (VMI)	X	XX	X	**X**
R70	National Center for Testing of Plant Variety, Crop Products, and Fertilizer	X	X	X	**X**

Source: JICA Study Team

As the result of assessment, it is envisaged that the following 6 institutes have relatively matured establishment/relocation plans.

1) Institute of Research and Applied Technology (R07)
2) Space Technology Institute (R54)
3) Ship Building Science and Technology Institute (R56)
4) National Institute of Hygiene and Epidemiology (NIHE) (R67)
5) Vietnam Metrology Institute (VMI) (R69)
6) National Center for Testing of Plant Variety, Crop Products, and Fertilizer (R70)

The answers of these institutes revealed the following:

- Fund raising is envisaged as the critical issue for 5 institutes among them, since they are under request of State fund and/or an international financial cooperation.

- A total of 54.87 ha are required for these institutes, if land use rights of these institutes are approved as shown in 6.4-3.

- All the above institutes have already agreed with their employees to move into HHTP. Number of employees who will work in HHTP is approximately 980 in total of these institutes. Among them, approximately 280 employees will move into HHTP, while the other 700 employees will commute from Hanoi. In order to realize their plan, most of such institutes have required employees' residence and commuter bus.

Table 6.4-3 Site Area and Number of Employees

Serial No.	IDNO	Name of Institutes	Site Area (ha)	No. of Employees		
				Total	Move to HHTP	Commute from Hanoi
1	R07	Institute of Research and Applied Technology	5	100 (Note)	0	100
2	R54	Space Technology Institute	5	180	54	126
3	R56	Ship Building Science and Technology Institute	25	248	74	174
4	R67	National Institute of Hygiene and Epidemiology (NIHE)	5.67	50	15	35
5	R69	Vietnam Metrology Institute (VMI)	9.2	300	90	210
6	R70	National Center for Testing of Plant Variety, Crop Products, and Fertilizer	5	100	50	50
Total			**54.87**	**978**	**283**	**695**

Note: Number of employees of the Institute of Research and Applied Technology is assumed, because data is not provided from the respondent..
Source: JICA Study Team

(2) State Research Institutes with Interests on Establishment/Relocation to HHTP

18 research institutes have interests on establishment/relocation to HHTP, according to the questionnaire. In view of fund raising, approval of land use right, and employees' agreement, these institutes are assessed as follows.

1) Fund Raising: Among 18 institutes, 11 answered they had not yet requested State fund; 6 answered they planed to request an international cooperation agency; and one answered they were under negotiation with State.

2) Land Use Right: Any institutes of this category have not contacted with the HHTP-MB to obtain land use approval yet.

3) Agreement with Employees for Establishment/Relocation: Among 18 institutes, 13 answered they had not yet talked with their employees; and 5 answered they had already agreed with their employees on conditions.

4) Verbal Answers: In addition to the written answers, the JICA Study Team received the following verbal answers from some respondents.

- Institute of Medicine (R12) said, "At the moment, we have not had any specific plan, but we think that HHTP is very good idea. Like some models in developed countries, the gathering of State R&D institutes into one area would promote the development of institutes."
- Institute of Animal Husbandry (R2) said, "We are really interested in the plan, because we intend to establish one new center in HHTP. However, we do not know how to proceed, and who to contact with, and how to implement to get land approval?"
- Institute of Irrigations Sciences (R52) said, "We are interested in HHTP. We hope the HHTP-MB will provide any information related to movements as well as its plan, if there is; and tell us what we should do."

As the results of analysis, it is envisaged that some of the 18 institutes will possibly have own establishment/relocation plans to HHTP if there is adequate information, guidance, and funds, although they do not have any specific plans at present.

SECTION C

ENVIRONMENTAL AND SOCIAL CONSIDERATION

7. ENVIRONMENTAL CONSIDERATIONS

7.1 Current Conditions in HHTP Area

7.1.1 Current Land Use

The status of land use in the area of 800 ha for Phase-1 development was studied and calculated by a National Institute for Science and Technology Policy and Strategy Studies (NISTPASS) team in September and October 1997 and there seems to be no land use survey after it. The land use was classified into six categories as follows:

- Residential land
- Agricultural land (rice, cassava etc.)
- Forestry land (Eucalyptus, Acacias etc.)
- Public area (land, primary school, clinic, cemetery etc.)
- Area of lakes and ponds including some fish-breeding ponds
- Green area (bushes etc.)

The following table shows the result of calculation for original Phase-1 of 800 ha made by the NISTPASS team utilizing remote sensing technique and GIS data.

Table 7.1-1 Land Use in Phase-1 Area in HHTP as of 1997

Residential Land	Agricultural Land			Forestry Land	Public Land	Lakes/ Ponds	Green Area	Total
	Paddy Fields	Cassava Fields	Others					
31	123	167	74	119	32	83	190	819

Source: NISTPASS, Investigations and Calculations of the Cost of Compensation and Relocation for HHTP-800ha, October 1997

From the site visits by the JICA Study Team, small expansion of residential land is observed. In the entire HHTP area, the much increase of houses and shops along the National Road No.21 in particularly north side of HHTP area. Although the area was removed from the proposed site for HHTP due to the much increase of population recently, the resettlement housing area in north shows the much increase of population from 1998.

7.1.2 Cultural Relics

In HHTP area, there are seven cultural relics in total as listed in Table 7.1-2.

Table 7.1-2 List of Cultural Relics in HHTP Area

No	Name of relics	Location	Organization of License
1	Tran communal house	Huong Trung hamlet -Tan Xa commune	Ha Tay people's committee
2	Van Loi communal house	Van Loi hamlet - Binh Yen commune	Ha Tay people's committee
3	Van Loi pagoda	Van Loi hamlet - Binh Yen commune	Ha Tay people's committee
4	Vong communal house	Kim Bang - Tan Xa commune	not authorized
5	Ba Thanh temple	Hoa Lac – Binh Yen commune	not authorized
6	Church	Thai Binh – Binh Yen commune	not authorized
7	Thai Binh pagoda	Thai Binh – Binh Yen commune	not authorized

Source: Thach That District Department of Information and Culture

As shown in Table 7.1-2, three relics have been recognized by Ha Tay People's Committee. According to HHTP-MB, any relics above were not in the ongoing stage-1 area. It means that all the relics above are located in the rest of Phase-1 or Phase-2 area. Although the policy of managing these relics will be decided later by Ha Tay People's Committee, the relics will be tried to preserve at maximum but under the legal framework in Vietnam they can be relocated depending on the future development of HHTP as far as these are not authorized by international agencies such as UNESCO and national agencies such as Ministry of Culture and Information.

7.1.3 Natural Reserves and Animals in Red Data Book in Ha Tay Province

(1) National Park

There is "Ba Vi National Park" in the boundary of the provinces of Ha Tay and Hoa Binh with the area of 12,023 ha. The characteristic is 1) low mountain land, 2) subtropical (evergreen) forest, 3) main vegetation: Libocedrus macrolepis and podocarpus neniifolius, 4) monkey (Tonkin snubnose)

(2) Landscape protected area

According to the "Management Strategy for a Protected Area System in Vietnam to 2020" by Ministry of Agriculture and Rural Development (MARD) published in 2003, there is "Huong Son" with the area of 4,355 ha that is a forest on limestone mountain. Also the perfume pagoda is famous in the area.

(3) Ecologically and Environmentally Valuable Marsh

- Dong Mo and Ngai Son Lakes with the area of 900 ha in the 5 – 10 km northwest of HHTP area that are reservoirs with migrant waterbirds
- Suoi Hai Lake with the area of 1,200 ha located at around 20 km northwest of HHTP area that is artificial reservoir with migrant birds

7.2 Environmental Regulations and Environmental Impact Assessment Issues

7.2.1 Regulatory Authorization and Law on Environmental Issue

(1) Regulatory Authorization

Before 2002 the Ministry of Science, Technology and Environment (MOSTE) was in charge of authorization for environmental issues including approval of EIA report. In August 2002 the ministry was divided into two ministries i.e. i) Ministry of Science and Technology (MOST) and ii) Ministry of Natural Resources and Environment (MONRE). At present MONRE manages the environmental matter.

(2) Law on Environmental Protection

The new law on environmental protection was passed on November 29, 2005, by the XIth National Assembly of the Socialist Republic of Vietnam at its 8th session and

enforced from July 2006. The following is the summary of main revised points from old law on environmental protection enforced in 1994.

Table 7.2-1 Difference of New and Old Laws on Environmental Protection

Item	new law on environmental protection (2006)	old law on environmental protection (1994)
Initial Environmental Evaluation (IEE)	Not required	Required
Strategic Environmental Assessment (SEA)	Required for nation-wide, inter-provincial strategies and master plans	Mentioned but not required
No. of type of projects that require Environmental Impact Assessment (EIA)	102	25
Timing of EIA	in parallel with F/S and before approval of investment	After F/S and approval of investment
Public consultation	To be held and included in EIA report	No legal requirement
Term for appraisal of EIA	45 business days (big scale projects) 30 business days (other projects)	60 days
Term for approval of EIA	15 business days	10 days
Monitoring	To plan, perform and report are obliged	To plan and perform are obliged
Penalty on illegal EIA procedure	Mentioned	Not mentioned
Strengthening of solid waste management	Individual chapter (Chapter 8) mentioning the duty of reduce, reuse & recycles of solid waste for entities	No individual chapter
Environmental monitoring and disclosure	Individual chapter (Chapter 10)	No individual chapter and a few mention

Source: Summarized from laws on environmental protection in 1994 and 2006 and the other relevant documents

7.2.2 Environmental Impact Assessment

(1) Strategic Environmental Assessment (SEA)

SEA is required for nation-wide/inter-provincial strategies and plans according to the new law on environmental protection 2006. SEA is conducted at the planning stage of development policy and programme that is more upstream of project implementation, compared to EIA that is conducted in the project implementation. Feasibility Study (F/S) and EIA reports of the individual projects under the strategies are not approved without approval of SEA report as an upstream level for the following type of strategies/plans that environmental law requires to prepare the SEA report.

1. National socio-economic development strategies, plannings and plans;
2. Strategies, plannings and plans for development of branches or domains on a national scale;
3. Socio-economic development strategies, plannings and plans of provinces, centrally run cities (hereinafter collectively referred to as provinces or provincial level) or regions;
4. Plannings for land use, forest protection and development; exploitation and utilization of other natural resources in inter-provincial or inter-regional areas.
5. Plannings for development of key economic regions;
6. General plannings of inter-provincial river watersheds.

According to HHTP-MB and the confirmation to MONRE by official letter, the HHTP project does not require the preparation of SEA report since the target area is a limited to Hoa Lac area. However, since some individual feasibility study reports and EIA reports in parallel will be prepared for each investment after this report on update of master plan and still the HHTP development seems to belong to category 5 above, it is recommended for HHTP-MB to prepare the SEA report or at least master EIA report with less contents than SEA for the individual EIA reports that will be prepared for each construction phasing.

The required contents of the SEA report is as follows.

General Table of Contents for SEA Report

Preface	
Chapter 1	Brief of Project
Chapter 2	Natural Environment and Socio-Economic Aspects relevant to the Project
Chapter 3	Environmental Impact Assessment
Chapter 4	Sources of statistics, information, and evaluation method
Chapter 5	Policy of Actions for Environmental Issues under Project Implementation
Conclusion and Petitions	
1.	Prospect and Objective of Project
2.	Extent of Environmental Impact
3.	Description on the possibility of approval for Project
4.	Other summary and petitions

(Source: Circular No. 08/2006/TT-BTNMT)

(2) Environmental Impact Assessment (EIA) Report

According to the law on environmental protection, generally the following types of projects require the preparation of EIA report.

1. Nationally important projects
2. Projects utilizing the national reserve areas, national parks, historical relics, cultural relics, natural relics and landscapes or affecting them
3. Projects affecting the river basins, coastal areas, protection areas of eco-system
4. Projects on constructing infrastructures in economy area, industrial park, new technological industrial area, export processing zone, and craft villages
5. Construction projects in new urban center and congested residential areas
6. Projects with large scale use of groundwater and natural resources
7. Other projects with potential risks and affects on environment

Since the HHTP project belongs to the category 4 above, the EIA report shall be prepared and the more detailed list with 102 types of projects requiring the EIA is tabulated in Decree No. 80/2006/ND-CP Appendix I. Since the HHTP project belongs to the type in “industrial area, new technological industrial area, export processing zone, industrial cluster and craft villages” in the list that requires the EIA report for all projects, the requirement of preparing EIA report for HHTP project can be confirmed from the decree also.

The required contents in EIA report is listed below.

General Table of Contents for EIA Report

Preface	
Chapter 1	Brief of Project
Chapter 2	Natural Environment and Socio-Economic Aspects relevant to the Project
Chapter 3	Environmental Impact Assessment
Chapter 4	Mitigation measures of environmental impacts and the prevention & countermeasures of environmental accidents
Chapter 5	Prosecution of environmental protection measures
Chapter 6	Construction, management & monitor for improving environmental loads
Chapter 7	Cost estimate of construction relevant to environmental protection
Chapter 8	Reflection of public opinions
Chapter 9	Sources of statistics, information, and evaluation method
Conclusion and Petitions	
1.	Prospect and Objective of Project
2.	Proposal: Request for cooperation for solving the inevitable problems

(Source: Circular No. 08/2006/TT-BTNMT)

The detail steps after preparing EIA report is mentioned in the part "(4) Schedule on Environmental Consideration" below.

(3) Present Status of EIA in HHTP Project

According to the interview survey to HHTP-MB and a letter from HHTP-MB to JICA Study Team issued on 28th June, 2007, the EIA report should have been prepared by HHTP-MB and approved by MOSTE which is former MOST and MONRE, pursuant to Law on Environmental Protection forced in 1993 and Article 9 – Decree 175/ND-CP on 18th Oct 1994 on instruction to implement the law. The EIA report for entire HHTP area (1,600 ha) was practically completed by HHTP-MB by subletting to the local consulting agency (Environment Treatment and Technology Center under Ministry of National Defense) in April 1998 after the preparation of report on master plan and feasibility study in March 1998 by JICA study team. HHTP-MB submitted the EIA report along with master plan and feasibility study report to the National Appraisal Committee under Prime Minister for approval of Phase-1 Stage-1 investment project (200 ha) only but not the total project of HHTP (Submitting letter No. 1162/BKHCNMT on 14th May 1998) and it was approved. In addition, HHTP-MB misunderstood that once the project is approved by National Appraisal Committee the approval of EIA by MOSTE is not required. Accordingly, the EIA report was not appraised and approved by MOSTE for either of master plan (1,600 ha) and investment for Phase-1 Stage-1 development (200 ha). At present, the investment project of the Phase-1 Stage-1 work has been carried out in accordance with the approval above and HHTP-MB does not have to prepare EIA report again for the work.

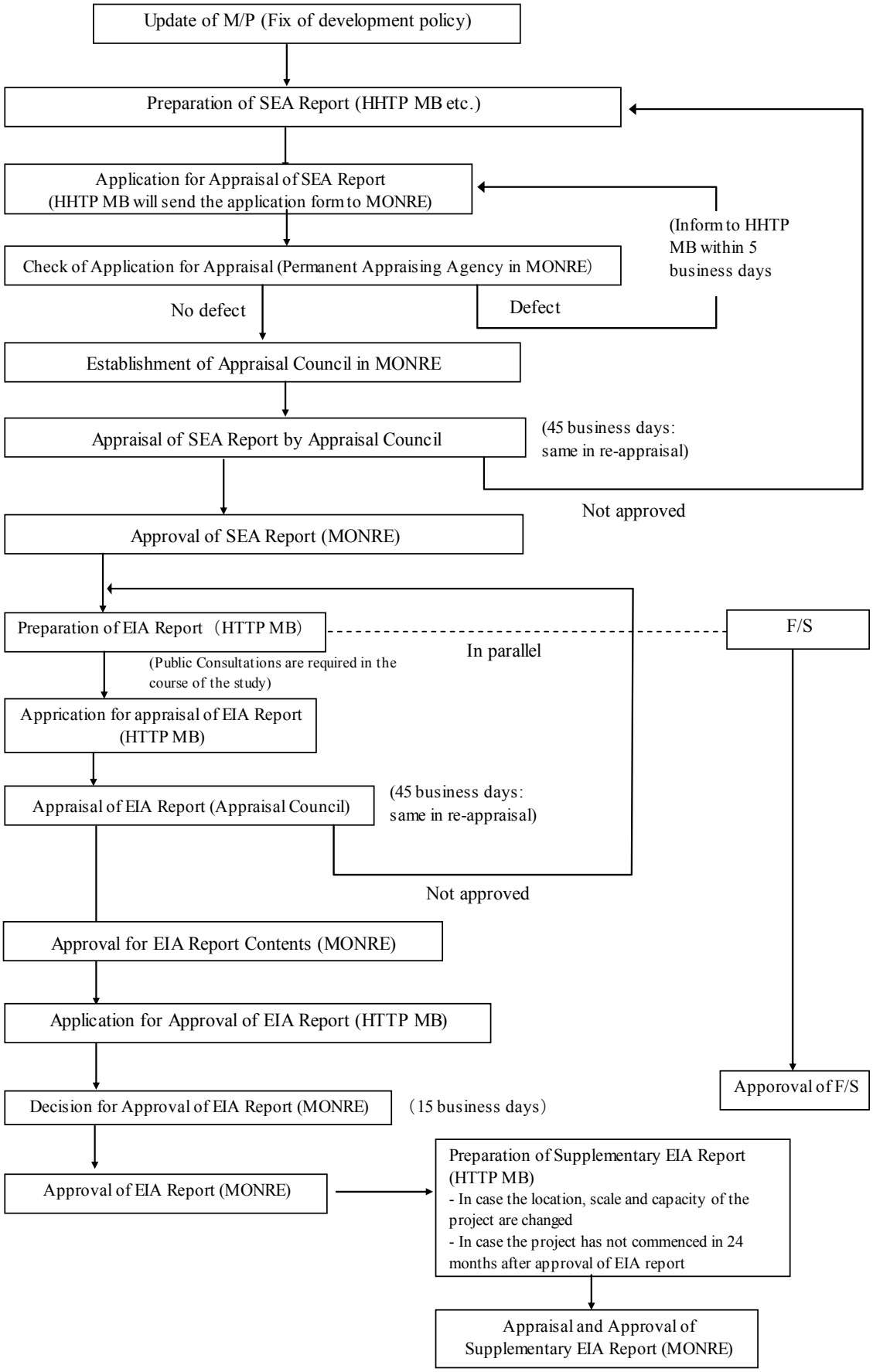
Although the EIA report for total HHTP area made in 1998 was not appraised and approved by MOSTE in 1998, there was enough time up to date. The reasons of no revision of EIA report for Phase-1 Stage-1 development and un-appraisal of even the prepared EIA report to MONRE can be guessed as follows from the discussion with HHTP-MB.

- Since the HHTP project was supervised by MOSTE itself which was former regulatory agency for EIA and under the circumstance the management board thought that EIA report could be approved in any time if required, the board did not rush to revise the EIA report and put priority on other urgent implementation works. However, MOSTE was segregated into MOST and MONRE in August 2002 and the appraisal became more difficult for management board than before.
- The management board was lack of budget for re-conducting the EIA Study for Phase-1 Stage-1 area only.
- Furthermore, the construction work for the area had been already started and the board did not feel strong necessity to prepare the EIA report afterward.

Eventually, the EIA report(s) shall be newly prepared with latest data but as explained above, SEA or master EIA report should be prepared before the EIA(s). The EIA(s) shall be conducted along with the feasibility studies and approved by MONRE. In the course of the SEA and EIA, it is necessary for HHTP-MB to discuss with MONRE and MOST, if necessary, how to cope with the environmental procedure on commenced Stage-1 work.

(4) Schedule on Environmental Consideration in Vietnam

The general steps on environmental procedure stipulated in the documents from central government can be illustrated as Figure 7.2-1.



Source) Law on Environmental Protection 2006, Circular No. 80/2006/TT-BTNMT2.3 N80/2006/ND-CP, Circular No. 08/2006/TT-BTNMT, and Decree No. 80/2006/ND-CP

Figure 7.2-1 Future Step on Environmental Procedure for HHTP Project

7.2.3 Environmental Requirements of JICA

When the last master plan was prepared by JICA Study Team in 1998, there was already a JICA environmental guideline that was originally prepared in 1990. However, the environmental screening that should be conducted in the preliminary study before the master plan study as an initial stage of the projects was not the strong requirement and actually it was not prepared in the study. The guideline was updated in March 2004 at latest and the environmental screening became necessary for any projects by JICA including master plan study, preliminary study for the grant aid projects by JICA and technical assistance projects. Besides, the guideline also clarified the necessity of the disclosure of project information such as land acquisition and resettlement and the discussions with stakeholders.

(1) Screening

"Screening" means the categorization whether proposed projects are likely to have impacts that should be assessed by conducting environmental and social consideration studies according to project and site descriptions. JICA conducts screening by classifying proposed projects into three categories: A, B and C. The explanations of categories in detail are explained in "(2) Environmental Categories" below.

For the above-mentioned categorization the environmental screening with JICA format was conducted in this study on update of master plan. The HHTP-MB answered the check list of the screening format and the JICA Study Team made the necessary revisions to the answers and finalized (see Annex 7.1).

(2) Environmental Categories

1) Definition of Categories

Category A:

Projects are classified as Category A if they are likely to have significant adverse impacts on the environment and society. Projects with complicated impacts or unprecedented impacts, which are difficult to assess or which have a wide range of impacts or irreversible impacts, are also classified as Category A. Projects are also classified as Category A if they require a detailed environment impact assessment by environmental laws and the standards of the recipient governments. The impacts may affect an area broader than the sites or facilities subject to physical construction. Category A, in principle, includes projects in sensitive sectors (i.e., characteristics that are liable to cause adverse environmental impact) and projects located in or near sensitive areas. An illustrative list of sensitive sectors, characteristics and areas is given in Appendix 2 of JICA Environmental Guideline.

Category B:

Projects are classified as Category B if their potential adverse impacts on the

environment and society are less adverse than those of Category A projects. Generally they are site-specific; few if any are irreversible; and in most cases normal mitigation measures can be designed more readily.

Category C:

Projects are classified as Category C if they are likely to have minimal or little adverse impacts on the environment and society.

2) Proposal of Category for HHTP Project

The HHTP project seems to be categorized into A for feasibility study since the project includes significant number of resettlement of existing residents in the HHTP area as explained in detail in "8. Land Acquisition and Resettlement". The other significant environmental aspects are listed below.

- The hi-tech park project is categorized in the environmentally significant project since all kinds of the project has to prepare EIA report in the Vietnamese law on environmental protection.
- The industrial park can be also categorized to "industrial development" as a generally sensitive sector that is given in Appendix 2 of JICA Environmental Guideline. The list of sensitive sectors is shown in Table 7.2-2.
- This project component contains the large scale land reclamation (approx. 13.3 million m^3 out of which 300 ha low-land site in southeast adjacent to Lang-Hoa Lac Highway has quite big impact), land development and land-clearing (approx. 1,270 hectors in total excluding Phase-1, Stage-1 and Tan Xa Lake area) that are mentioned as a generally sensitive characteristic of the project that is given in Appendix 2 of JICA Environmental Guideline.
- However, the project area is not in the national park and national reserves and nor include the socially important relics. It is said that a kind of storks come flying to Tan Xa Lake in the project area but it is not sure whether the stork is one in three types of storks in the red list by International Union for Conservation of Nature and Natural Resources (IUCN) and Viet Nam's National Reserve Department (VNRD) tabulated in the Table 7.2-3 and 7.2-4, and even if it is one in the list the law on environmental protection in Vietnam does not forbid the development work in the area other than national parks but only forbid the hunting of the vulnerable birds.

Table 7.2-2 List of Environmentally Sensitive Sectors in JICA Guideline

1	Mining development	9	Ports and harbors
2	**Industrial development**	10	Water supply, sewage and wastewater treatment
3	Thermal power (including geothermal power)	11	Waste management and disposal
4	Hydropower, dams and reservoirs	12	Agriculture involving large-scale land-clearing or irrigation
5	River/erosion control	13	Forestry
6	Power transmission and distribution lines	14	Fisheries
7	Roads, railways and bridges	15	Tourism
8	Airports		

Source: JICA Environmental Guideline

Table 7.2-3 Target Species to Be Forbidden Trapping and Extraction

Group II: Flora and Fauna of which trapping, extraction and commercial use are restricted, Group IIB: Forest Animals

No.	Scientific Name	English Name	Red List	
			IUCN	VNRD
AVES				
	Ciconiiformes			
27	*Ciconia episcopus*	Woolly-necked Stork	Lower Risk – Least Concern	Rare

Note:
Rare: the distribution is limited and the number of individuals is a few. At present the endurance is not risky but can be shifted to vulnerable species in future.
Source: Decree No. 32/2006/ND-CP of March 30, 2006

Table 7.2-4 Red List of IUCN and VNRD

2) AVES

ID	Scientific Name	English Name	Red List	
			IUCN	VNRD
	Ciconiiformes			
273	*Mycteria cinerea*	Milky Stork	Threatened - Vulnerable	V
274	*Mycteria leucocephala*	Painted Stork	NT	R
293	*Ciconia nigra*	Black Stork	Lower Risk – Least Concern	-
294	*Ciconia episcopus*	Woolly-necked Stork	Lower Risk – Least Concern	R

Note:
1) Threatened: "At risk" or "likely to distinct"
2) Vulnerable (V)：The risk of distinction is increasing and in case the negative factor would be continued certainly shift to the rank of "At risk of distinction-I"
3) Rare: the distribution is limited and the number of individuals is a few. At present the endurance is not risky but can be shifted to vulnerable species in future.
Source: Decree No. 32/2006/ND-CP of March 30, 2006

(3) Environmental Requirements in Feasibility Study (F/S) of each Category

Due to consideration on the huge number of the resettlement households that is explained in "8. Land Acquisition and Resettlement", HHTP development will be classified into category A, which will require following EIA study items.

1. JICA will involve a member for environmental and social considerations in study team;
2. To collect the relevant information, conduct field surveys in a wider area than that of preparatory studies, hold consultations with the recipient governments (HHTP-MB and/or MONRE) and prepare drafts of scoping;
3. After disclosing the drafts of scoping, the F/S team consults with local stakeholders such as affected individuals or groups including squatters and local Non-governmental Organizations (NGOs) in collaboration with the recipient governments and incorporates results of consultation into the TOR of environmental and social considerations studies. The consultations widely cover needs of projects and analysis of alternatives. The TOR includes understanding of development needs, impacts to be assessed, study methods, analysis of alternatives, a schedule, etc. Although most of the contents are already in the required contents of EIA in the law on environmental protection in Vietnam, the

"analysis of alternatives" should be put enough care. The F/S team obtains an agreement on TOR with the recipient governments through consultations;

4. The feasibility studies and EIAs will be implemented in parallel according to the law on environmental protection 2006. In line with TOR and in collaboration with the recipient governments and the local consulting company that conduct the EIA study, the feasibility study team also conducts EIA-level environmental and social considerations studies including a monitoring plan, an institutional arrangement, and mitigation measures to avoid, minimize or compensate for adverse impacts. JICA incorporates the results of studies into relevant reports prepared accordingly;
5. When considering the rough outline of environment and social considerations, the F/S team consults with local stakeholders, after the disclosure of summarized or whole information of draft report of environmental and social part of feasibility study or EIA on the website of local government (HHTP-MB), and incorporates results into the studies;
6. The F/S team will prepare final reports and submits them to JICA and Vietnamese governments after confirming that they meet the requirements of the JICA guideline

7.3 Environmental Recommendations

7.3.1 Recommendation on Eco-Friendly Development

(1) Tree plantation in the park

So far the tree plantation in the park is planned for only the center divider of the roads in HHTP. In order to reduce the impacts for the urban heat island and further the global warming more plantation of the trees are recommended. Following the good examples of other industrial areas, the companies coming to the HHTP should be obliged to plants and trees as many as possible in the land.

(2) Reduction of landfill for Tan Xa Lake

There is unofficial information that a kind of storks come flying to Tan Xa Lake. In the red data book in Vietnam 1) Milky Stork, 2) woolly-necked stork and 3) milky stork are listed as vulnerable or rare storks as tabulated in Tables 7.2.3 and 7.2.4.

The law on environmental protection in Vietnam does not urge to abort the development works in the area with the species in the red data book but just prohibit the hunting activities. Although the law does not mention more special care than the hunting, the protection of eco-system in Tan Xa Lake should be attempted as much as possible. Therefore before much expansion of the developed area, the landfill in Tan Xa Lake should be avoided and the eco-system of Tan Xa Lake should be monitored carefully.

(3) Reduction of the impact during construction

The following issues should be properly planned and managed in order to reduce the

impact during construction of HHTP. The concept of the plan would be clarified in the feasibility study / EIA stage and the detailed methodologies would be discussed in the detailed design stage. It is also recommended that the established plan will be adapted to the ongoing stage-1 work as soon as possible.

1. Adequate measures should be considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes). The concrete measures should be developed in the feasibility study along with EIA study and the more detailed methodologies should be in detailed design.
2. If construction activities adversely affect the natural environment (ecosystem), the adequate measures should be considered to reduce impacts. With regard to the issue, the proper plan such as the awareness of ecosystem in Tan Xa and the other small lakes in HHTP area with such as the least landfill of the lakes should be established.
3. If construction activities adversely affect the social environment, the adequate measures should be considered to reduce impacts. The affected social environment should be confirmed and the countermeasures should be established in EIA study.
4. If necessary, the health and safety education (e.g., traffic safety, public health) should be provided for project personnel including workers. The contents of education should be clarified in the detailed design.

(4) Establishment of environmental monitoring system

The following issues should be properly planned and managed with regard to environmental monitoring system. The concept of the plan would be clarified in the feasibility study along with the EIA study or the previous SEA or master EIA stage if possible, and the detailed methodologies would be discussed in the detailed design stage. It is also recommended that the proposed plan will be adapted to the ongoing Stage-1 work also as soon as possible.

1. The executing agency (HHTP-MB) should develop and implement monitoring program for the environmental items that are considered to have potential impacts. The items with potential impacts are supposed to be the effluent water quality from wastewater treatment plant and the water quality of Tich River as discharged body and so on at this stage. However, the HHTP-MB is recommended to monitor other factors once it would find other possible ones.
2. The items, methods and frequencies included in monitoring program are to be appropriate. The factors above also should be specified in F/S and EIA reports.
3. The executing agency (HHTP-MB) should establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework). It should be also proposed in F/S and EIA reports.
4. Any regulatory requirements pertaining to the monitoring report system should be identified, such as the format and frequency of reports from the HHTP-MB to the regulatory authorities i.e. MONRE etc.. It should be also planned in feasibility study report and EIA report.

7.3.2 Summary of Recommendations and Future Environmental Steps for HHTP Project

From environmental confirmations and analysis mentioned above, the recommendations on environmental aspects for HHTP-MB can be summarized as follows:

(1) Preparation of SEA or Master EIA Report for entire HHTP area

Although the SEA for HHTP development in accordance with the current environmental frameworks in Vietnam is not required according to MONRE, at least a Master EIA report for the entire area, or exactly the rest of Phase-1 and Phase-2 area, with more broad and detailed contents than the required brief EIA report for approval of this updated master plan by MOC is recommended to be prepared before preparing EIA reports for each feasibility study. In the course of the study, the migrant waterbirds such as storks flying to the Tan Xa Lake should be confirmed particularly in the winter season.

(2) Cooperation for Environmental Scoping in Feasibility Study and Discussions on Environment at earliest Stage

Probably the environmental scoping would be conducted at quite early stage of feasibility study or even SEA in order to specify the detailed required contents and methodologies in EIA reports. The HHTP-MB and any other organizations such as Ha Tay Province should cooperate to the work and provide any existing and updated data. In order to reduce the burdens in EIA stage and make the contents satisfactory, HHTP-MB should start the discussions on at least 1) waste management plan for HHTP including the reduce, reuse and recycle of generated waste, 2) schedule of public consultations on environmental impacts as well as social impacts (mainly resettlement issue), and 3) environmental monitoring framework for HHTP. The public consultations for residents and any concerned agencies should be held at least three times for each stage (e.g. each F/S & EIA).

(3) Preparation of EIA Reports

The EIA reports along with the feasibility studies that are started from priority projects of the rest of Phase-1 area will be prepared. Once any storks flying to the Tan Xa Lake would be observed in the course of SEA/Master EIA or EIA for a project including the area of Tan Xa Lake, the study should be conducted with much care possibly by special authority on eco-system. In such a case the HHTP-MB should consult with MONRE to recommend any authorized research institute on eco-system. In addition, as far as this the environmental category of the project would be ranked as A due to the huge number of resettlements, the EIA report and Resettlement Action Plan (RAP) for the project area should be coordinated. The quite important contents for EIA reports are as follows:

- Analysis of eco-system in HHTP area (if the migrant waterbirds in red list would be observed)
- Result of public consultation and reflect the public comments on development plan
- Mitigation measures for eco-friendly development (refer to section 7.3.1 (1) to (3))
- Environmental monitoring system (refer to section 7.3.1 (4))
- (at least) the summary of RAP and any mitigation measures of social impacts

Screening Format

Name of a Proposed Project: Hoa Lac Hi-Tech Park Project
Project Executing Organization: Hoa Lac Hi-Tech Park Management Board

Name, Post, Organization and Contact Point of a Responsible Officer
Name: Nguyen The Hung
Post: Director of Planning, Construction and Environment Division
Organization: Hoa Lac Hi-Tech Park Management Board, Ministry of Science & Technology
Tel: +84-4-251-1479
Fax: +84-4-251-1529
E-Mail: n.thehung@yahoo.com
Date: 18/June/2007
Signature:

Check Items

Question 1 Address of a project site:
Hoa Lac Hi-Tech Park, Km 29 Lang Hoa Lac Highway, Thach That Dist. – Ha Tay Province

Question 2 Outline of the project

2-1 Does the project come under following sectors?

■Yes ☐No

If yes, please mark the corresponding items.

☐Mining development
■**Industrial development**
☐Thermal power (including geothermal power)
☐Hydropower, dams and reservoirs
☐River/erosion control
■Power transmission and distribution lines
■Roads, railways and bridges
☐Airports
☐Ports and harbors
■Water supply, sewage and waste treatment
☐Waste management and disposal
☐Agriculture involving large-scale land-clearing or irrigation
☐Forestry
☐Fishery
☐Tourism

2-2 Does the project include any of the following items?

■Yes ☐No

If yes, please mark following items that the project includes.

■Involuntary resettlement
(scale: around 1,400 households = 7,000 persons)
☐Groundwater pumping
(scale: about 1 million m^3/year from existing system)
■Land reclamation, land development and land-clearing
(scale: land reclamation: approx. 13.3 mil. m^3, land development and clearing: 1,270 ha)
■Logging
(scale: a few logging of planted eucalyptus)

2-3 Description of the Project:
(Scale and/or Basic Information)

Location:
Dong Mo-Ngai Son in Thach That District, Ha Tay Province (32 km west of Hanoi)
Schedule/Scale of Development: Phase-1: 2012 (755 ha), Phase-2: 2020 (845 ha)
Executing Agency:
Hoalac Hi-Tech Park Management, Ministry of Science & Technology
Component of Land Development:
1.Software Park, 2. Research & Development, 3. High-tech Industrial Area, 4. Education and Training, 5. Center of High-tech City, 6. Mixed Use Area, 7. High, Medium and Economy Class Residential Areas, 8. Golf Course, 9. Park, Sports, Amusement Area, 10. Infrastructure (Roads, Utilities, Bus terminals, etc.), 11. Tan Xa Lake and Buffer Zone, etc.
Component of Infrastructure Development:
1. Road, 2. Power Supply System (Sub-station, cable, transformer), 3. Water supply distribution, 4. Telecommunication, 5. Sewerage System (Wastewater Treatment Plant, pump stations, sewer pipe, 6. Drainage System
The objectives of HHTP Development are summarized as follows;

- To play leading roles in research and development for science and technology in Vietnam
- To assist the development of human resources in science and technology fields and High-Tech industries
- To attract High-Tech industries for socio-economic development of the country in sustainable way

2-4 Is the project consistent with the higher program/policy?

■Yes: Please describe the higher program/policy.
（Vietnam Science and Technology Development Strategy by 2010,
Construction Planning for chain of urban covering Mieu Mon, Xuan Mai, Hoa Lac and Son Tay)
☐No

2-5 Did the proponent consider alternatives before this request?

■Yes: Please describe outline of the alternatives
(Along regional road No.419 of a northern part development area is excluded from a development area due to recent urbanization with high dense inhabitants and the area was set as the relocation housing area. The alternative land allocates supplementary at southeast of HHTP along with Lang – Hoa Lac Highway.）
☐No

2-6 Did the proponent have meetings with related stakeholders before this request?

■Yes ☐No

If yes, please mark the corresponding stakeholders.
■Administrative body
■Local residents (representative)
☐NGO
☐Others （ ）

Question 3

Is the project a new one or an on-going one? In case of an on-going one, have you received strong complaints, etc., from local residents?

■New (for 1,340 ha)
☐On-going (there are strong complaints)
■On-going (there are no strong complaints for 270 ha)

☐Others

There were some (not strong) complaints on the amount of compensation, cutting of trees and so on.

Question 4 Name(s) of laws or guidelines:

Law on environment protection 2005' Decree 80/2006/ND-CP dated 8th Sep 2006; Circular No.08/2006/TT-TNMT dated 8th Sep 2006.

Is Environmental Impact Assessment (EIA) including Initial Environmental Examination(IEE) required for the project according to the laws or guidelines in the host country?

■Yes ☐No

If yes, please mark corresponding items.

☐Required only IEE (☐Implemented, ☐on going, ☐planning)

☐Required both IEE and EIA (☐Implemented, ☐on going, ☐planning)

☐Required only EIA (☐Implemented, ☐on going, ☐planning)

■Others:

In the MP stage Strategic Environmental Assessment (SEA) is required in state of IEE, and EIA will be required in FS stage. Those environmental studies will be prepared by local consultant hired by Management Board.

Question 5

In the case when EIA steps were taken, was the EIA approved by the relevant laws in the host country? If yes, please mark date of approval and the competent authority.

☐Approved: without a supplementary condition	☐Approved: with a supplementary condition	☐Under appraisal

(Date of approval: Competent authority:)

☐Not yet started an appraisal process

■Others:

(EIA report for the previous master plan was prepared and submitted but not approved by Ministry of Science, Technology and Environment. The new EIA/SEA reports should be prepared following the requirements of new environmental protection law and approved by Ministry of Natural Resources and Environment.)

Question 6

If the project requires a certificate pertaining to the environment and society other than the EIA, please indicate the title of that certificate.

☐Already certified

☐Required a certificate but not yet done

Title of the certificate :( )

☐Not required

■Others

Brief EIA (SEA) Report for the approval of updated master planning by Ministry of Construction is required.

Question 7

Are any of the following areas located inside or around the project site?

☐Yes ■No ☐Not identified

If yes, please mark corresponding items.

☐National park, protected area designated by the government (coast line, wetlands, reserved area for ethnic or indigenous people, cultural heritage), and areas being considered for national parks or protected areas

☐Virgin forests, tropical forests

☐Ecological important habitat areas (coral reef, mangrove wetland, tidal flats)

◇Habitat of valuable species protected by domestic laws or international treaties

(Stork was detected in Tan Xa lake. It is necessary to confirm the species of stork)

☐Likely salts cumulus or soil erosion areas on a massive scale

☐Remarkable desertification trend areas

☐Archaeological, historical or cultural valuable areas

☐Living areas of ethnic, indigenous people or nomads who have a traditional lifestyle or special socially valuable areas

Question 8

Does the project have adverse impacts on the environment and local communities?

■Yes ☐No ☐Not identified

Reason:

No affect assumed, since the wastewater treatment plant will be designed following the Vietnamese as well as Japanese environmental laws, moreover no allowed the industries with environmentally significant impacts attract to HHTP.
However, there is huge impact to the local communities, since many household required to be relocated. For the detailed information, please refer to the Resettlement Action Plan (RAP) report.

Question 9

Please mark related environmental and social impacts, and describe their outlines.

■Air pollution
☐Water pollution
☐Soil pollution
☐Waste
☐Noise and vibration
☐Ground subsidence
☐Offensive odors
■Involuntary resettlement
■Local economy such as employment and livelihood etc.
■Land use and utilization of local resources
☐Social institutions such as social infrastructure and local decision-making institutions
■Existing social infrastructures and services

☐Geographical features ☐The poor, indigenous of ethnic people
☐Bottom sediment ☐Misdistribution of benefit and damage
☐Biota and ecosystem ☐Local conflict of interest
☐Water usage ☐Gender
☐Accidents ☐Children's rights
☐Global warming ☐Cultural heritage
☐Infectious diseases such as HIV/AIDS etc. ☐Others
( )

Outline of related impacts:

1. Small air pollution will be caused by increased traffic and some industries.
2. Number of resettlement: approx. 1,400 households.
3. The major livelihood will be shift from agriculture to industry or others.
4. Land use will be shift from paddy field to other uses as specified in the item [2-3 Description of the Project] above.
5. In line with the development of HHTP, not only basic infrastructures such as road, water supply and power supply will be developed, moreover the education, medical and other public infrastructure services also will be prepared.

Question 10
Information disclosure and meetings with stakeholders

10-1 If environmental and social considerations are required, does the proponent agree on information disclosure and meetings with stakeholders in accordance with JICA Guidelines for Environmental and Social Considerations?
■Yes ☐No

10-2 If no, please describe reasons below.

8. LAND ACQUISITION AND RESETTLEMENT

8.1 Concerned Agencies on Land Acquisition, Compensation and Resettlement for HHTP Area

Figure 8.1-1 illustrates all the concerned agencies for land acquisition and resettlement works based on the interview surveys for HHTP-MB and Land Acquisition and Compensation Board (hereinunder called as "LACB") in Thach That District where the HHTP land is located.

Although the provincial level people's committee is basically in full charge of land acquisition, compensation and resettlement matters for the development work inside the provincial area, it can authorize the actual operations of land acquisition, compensation and resettlement works to the district level people's committee in accordance with the Decree 197 Text 39. Accordingly Ha Tay Provincial People's Committee (Ha Tay PC) entrusted the operation to Thach That District People's Committee (Thach That PC) and it started the operation of land acquisition for HHTP development from April 2002 supported by Ha Tay PC and then the district committee established the Thach That LACB in 2005. However, the planning and approval works of land acquisition, compensation and resettlement still belongs to Ha Tay PC. Since the land acquisition and compensation works for HHTP development was much delayed, the prime minister mentioned in the letter No. 1310/TTg-KG dated 24th August, 2006 stressing that Ha Tay PC shall organize all the land acquisition and compensation matters regarding HHTP development properly.

According to the land law, generally provincial level people's committee is in charge of planning of land clearance works and district level people's committee is in charge of actual operations of land use rights, land acquisition and compensation. However, in case of Ha Tay it seems that the province is in charge of issuing the various decisions on land acquisition and compensation and the plans are prepared by Land Acquisition and Compensation Committee that organizes the operations by LACBs and the internal Inventory Groups.

8.2 Current Status of Land Acquisition and Resettlement

8.2.1 Land Acquisition

(1) Definition of Land Owner and User in Viet Nam

According to the national constitution issued in 1980 all the land in Viet Nam belongs to the government. In the land law it is specified that the land is owned by public and managed by the government as a representative owner. Under the situation, the land is allocated by the government to the public by issuing the certificate of land use right by district or commune level people's committees. When the land is acquired by any governmental project, the work is called as "recovery" of the land.

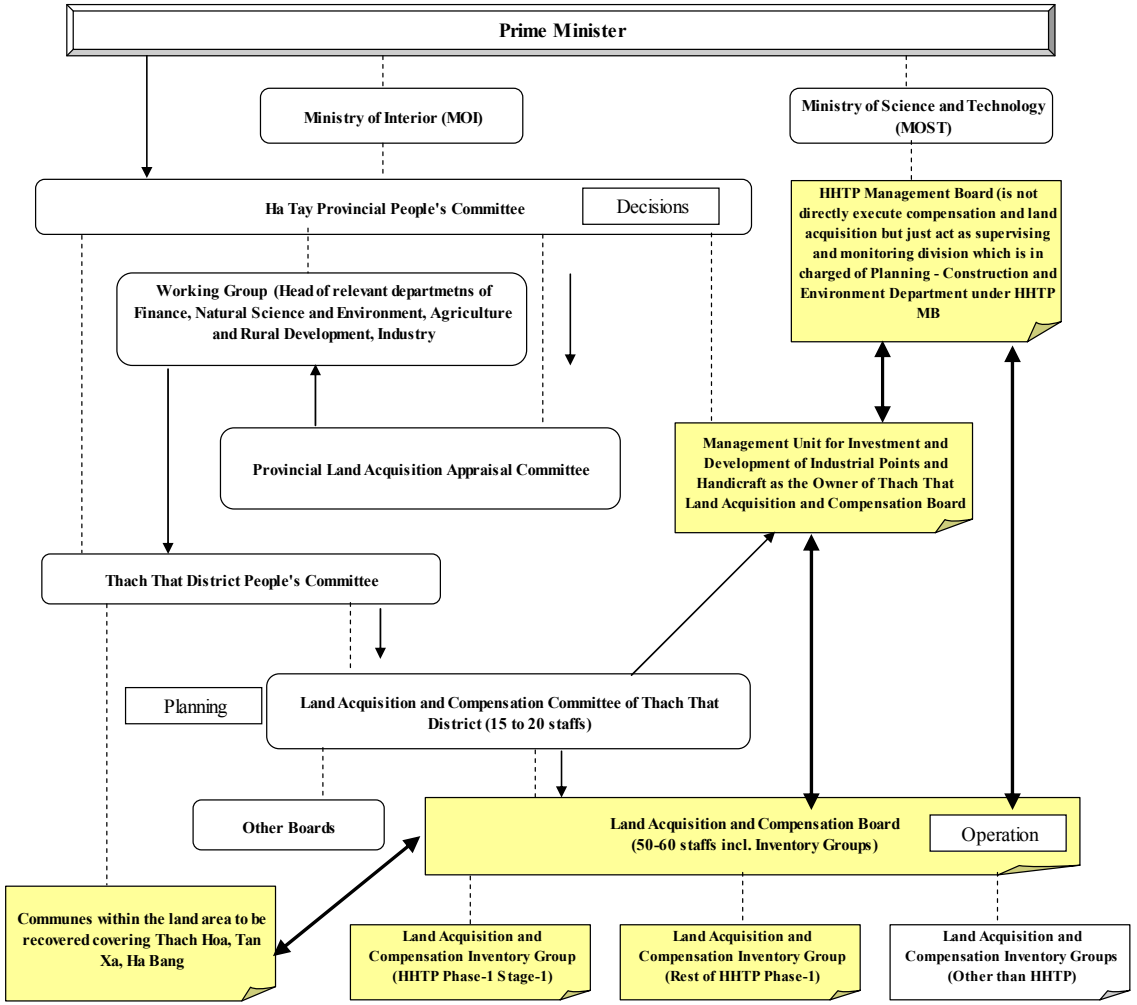


Figure 8.1 All the concerned Agencies on Land Acquisition and Compensation

(2) Progress and Present Status of Land Acquisition

1) General

After the original Master Plan and investment program were approved in October 1998 by Prime Minister Decision 198/QD-TTg, the land acquisition procedure has been implemented by Thach That Land Acquisition and Compensation Committee and the cost estimate for all the land acquisition and compensation works inside the Stage-1 (200 ha) of Phase-1 (800 ha) was completed by 2005. The amount was announced by official documents to each land user in series and the people who finally accepted the amount have received the compensation and resettled until August 2007. 270 ha of land had been acquired for Phase-1 development as of May 2007 and Ha Tay Province officially promises to acquire around 400 ha land within year 2007 (letter No. 96 BC/BQL, 23, May, 2007). Up to date a total of 163 ha/400 ha has been acquired and handed over accumulatively. The District LACB is now continuing with the document preparation for submission and approval on resettlement.

Present status of land acquisition with land use is shown in Figure 8.2-1 and the area to be acquired in 2007 is shown in Figure 8.2-2.

2) Sewerage Treatment Plant Site

According to a letter issued on 10th May, 2007 from the contractor for Stage-1 works (VINACONEX) to HHTP-MB (Ref. 53 CV/VC-BQLHL), there is a land of 822.5 m^2 that has not been acquired for sewage treatment plant out of total required area of 11,701 m^2. There are some households that do not accept commencing as follows:

- The household who is raising fish at the area for constructing Sewerage Treatment Plant does not allow commencing.
- Two households are living at the area for constructing Sewerage Treatment Plant does not allow commencing.

(3) Amount paid for Land Acquisition

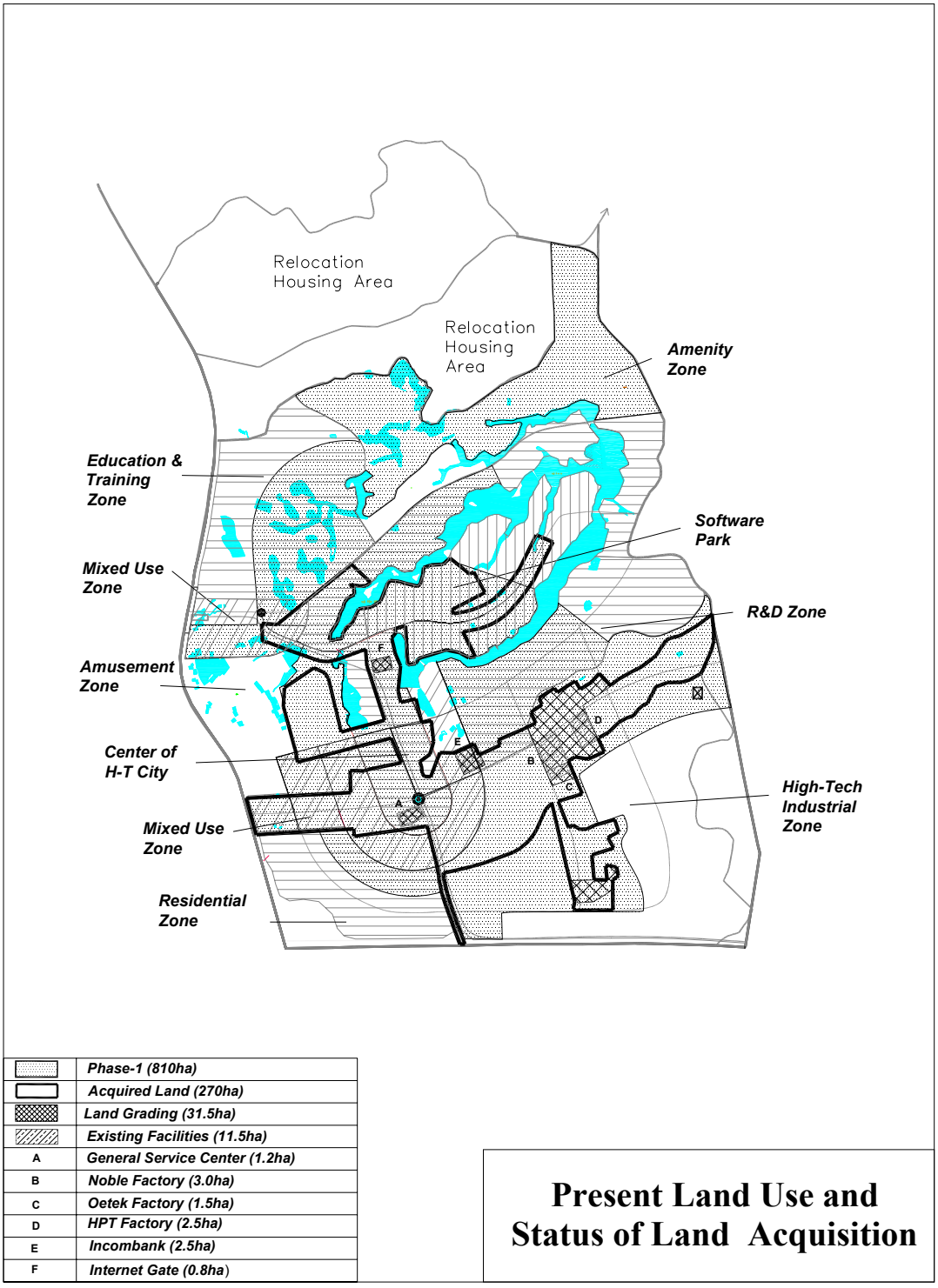
The costs for the land acquisition and the compensation and support for land users in Phase-1 Stage-1 area (200 ha) was estimated at VND 67.6 billion in 2002 of which breakdown is tabulated in Table 8.2-1.

Table 8.2-1 Cost Estimate for Land Acquisition and Compensation for Phase-1 Stage 1

1. Land cost	24,391,938,543
2. Trees and fruit crops	15,384,190,075
3. House and architecture object	9,310,215,388
4. Removal of tombs	706,000
5. Support money	5,713,512,150
6. Cost for land acquisition	2,579,250,000
7. Preparation of F/S	220,140,000
8. Compensated for Mr. Phung Van Chien for the road entering into start up center was made as per road C	44,188,360
Contingency	10,000,000,000
TOTAL	67,644,241,243
Rounded figure	**67,644,000,000**

Source: Decision No. 1777/QD-UB (27 December, 2002)

Out of the above budget around 64.2 billion was finally disbursed and 3.5 billion was not yet disbursed in which around 1 billion intended for overall management fee and 2.5 billion has not been received by the land users or households within compensation and resettlement scope since they were not willing to get the money from any reasons. The remaining balance will be returned to the government.



Source: JICA Study Team

Figure 8.2-1 Present Land Use and Status of Land Acquisition