

**THE STUDY  
ON  
MODEL RURAL DEVELOPMENT  
IN  
NAM DAN DISTRICT, NGHE AN PROVINCE**

**FINAL REPORT**

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## ABBREVIATIONS

CHC	Commune Health Center
DHC	District Health Center
EIA	Environmental Impact Assessment
EIP	Expanded Immunization Program
GDP	Gross Domestic Product
GOJ	Government of Japan
GOV	Government of Viet Nam
HCMC	Ho Chi Ming City
HDI	Human Development Index
IEC	Information, Education and Communication
ICP	Inter-Commune Polyclinic
JICA	Japan Intentional Cooperation Agency
LEP	Law for Environmental Protection
MOF	Ministry of Finance
MPI	Ministry of Planning and Investment
MARD	Ministry of Agriculture and Rural Development
MOC	Ministry of Construction
MOET	Ministry of Education and Training
MOH	Ministry of Health
MOI	Ministry of Industry
MOT	Ministry of Transportation
PHC	Primary Health Center
PPP	Purchasing Power Parity
RRA	Rapid Rural Appraisal
SBVN	State Bank of Viet Nam
SDR	Socio-economic Development Region
SOE	State-Owned Enterprise
UNDP	United Nations Development Programme
UNFPA	United Nations Fund of Populations Activities
UNICEF	United Nations Children's Fund
VBA	Viet Nam Bank for Agriculture
VBP	Viet Nam Bank for the Poor
VLSS	Viet Nam Living Standard Survey
VND	Viet Nam Dong

## *CHAPTER 1 : INTRODUCTION*



## **CHAPTER 1: INTRODUCTION**

### **1.1 BACKGROUND OF THE STUDY**

In the course of the remarkable national economic growth experienced by Viet Nam, regional economic disparities within the country have widened due to different economic infrastructures and resources by region. These facts have restricted the economic impact of "Doi Moi" from being extended country wide. In the northern and central parts of the country, the socio-economic conditions have developed mainly based on the agricultural sector, and the transportation and marketing infrastructures have not been developed accordingly. On the other hand, the southern part of the country has effectively received the economic impact of "Doi Moi" due to inherited economic infrastructures developed with assistance from foreign countries before the Liberation War.

The northern-central coastal area, where Nghe An Province is located, is recognized as the most poverty stricken area, where approximately 20% of total national population are living under poverty conditions. Nam Dan District is one of the most seriously affected areas due to disadvantageous natural conditions such as low-fertile soil, suffering from monsoon, typhoon and flood, besides insufficient and superannuated agricultural infrastructures such as old and damaged irrigation facilities. Thus, the low living conditions of the area have necessarily to be improved as soon as possible.

In consideration of the above situation, the Government of Viet Nam (hereinafter referred to as GOV) requested the technical cooperation for the Study on Model Rural Development in Nam Dan District, Nghe An Province to the Government of Japan (hereafter referred to as GOJ) in April 1995. In response to the request of GOV, GOJ dispatched a Preparatory Study Team to Viet Nam in April 1996, and the Scope of Work (hereafter referred to as S/W) for the Study was signed on April 18, 1996 (the copy of S/W is attached as Annex A of this Report). Based on S/W, the Japan International Cooperation Agency (hereafter referred to as JICA) organized and dispatched a team under the leadership of Mr. Masahito Yamanaka of Pacific Consultants International to implement the Study (hereafter referred to as the Study Team).

The Phase I Field Survey was carried out from October of 1996 to January of 1997 followed by the Phase I Home Office Work in Japan from January to March of 1997. The Phase II Field Survey was carried out from May to September of 1997 followed by the Phase II Home Office Work in Japan from September to October of 1997.

### **1.2 OBJECTIVES OF THE STUDY**

The objectives of the Study are;

- (1) To prepare a Master Plan of the Study Area and Feasibility Study for priority project(s) in order to improve living conditions of the inhabitants in the Study Area. The Study mainly focuses on agricultural development and rural social development, which will be the basis for a model/pilot development plan for other rural areas suffering from lack of infrastructures in Nghe An Province and also other Provinces in

Viet Nam.

- (2) To transfer technology, which is required for conducting the Study, to the counterpart personnel of GOV through on-the-job training in the course of the Study.

### 1.3 STUDY AREA

The Study Area covers the Nam Dan District in Nghe An Province, which is located 300 km south of Hanoi, the capital city of Viet Nam. Nam Dan District has approximately an area of 30,000 ha and a population of 160,000. In addition to the Study Area, the Study also covers certain areas outside Nam Dan District including Vinh city for the agro-industry and marketing studies.

### 1.4 SCOPE OF THE STUDY

In order to achieve the above-mentioned objectives, the Study will be made in two phases, Phase I and Phase II. Each phase covers field work in Viet Nam and home office work in Japan, respectively. Work items for each phase are shown in Table 1.4.1.

### 1.5 STUDY SCHEDULE

The Study schedule is shown below:

Phase/Stage			Phase I (1996/1997)						Phase II (1997/1998)											
			10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Phase I	Work in Viet Nam	Preliminary Formulation of Master Plan for Model Rural Development																		
	Work in Japan	Formulation of Master Plan for Model Rural Development																		
Phase II	Work in Viet Nam	Preliminary Formulation of Priority Projects																		
	Work in Japan	Formulation of Priority Projects																		
Explanation Discussion on Draft Final Report																				
Submission of Final Report																				

## 1.6 REPORTS

The following reports in English have been prepared and submitted to GOV.

Report	Number of copies	Submission time
Inception Report	Twenty (20) copies	At the commencement of the Phase I Field Study in Viet Nam
Progress Report (I)	Twenty (20) copies	At the end of the Phase I Field Study in Viet Nam
Interim Report	Twenty (20) copies	At the commencement of Phase II Study in Viet Nam
Progress Report (II)	Twenty (20) copies	At the end of the Phase II Field Study in Viet Nam
Draft Final Report	Twenty (20) copies	After the end of the Phase II Home Office Work in Japan
Final Report	Fifty (50) copies	Within two (2) months after receipt of GOV's comments on the Draft Final Report

**Table 1.4.1 Scope of the Study**

Phase/Stage			Description
Phase I	Work in Viet Nam	Preliminary Formulation of Master Plan for Model Rural Development	Explanation and Discussion on Inception Report
			Confirmation of the Study Organization and Preparation of Technology Transfer Program
			Clarification of Concepts of Model Rural Development
			Collection and Review of Relevant Data and Information
			Field Survey
			Geology and Ground Water Survey (Contract base)
			Preparation of Soil Classification Map (Contract base)
			Water Quality Survey (Contract base)
			Study of Development Potentials and Constraints
			Establishment of Basic Development Concepts
			Preliminary Formulation of Master Plan for Model Rural Development
			Study and Discussion on the Criteria for Selection of Priority Projects
			Preparation and Discussion of Progress Report (I)
	Work in Japan	Formulation of Master Plan for Model Rural Development	Report on Phase I Field Work in Viet Nam
Phase II	Work in Viet Nam	Preliminary Formulation of Priority Projects	Analysis of Phase I Field Survey Results
			Formulation of Master Plan for Model Rural Development
			Preliminary Selection of Priority Projects
			Preparation of Interim Report
			Explanation and Discussion on Interim Report
			Workshop for Master Plan of Model Rural Development
			Study on Priority Projects
			Topographic Survey (Contract base)
			Traffic Survey (Contract base)
			Preliminary Formulation of Priority Projects
			Preparation and Discussion of Progress Report (II)
			Report on Phase II Field Work in Viet Nam
			Analysis of Phase II Field Survey Result
			Formulation of Priority Projects
	Work in Japan	Formulation of Priority Projects	Overall Evaluation of Priority Projects and Recommendations
			Preparation of Draft Final Report
			Explanation and Discussion of Draft Final Report
			Preparation of Final Report

## CHAPTER 2 : BACKGROUND

## **CHAPTER 2: BACKGROUND**

### **2.1 BRIEF DESCRIPTION OF VIET NAM**

#### **2.1.1 Socio-economic Conditions**

##### **(1) General Performance**

In 1989, the "Doi Moi" (renovation) adjustment and reform program was launched in order to achieve macroeconomic structural reform, and liberalization and stabilization of the economy. These reforms covered all economic areas and included decollectivization of agriculture, liberalization of prices and foreign trade, and contraction of state enterprises and subsidies. Due to the positive effects of these reforms, real annual GDP growth averaged 7%, inflation rates and fiscal deficits were significantly reduced. Moreover, exports grew by more than 30% per year becoming a very important and promising economic sector.

According to the World Bank (Viet Nam Country Report, 1995), compared to some other countries, income distribution is relatively equal and most of the population is benefited by the extensive social services network. 90% of all adults are literate and school enrollment of children aged 6-10 is 80%. Life expectancy is around 67 years and infant mortality is around 40 per 1,000 live births. More than 94% of children survive their first five years of life.

In spite of the evident achievements of the reform policies, the per capita income is still below US\$200 which is very low. It has been estimated that 25% of the population can not afford an adequate daily basic food intake. If non-food basic needs are taken into consideration along with food needs, then it has been estimated that 40 to 50% of the population can not cover these items. It is still necessary to pay urgent attention to the poorest groups of the country as they may be left behind in the course of a rapid economic development. It is important to secure for these groups access to the social services network.

Thus, the challenges to be faced by Viet Nam during and after the transition period have to be focused having in mind the development of the population as a whole or to minimize the socio-economic impacts on those groups that are in risk to being left out in the sharing of the development benefits.

##### **(2) Overall Economic Structure 1990 - 1995**

Viet Nam's real growth performance has been remarkable over the period 1990 to 1995. GDP in current prices was VND76,707 billions in 1991; by 1995, it was VND222,840 billions representing an increase of 291% if these two values are compared. Considering a population of 74 million people and an exchange rate of US\$1=VDN11,039, per capita GDP in current prices for the year 1995 was US\$273. The table below provides information on growth and economic structure for the period 1990 - 1995.

## Growth Performance and Economic Structure 1990 - 1995

Major Economic Sector	Growth (%)		Share (%)	
	1990 - 1994	1995*	1990	1995*
Agriculture	4.27	4.70	39.42	32.90
Industry	12.14	14.00	18.76	22.81
Construction	13.44	14.01	3.83	4.85
Services	8.60	10.60	37.99	39.44
GDP	7.87	9.47	100.00	100.00

\*) Preliminary

Source: "Progress Report II, the Study on the Integrated Regional Socio-Economic Development Master Plan for the Key Area of the Central Region of the Socialist Republic of Viet Nam", March 1996 - JICA

The real growth rate of the economy was recorded at some 5.98% from 1990 to 1991, has remained above the 8% point mark in 1992, 1993 and 1994 and has again accelerated to 9.47% in 1995. Compound real GDP growth over the period 1990 to 1994 has been 7.87%. If the preliminary data for 1995 are included, compound real GDP growth over the period 1990 to 1995 would be 9.47%. The growth performance, however, is partly inflationary growth.

For 1995, the compound growth trend of agricultural output (including forestry and fishery) was recorded at 4.70%; for industry, 14.00%; for construction, 14.01%; and for services, 10.60%.

Given the overall growth performance of Viet Nam's economy over the past six years, the following changes in the structural composition of GDP have occurred. The share of the agricultural sector in GDP has declined from 39.42% in 1990 to 32.90% in 1995. Industry's share has increased from 18.76% in 1990 to 22.81% in 1995. The share of the construction sector, surprisingly small in absolute terms given Viet Nam's construction needs, has slightly increased from 3.83% in 1990 to some 4.85% in 1995. Also, the service sector is too small for Viet Nam's overall size, most likely reflecting the incomplete adjustment measures in this sector, in particular in the area of financial, trade and other professional services. The sector's share has increased slightly from 37.99% in 1990 to 39.44% in 1995.

### (3) Characteristics of the Domestic Economic Structure

The sectoral dependence on national growth performance is further differentiated by analysing the regional distribution and/or concentration in terms of Province or Socio-Economic Development Region (SDR) of the major economic sector output centers. The results of this analysis are summarised in the Tables 2.1.1 to 2.1.5 attached herewith.

Out of the 53 provinces in Viet Nam, about 50% of Viet Nam's GDP in terms of size is produced by only eleven provinces. Within this group of leading provinces there are differences among their production levels. Specially, Ho Chi Minh City (HCMC) is the country's leading point accounting alone for between 15 to 16% of GDP.

As regards Viet Nam's major agriculture and forestry production centers, some 50% of the production of this sector are produced by fourteen provinces. And Nghe An Province containing the Study Area accounts for an average of 47.81% (7<sup>th</sup> rank) for the period 1990 - 1994.

Regarding the industrial production, the emerging picture is even more poignant. Over 50% of industrial production is carried by only three provinces, namely Vung Tau, HCMC and Ha Noi. Viet Nam's industrial development is a highly dynamic process as it can be seen when comparing 1990 to 1994 data. The country's industrial base is almost exclusively located in the South that is Vung Tau and HCMC with the gap between these two and Ha Noi rapidly increasing.

Even though there is insufficient data to evaluate the growth impact of the oil and gas sector, it is estimated that this sector carried a large share of industrial growth. Hence, oil and gas production with its long term implications would also have to be considered as an absolute strategic sector for national wealth generation.

For the economic sector of construction, a similar structural pattern as the one mentioned lines above prevails: only eight provinces accounted in 1994 for about 50% of total construction output.

The pattern for the service sector shows a slightly more diversified structural pattern. In 1990, only two provinces, namely HCMC and Ha Noi accounted for over 50% of the service sector's aggregated output; in 1994, six provinces comprised 50%.

#### **(4) Social Conditions**

The social indicators in Viet Nam are summarized in Table 2.1.6. Per capita income in Viet Nam is less than \$200, among the lowest in the world. While this understates real living standards in Viet Nam, poverty and malnutrition are widespread. Unofficial estimates, which measure poverty according to adequacy of food consumption, suggest that 25% of the population is poor. Also, the recent completed Viet Nam Living Standards Survey (VLSS), which was undertaken as part of a UNDP/SIDA-financed, World Bank-executed technical assistance project, indicates that 51% of the population has inadequate provision for food and nonfood items. Because of malnutrition, a high proportion of children are underweight (40%) or stunted (57%).

Unemployment is a serious problem, especially in urban area, where more than 2 million people are unemployed since they usually lack the social support systems that prevail in rural areas. Job creation programs and worker re-training programs have been initiated as a countermeasure for this problem. Special assistance has also been given to the people living in rural and mountainous areas that are lagging in term of employment opportunities. Employment opportunities have been increasing by just under 3% annually in recent years, but the growth of the labor force has been even more rapid. Because age structure in Viet Nam's population is concentrated in young group (40% is age 15 or under), there are approximately 1.2 million new entrants to the labor force each year.

Viet Nam's annual rate of population growth is approximately 2.1%, reflecting a total fertility rate of 3.1% and a life expectancy of 67 years. The population density is among the highest in Southeast Asia; 45% of the population live in the Mekong and Red River delta areas. With a fertility rate of 1.9%, it is expected that by the Government's target year of 2005, growth momentum would add some 30 million to the current population of 73 million. This population growth can be expected to compound the problems of environmental quality, health, and poverty concentration.

Despite population pressures, Viet Nam's basic social indicators are on par with those of many middle-income countries. Viet Nam's Human Development Index is 0.52. This would place it at 121<sup>st</sup> out of 173 countries (Human Development Report 1996, UNDP). The literacy rate is approximately 90%. The mortality of children under five is about one third that of other low-income countries. Immunization coverage is over 80%. The protracted fiscal restraint during the 1980s and early 1990s, however, resulted in deterioration in the public health and education systems. Recent budgets have augmented the financial resources for these sectors, including funds for public awareness programs concerning the human immunodeficiency virus (HIV/AIDS)/acquired immune deficiency syndrome epidemic. Various fees are also being charged to augment the resources for the health and education systems.

### **2.1.2 Development Policy**

The key components of the economic reform programme adopted by Viet Nam Government since 1986 are:

- Agricultural reorganization based on the individual household, rather than on the collective body;
- Granting of greater autonomy in decision making to state enterprises, including their right to contract their own inputs and outputs;
- Abolition of almost all the subsidies and price controls;
- Tax and expenditure reforms to reduce budget deficit;
- Increase in interest rates to make them positive in real terms and restraints on the expansion of credit;
- A new foreign investment law.

The development strategy of the Viet Nam's Government towards the agriculture-forestry-fishery sectors for the period 1996 - 2000 will be :

- Continuing to firmly secure adequate food supply to the society and reinforcing the export sector.
- Strongly developing all kinds of high commercial-value trees via intensive cultivation, and new afforestation, in order to satisfy the requirements for raw materials for the processing industry.
- Enlarging the fishing area of farms or catching seaproducts in off-shore regions. Developing the aquacultural activities in both fresh water and brackish and sea water.
- Developing the forest economy by a combination of cyclical breeding, forest care and protection, making new afforestation on empty land and barren hills.



- Encourage the transformation of the rural and agricultural economic structure putting emphasis on its industrialization and modernization; through this transformation, the value of agricultural and coastal lands and forests will rise. Industrial and agricultural services in the rural area necessary for sustainable agricultural development will also be improved. The gradual industrialization and modernization of the agricultural sector is one of the main policy objectives.
- Encourage investment in new equipment and improved processing systems for agricultural and forestry products. A special emphasis must be put on encouraging investment in post harvest equipment and processing of agricultural products for industrialization.

According to the above viewpoint, the guidepost for the development of Viet Nam's agriculture for the remaining years of the 20th century and the first years of the early 21st century will be "to build up Viet Nam's agriculture to be increasingly developed and sustainable through: 1) diversification of products in conjunction with agro-forest and processing industry, 2) step-by-step modernization and industrialization, 3) meeting increasing domestic consumption demand and effective exports, 4) rapidly enhancing living conditions and building up a new rural society", etc.

The rural and agricultural economy will be structured based on the principle of high economic efficiency based on three important factors: (1) proper exploitation of natural resources; (2) promotion of comparative advantages of ecological zones, applying appropriate advanced techniques and efficient use of information on potential markets; (3) enhancing productivity, quality and efficiency of the agricultural sector under a market-based economy.

Agricultural production is given high priority for investment and development in the coming years in order to meet three main objectives: (1) to satisfy the food requirements of the population at any time; (2) to sufficiently secure feedstuff for development of improved breeding and enough raw materials for industrial purposes; (3) to further increase the export volume. The investment trend for the next period will be to intensively cultivate areas of food crops, especially rice and maize. The following actions are required to achieve those objectives: (1) a rapid introduction of the production of new high yield and quality varieties, good tolerance against worms/diseases, especially the hybrid varieties; (2) to closely manage the area for rice as targeted by the Government, it is necessary a rice area not less than 4.3 million ha till the early 21st century; (3) it is necessary to invest in the equipment for the grain-drying system, milling units, modern equipment for polishing and classification of rice, and warehouses. At the same time, it is required to issue a policy to assure food producers how to earn an income equal or higher than the one obtained in similar activities. It is expected that food production will be increased 1.0-1.5 million tons every year, from 26 million tons at present to 30-32 million ton by the year 2000.

By implementing the development policy for major sectors mentioned above during 5 years between 1996-2000 the following activities have to be carried out in depth: investment in irrigation activities and infrastructure, intensive cultivation practices, exploitation of barren lands, promotion of agro-industry, promotion and creation of more jobs in rural areas, especially food processing industry and creation of more rural employment by developing a diversified agriculture.

## 2.2 BRIEF DESCRIPTION OF NGHE AN PROVINCE

### 2.2.1 General

Nghe An Province is located at the center of the Northern Region and within the North-South socio-economic circuit in Viet Nam. Total area is 16,370 km<sup>2</sup> and the population in 1995 was 2,792,000 persons. Nghe An Province is the third largest and most populated province in the country. This province can be divided into 3 zones: 1) coastal area, 2) flat area and 3) midland and mountainous area. It can be said that there is a high potential for integrated agricultural development in this province.

Nghe An Province lies in the Eastern-Northern part of Truong Son mountain range which gradually slopes down in a North-West to South-East direction including many mountains peaks, hills and rivers. This area occupies 83% of the total acreage of the Province; the particular topographic conditions become a great obstacle for a transportation network to be developed, especially inter-district network in the midland and mountainous areas. The rivers are very narrow with steep slope and are not suitable for development of shipping transportation. This also constrains the use of surface water to transport agricultural products. However, there are around 120 waterfalls in the river system and those are a great hydraulic-energy sources for hydropower development which contributes to the socioeconomic development of the mountainous area. Flat area occupies small acreage and the presence of alternated mountains prevent enlargement of agricultural land.

On the other hand, Nghe An Province has special climatic conditions which allows a clear division of the seasons. It creates good conditions for cultivating crops, even though the climate is sometimes rather severe, especially with the occurrences of flood, storm and West-South dry wind.

#### (1) Conditions of Rural Infrastructures

Concerning rural infrastructure, the Province is better equipped than most of the whole country except for the item "radio transmission set and broadcasting station". Regarding the supply of electricity and water to households, the Province has a higher supply than the average for the whole country.

**Distribution of Major Rural Infrastructure for Communes**

	Whole country	Nghe An Province	Nam Dan District
Total number of communes	8,791 (100%)	419 (100%)	23 (100%)
Having electricity	5,309 (60%)	318 (76%)	23 (100%)
Having motorway	7,730 (88%)	394 (94%)	22 (96%)
Having clinic	8,189 (93%)	419 (100%)	23 (100%)
Having primary school	8,776 (100%)	419 (100%)	23 (100%)
Having secondary school	6,738 (77%)	361 (86%)	23 (100%)
Having radio transmission set diffusing station	3,393 (39%)	121 (29%)	21 (91%)
Having market	4,763 (54%)	248 (59%)	18 (78%)
Having kindergarten	6,749 (77%)	373 (89%)	22 (96%)
Having baby-sit house	2,958 (34%)	209 (50%)	21 (91%)
Having electric transformation station	4,330 (49%)	264 (63%)	23 (100%)

Source: National Statistical Book 1995

## Utilization of Electricity and Water by Household

	Whole country	Nghe An Province
Total number of rural households (1000 households)	11,466.9 (100.0%)	489.3 (100.0%)
Using electricity	6,098.1 (53.2%)	340.2 (69.5%)
Using running water	113.6 (1.0%)	0.7 (0.1%)
Using well water	7,476.7 (65.2%)	433.2 (88.5%)

Note : Source National Statistical Book 1995

## (2) Regional GDP Structure

The structure of the Nghe An Province regional GDP in 1995 is shown below;

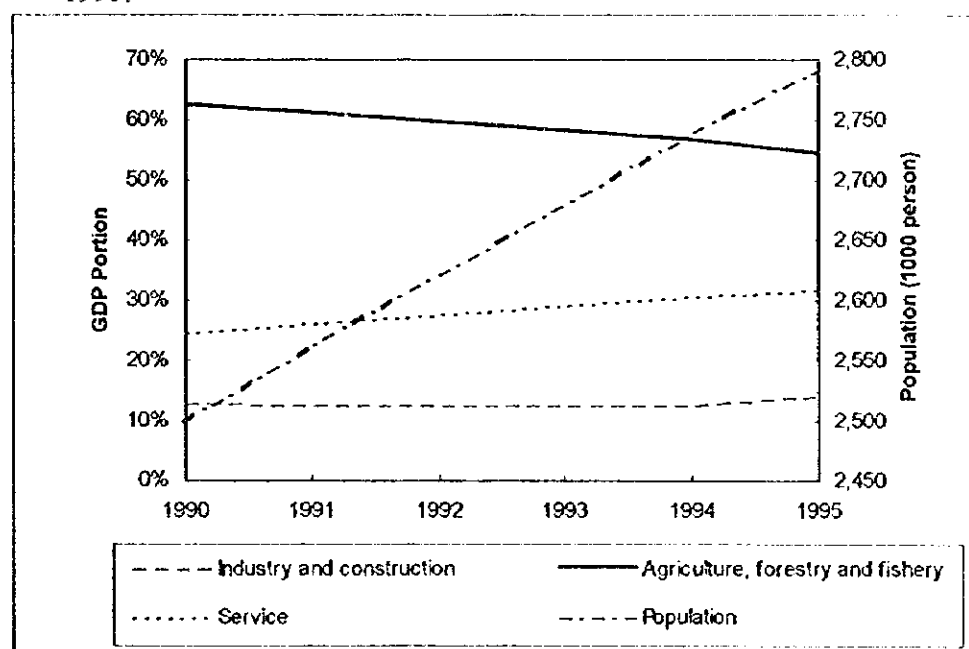
### Structure of Nghe An Province Regional GDP in 1995 (Billion VND, 1989 Prices)

Industry and Construction	Agriculture, Forestry and Fishery	Services	Total GDP
659.98	2404.87	1730.68	4795.53
(13.76%)	(50.15%)	(36.09%)	(100.00%)

Source: Socio-Economic Development Master Plan in Nghe An Province

Agricultural sector occupies half of the total Province's regional GDP. However, looking at the GDP growth trend for the recent 5 years, the portion of GDP structure has been changing.

The regional GDP portion of agricultural sector has decreased from 62 % in 1990 to 54% in 1995, while the service sector has increased from 24% in 1990 to 34 % in 1995. The growth rate of the total regional GDP for 1991 to 1995 is 8.9% (industrial sector: 10.7 %; agricultural sector: 5.9%; service sector 14.6 %) and the regional GDP/capital ratio converted to US\$, increased from US\$ 148 in 1990 to US\$ 207 in 1995.



Source: Socio-Economic Development Master Plan in Nghe An Province

## 2.2.2 Agricultural Aspects and Living Conditions

### (1) Land Use

Most of land is occupied by forest land and wasted land, and, agricultural land occupies only 8 % of the total area.

**Present Land Use in Nghe An Province (ha)**

Total	Inhabitant land	Agricultural Land				Forest Land			Cultivated water surge area	Wasted land	Others
		Total	Annual cropland	Rice land	Perennial cropland	Total	Natural Forest land	Other Forest			
1,574,507 (100.00%)	36,250 (2.30%)	130,210 (8.27%)	124,922 (7.93%)	110,195 (7.00%)	4,837 (0.31%)	753,754 (47.87%)	711,221 (45.17%)	42,533 (2.70%)	2,937 (0.19%)	611,269 (38.82%)	40,085 (2.55%)

Note : Source National Statistical Book 1995

Sown area of main crops from 1992 to 1995 for the whole country and Nghe An Province are shown below. However, it must be noted that the Nghe An Province was previously divided into two provinces namely Nghe An and Ha Tinh in 1990; due to this reason, the statistical data for the Nghe An Province before 1992 is not available for comparison.

**Sown Area of Main Crops**

(1000 ha)

Year	Whole Country				Nghe An Province			
	1992	1993	1994	1995	1992	1993	1994	1995
Spring Paddy	2,279 (100)	2,326 (102)	2,381 (104)	2,421 (106)	77.6 (100)	77.6 (100)	77.8 (100)	79.1 (102)
Winter Paddy	2,748 (100)	2,685 (98)	2,640 (96)	2,602 (95)	68.8 (100)	67.3 (98)	63.2 (92)	64.3 (93)
Other cereals	1,232 (100)	1,237 (100)	1,210 (98)	1,206 (98)	75.9 (100)	73.8 (97)	71.3 (94)	71.4 (94)
Maize	478 (100)	497 (104)	535 (112)	557 (116)	19.4 (100)	17.5 (90)	20.1 (104)	24.7 (127)
Sweet Potatoes	405 (100)	387 (96)	344 (85)	305 (75)	40.3 (100)	41.2 (102)	38.8 (96)	34.1 (85)
Cassava	284 (100)	278 (98)	279 (98)	278 (98)	14.1 (100)	13.4 (95)	11.1 (79)	11.3 (80)
Vegetable	279 (100)	293 (105)	305 (109)	328 (118)	11.7 (100)	11.1 (95)	11.2 (96)	12.2 (104)
Beans	166 (100)	182 (110)	190 (115)	188 (113)	7.2 (100)	6.4 (89)	7.4 (103)	7.7 (107)

Source : Statistical Data of Agriculture, Forestry and Fishery

Statistical data for the whole country shows that sown area of maize, vegetable and beans has increased about 16 %, 17 % and 13% respectively in the last 4 years and sown area of winter paddy, sweet potato and cassava has decreased. Especially, sown area of sweet potato has sharply decreased by 25 %. On the other hand, sown area of maize, vegetables, and beans has increased in the Province. Especially, sown area of

maize has sharply increased by 27 %. Sown area of winter paddy, sweet potato and cassava has decreased by 7 %, 6 %, and 15 %, respectively.

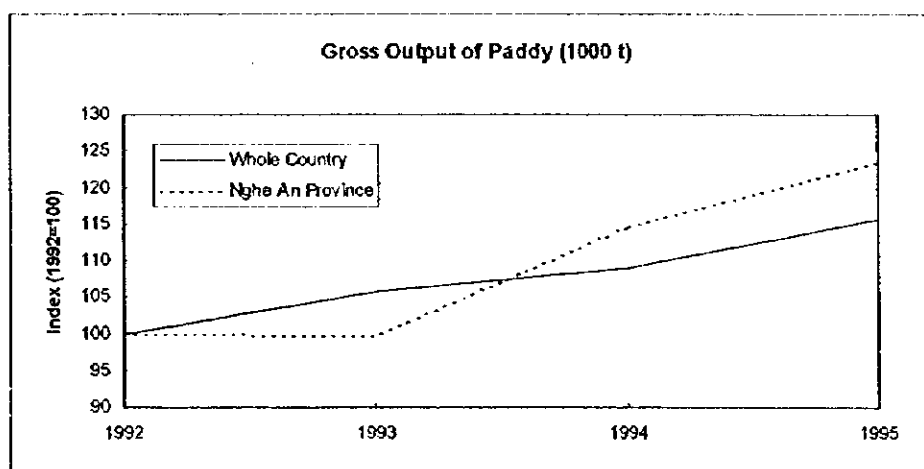
## (2) Agricultural Production

Gross output of paddy of whole country increased by 16% for the passed four years (from 1992 to 1995) and that of Nghe An Province was 23%.

**Gross Output of Paddy**

Year	1992	1993	1994	1995
Whole Country	21,590 (100)	22,837 (106)	23,528 (109)	24,964 (116)
Nghe An Province	464 (100)	463 (100)	531 (115)	572 (123)

Source :Statistical Data of Agriculture, Forestry and Fishery



At a national-level, from 1992 to 1995, the cultivated area of spring rice, maize, and vegetables has increased by 17 %, 58% and 25% respectively, and that of sweet potato and cassava has decreased in the same period by 35% and 14%, respectively. In the Nghe An Province, for the same period, cultivated area of spring rice, winter rice, maize, and vegetables has increased by 34%, 17%, 103%, and 7%, respectively. Sweet potato, and cassava has decreased by 21% and 51%, respectively.

Gross output of main crops of whole country and Nghe An province from 1992 to 1995 is shown below

### Gross Output of Main Crops

(1000 t)

Year	Whole Country				Nghe An Province			
	1992	1993	1994	1995	1992	1993	1994	1995
Spring Paddy	9,153 (100)	9,036 (99)	10,504 (115)	10,737 (117)	227.9 (100)	246.5 (108)	266.6 (117)	306.3 (134)
Winter Paddy	7,527 (100)	8,168 (109)	7,395 (98)	7,726 (103)	104.5 (100)	107.2 (103)	124.5 (119)	122.3 (117)
Other Cereals	2,624 (100)	2,665 (102)	2,670 (102)	2,607 (99)	112.1 (100)	122.9 (110)	113.1 (101)	94.3 (84)
Maize	748 (100)	882 (118)	1,144 (153)	1,184 (158)	19.7 (100)	20.7 (105)	27.7 (141)	39.9 (203)
Sweet Potatoes	2,593 (100)	2,405 (93)	1,906 (73)	1,686 (65)	168.3 (100)	203.9 (121)	186.6 (111)	133.0 (79)
Cassava	2,568 (100)	2,450 (95)	2,358 (92)	2,212 (86)	102.6 (100)	97.6 (95)	66.8 (65)	50.2 (49)
Vegetable	3,305 (100)	3,485 (105)	3,794 (115)	4,146 (125)	108.6 (100)	87.2 (80)	115.7 (107)	116.2 (107)

Source :Statistical Data of Agriculture, Forestry and Fishery

### (3) Agricultural Household, Population, Labour

Agricultural households, population, and labour force for the whole country have increased from 1992 to 1995 by 5 %, 5 % and 13 % respectively. On the other hand, agricultural households, population, labour force in the Nghe An Province have increased from 1992 to 1995 by 5 %, 6 % and 7 % respectively. Labour force growth rate for the Nghe An Province is around half of that for the whole country.

### Agricultural Household, Population, Labour

Year	Whole Country				Nghe An Province			
	1992	1993	1994	1995	1992	1993	1994	1995
Household (1,000 households)	9,983 (100)	10,314 (103)	10,209 (102)	10,468 (105)	417.4 (100)	430.2 (103)	434.6 (104)	439.0 (105)
Population (1,000 persons)	48,068 (100)	49,524 (103)	49,035 (102)	50,335 (105)	2,048.4 (100)	2,088.8 (102)	2,098.0 (102)	2,107.1 (103)
Labour (1,000 persons)	19,290 (100)	20,551 (107)	20,886 (108)	21,840 (113)	863.0 (100)	864.7 (100)	868.5 (101)	872.3 (101)

Source :Statistical Data of Agriculture, Forestry and Fishery

### (4) Other Conditions

Number of tractors and motors per household in the Nghe An Province is quite small compared with the average for the whole country. Though it is necessary to consider the topographic conditions in the Province, it seems that the mechanization of agriculture has not improved compared with other provinces.

### Number of Rural Household Main Machines (Units)

Description	Whole Country	Nghe An Province
Large Tractor	28,643 ( 0.24 /100 households)	234 ( 0.04 /100 households)
Small tractor	75,286 ( 0.62 /100 households)	463 ( 0.07 /100 households)
Motor	20,163 ( 0.17 /100 households)	423 ( 0.06 /100 households)
Pump	537,809 ( 4.44 /100 households)	2,562 ( 0.39 /100 households)
Rice mill	106,305 ( 0.88 /100 households)	7,725 ( 1.18 /100 households)
Threshing machine	97,808 ( 0.81 /100 households)	5,968 ( 0.91 /100 households)
Food processing machine for livestock	15,157 ( 0.13 /100 households)	1,150 ( 0.18 /100 households)
Sawing machine	11,392 ( 0.09 /100 households)	531 ( 0.08 /100 households)
Fishery ship	71,463 ( 0.59 /100 households)	2,935 ( 0.45 /100 households)
Transport ship	98,330 ( 0.81 /100 households)	896 ( 0.14 /100 households)
Generator	109,483 ( 0.90 /100 households)	2,048 ( 0.31 /100 households)
Electricity rotary engine	90,881 ( 0.75 /100 households)	7,214 ( 1.10 /100 households)
Engine working by petrol, diesel	346,011 ( 2.86 /100 households)	4,593 ( 0.70 /100 households)

Source: National Statistical Book (1995)

Portion of permanent type house in the Nghe An Province is low compared with the average for the whole country. However, portion of semi permanent type in the Province is higher than the average for the whole country. Also, the number of major goods per households in the Nghe An Province is smaller than the average for the whole country. It seems that the living level in the Province is lower than the average for the whole country.

### Housing Conditions

Description	Whole Country	Nghe An Province
<b>Rural Housing Volume (piece)</b>		
Total	12,114,079 (100.00%)	656,877 (100.00%)
Permanent house	1,446,771 (11.94%)	38,294 (5.83%)
Semi permanent house	5,522,183 (45.58%)	462,377 (70.39%)
Other house	5,145,125 (42.47%)	155,206 (23.63%)
<b>Housing of rural households by type of dwelling</b>		
<b>Permanent house and Semi permanent house</b>		
Built before 1986	3,058,645 (43.89%)	221,662 (41.27%)
Built from 1986 to 1990	2,043,442 (29.32%)	157,919 (31.54%)
Built from 1991 to 1994	1,866,867 (26.79%)	121,090 (24.19%)
<b>Permanent house</b>		
Total	1,446,771 (100.00%)	38,294 (100.00%)
Built before 1986	456,331 (31.54%)	9,100 (23.76%)
Built 1986 to 1990	481,527 (33.28%)	13,647 (35.64%)
Built 1991 to 1994	508,913 (35.18%)	15,547 (40.60%)
<b>Semi permanent house</b>		
Total	5,522,183 (100.00%)	462,377 (100.00%)
Built before 1986	2,602,314 (47.12%)	212,562 (45.97%)
Built from 1986 to 1990	1,561,915 (28.28%)	144,272 (31.20%)
Built from 1991 to 1994	1,357,954 (24.59%)	105,543 (22.83%)

Source: National Statistical Book (1995)

### Number of Rural Household's Major Goods

	Whole Country	Nghe An Province
Radio	4,466,108 ( 37 Per 100 households)	146,255 ( 29 Per 100 households)
TV	2,541,373 ( 21 Per 100 households)	60,438 ( 12 Per 100 households)
Motorcycle	1,078,140 ( 9 Per 100 households)	21,923 ( 4 Per 100 households)

Source : National Statistical Book (1995)

### 2.2.3 Summary of "Master Plan for Socio-economic Development in Nghe An Province"

#### (1) Objectives and Strategies of the Master Plan

The objectives and strategies of the Master Plan for Socio-economic Development of Nghe An Province (1996-2010) prepared by the People's Committee of the Province are as follows:

Objectives	Strategy
Achieving an integrated agricultural development (agriculture, forestry, aquaculture, agro-industry) based on a free-market economy.	To optimally and rationally use the available natural and human resources through an adequate technology. To put emphasis on the development of the main industrial and services sectors (agricultural and forestry industry, aquaculture, construction materials, mining, energy, and information systems). To achieve the above-mentioned objectives, it is necessary to attract investments from inside and outside of province and use them efficiently.
Formulate a reformed strong market economy under the guidance of the state	To promote self-reliance at household and institutional levels for the achievement of economic growth.
Aiming to create a link between the economic and social developments.	Create the opportunities for improvement and efficient utilization of human resources..

#### (2) Objectives of the Master Plan

##### 1) Economic Objectives

Concerning economic growth rates and sector structure, the Master Plan contemplates two possible scenarios:

Scenario 1 contemplates a growth rate of 14.0% for the period 1996-2001 and 13.5% for 2001-2010. Those growth rates represent a level of regional GDP, at 1989 prices, of VND1,120 billion for 1995, and VND7,498 billion for 2010. It estimates a sector structure of the regional GDP for the year 2010 as follows: agriculture and aquaculture, 17%; industry and construction, 35%; services, 48%.

Scenario 2 contemplates a growth rate of 12.0% for the period 1996-2001 and 11.41% for 2001-2010. Those growth rates represent a level of regional GDP, at 1989 prices, of VND1,120 billion in 1995 and VND5,714 billion for 2010. It estimates a sector structure of the regional GDP for the year 2010 as follows: agriculture and aquaculture: 22%, industry and construction: 31% and services: 47%.



## 2) Social Objectives

The population growth rates are estimated to decrease to 1.8% by the year 2000 and 1.3% by 2010. It also contemplates universalization of high school education and to decrease the level of illiteracy. It is expected that 100% of the communes will have basic health facilities. Malnutrition for those below 5 years old will be decreased.

The plan aims to reduce the percentage of poor households to 15% of the total households by the year 2000 and completely eliminate poverty by 2010. The plan contemplates the creation of job opportunities for 4,000 to 5,000 people per year. It is expected that by the year 2000, safe drinking water will be available for 80% of the population; all the people in the region will have access to television and telephone services.

## CHAPTER 2 : TABLES

Table 2.1.1: Ranking of Provinces by GDP (1990-1994)

(Constant 1989 Price Base)

(Unit: Billion VND/percent)

1990 Ranking					1994 Ranking					Average 1990 - 94 Ranking				
Rank	Provin.	SDR	GDP	Accum GDP	Rank	Provin.	SDR	GDP	Accum GDP	Rank	Provin.	SDR	GDP	Accum GDP
1	HCC	VII	4.476	15.15	1	HCC	VII	6.681	16.71	1	HCC	VII	5349	15.59
2	Ha Noi	III	1.861	21.46	2	Ha Noi	III	2.58	23.17	2	Ha Noi	III	2182	21.94
3	Vung Tau	VII	1.146	25.34	3	Vung Tau	VII	2.579	29.62	3	Vung tau	VII	1878	27.42
4	Thanh Hoa	IV	1.027	28.81	4	Dong Nai	VII	1.238	32.71	4	Thanh Hoa	IV	1102	30.63
5	Dong Thap	VIII	938	32.06	5	Thanh Hoa	IV	1.208	35.73	5	Kien Giang	VIII	1067	33.74
6	Dong Nai	VII	933	35.21	6	Hai Hung	III	1.203	38.74	6	Dong Nai	VII	1066	36.84
7	Kien Giang	VIII	930	38.36	7	Kien Giang	VIII	1.199	41.74	7	Dong Thap	VIII	1064	39.94
8	Hai Hung	III	890	41.38	8	Dong Thap	VIII	1.157	44.64	8	Hai Hung	III	1040	42.97
9	Hai Phong	III	824	44.17	9	Hai Phong	III	1.136	47.48	9	Hai Phong	III	917	45.73
10	Q.N.D.N	V	777	46.8	10	An Giang	VIII	1.073	50.16	10	An Giang	VIII	904	48.37
11	Ha Bac	II	749	49.33	11	Can Tho	VIII	1.003	52.67	11	Can Tho	VIII	860	50.87
12	Nam Ha	III	749	51.87	12	Nam Ha	III	951	55.05	12	Nam Ha	III	848	53.31
13	Minh Hai	VIII	749	54.4	13	Minh Hai	VIII	928	57.37	13	Minh Hai	VIII	848	55.81
14	An Giang	VIII	735	56.89	14	Q.N.D.N	V	912	59.65	14	Q.N.D.N	V	822	58.21
15	Can Tho	VIII	727	59.35						15	Ha bac	II	808	60.56
16	Ha Bac	II	901	65.18										
17	Tien Giang	VIII	711	64.22	17	Vinh Phu	II	854	66.31	17	Vinh Phu	II	751	65.07
18	Vinh Phu	II	693	66.57	18	Tien Giang	VIII	793	68.3	18	Tien Giang	VIII	739	67.22
19	Ha Tay	III	656	68.79	19	Ha Tay	III	754	70.18	19	Ha Tay	III	690	69.23
20	Long An	VIII	536	70.6	20	Thai Binh	III	705	71.95	20	Thai Binh	III	575	70.91
21	Thai Binh	III	464	72.17	21	Quang Ninh	II	617	73.49	21	Long An	VIII	554	72.52
22	Vinh Long	VIII	459	73.73	22	Khanh Hoa	V	602	75	22	Khanh Hoa	V	528	74.06
23	Dac Lac	VI	448	75.24	23	Ben Tre	VIII	580	76.45	23	Quang Ninh	II	521	75.58
24	Ben Tre	VIII	444	76.75	24	Dac Lac	VI	564	77.86	24	Ben Tre	VIII	520	77.09
25	Khanh Hoa	V	431	78.21	25	Long An	VII	551	79.24	25	Vinh Long	VIII	516	78.6
26	Bac Thai	II	410	79.59	26	Vinh Long	VIII	528	80.56	26	Dac lac	VI	496	80.04
27	Quang Ninh	II	406	80.97	27	Hoa Binh	I	516	81.85	27	Bac Thai	II	454	81.37
28	Tra Vinh	VIII	398	82.32	28	Bac Thai	II	501	83.1	28	Tra Vinh	VIII	429	82.62
29	Soc Trang	VIII	368	83.56	29	T.T. Hue	IV	491	84.33	29	Hoa binh	I	423	83.85
30	Binh Dinh	V	361	84.78	30	Song Be	VII	490	85.55	30	Soc Trang	VIII	410	85.04
31	T.T. Hue	IV	339	85.93	31	Binh Dinh	V	458	86.7	31	T.T. Hue	IV	407	86.23
32	Song be	VII	336	87.07	32	Tra Vinh	VIII	449	87.82	32	Song be	VII	406	87.41
33	Hoa Binh	I	335	88.2	33	Soc Trang	VIII	433	88.91	33	Binh Dinh	V	402	88.58
34	Tay Ninh	VII	309	89.25	34	Tay Ninh	VII	397	89.9	34	Tay Ninh	VII	351	89.61
35	Ha Tinh	IV	276	90.18	35	Ha tinh	IV	392	90.88	35	Ha Tinh	IV	317	90.53
36	Quang Ngai	V	255	91.05	36	Lam Dong	VII	337	91.72	36	Lam Dong	VII	291	91.38
37	Yen Bai	II	247	91.88	37	Quang Ngai	V	321	92.53	37	Quang Ngai	V	284	92.21
38	Lam Dong	VII	241	92.7	38	Yen Bai	II	303	93.28	38	Yen bai	II	280	93.02
39	N. Thuan	VII	238	93.51	39	Ninh Thuan	VII	303	94.04	39	Ninh Thuan	VII	272	93.81
40	Phu Yen	V	231	94.29	40	Binh Thuan	VII	263	94.7	40	Phu Yen	V	242	94.52
41	Ninh Binh	III	200	94.97	41	Ninh Binh	III	259	95.35	41	Ninh Binh	III	230	95.19
42	Quang Binh	IV	197	95.63	42	Phu Yen	V	253	95.98	42	Binh Thuan	VII	220	95.83
43	Binh Thuan	VII	181	96.25	43	Quang Binh	IV	226	96.55	43	Quang Binh	IV	204	96.42
44	Gia lai	VI	179	96.85	44	Gia Lai	VI	208	97.07	44	Gia Lai	VI	191	96.98
45	Quang Tri	IV	159	97.39	45	Lang Son	II	203	97.57	45	Lang Son	II	174	97.49
46	Lang Son	II	157	97.92	46	Quang Tri	IV	178	98.02	46	Quang Tri	IV	169	97.98
47	Lai Chau	I	138	98.39	47	Lai Chau	I	173	98.45	47	Lai Chau	I	154	98.43
48		II	115	98.78	48		II	154	98.84	48	Tuyen Quang	II	131	98.81
49	Cao bang	II	110	99.15	49	Son La	I	151	99.21	49	Son La	I	128	99.18
50	Son La	I	107	99.51	50	Cao bang	II	147	99.58	50	Cao bang	II	124	99.55
51	Kon Tum	VI	90	99.82	51	Kon Tum	VI	98	99.83	51	Kon Tum	VI	94	99.82
52	Ha Giang	II	54	100	52	Ha Giang	II	69	100	52	Ha Giang	II	62	100
53	Lao Cai	II	0	100	53	Lao Cai	II	0	100	53	Lao Cai	II	0	100
Total			29,536	100	Total			39,978	100	Total			34,319	100

SOURCE: "Progress Report II, the Study on the Integrated Regional Socio-Economic Development Master Plan for the key area of the Central Region of the Socialist Republic of Vietnam" March 1996 - JICA

1. (1988, 1991, 1992) *Journal of Business*.

SOURCE: "Progress Report II: the study on the Integrated Regional Socio-Economic Development Master Plan for the key area of the Central Region of the Socialist Republic of Vietnam," March 1996, WB.

**Table 2.1.2: Ranking of Provinces by Gross Value of Agriculture & Forestry Output  
(1990-1994)**

(Constant 1989 price base)

(Unit: Billion VND/percent)

1990 Ranking					1994 Ranking					Average 1990 - 94 Ranking					
Rank	Provin.	SDR	A/F	Accum A/F	Rank	Provin.	SDR	A/F	Accum A/F	Rank	Provin.	SDR	A/F	Accum A/F	
1	Dong Thap	VIII		711	6.11	1	Dong Thap	VIII	832	6.06	1	Dong Thap	VIII	779	6.15
2	Tien Giang	VIII		474	10.18	2	An Giang	VIII	670	10.95	2	An Giang	VIII	557	10.55
3	Thanh Hoa	IV		470	14.22	3	Hai Hung	III	586	15.22	3	Thanh Hoa	IV	490	14.42
4	Dong nai	VII		463	18.19	4	Thanh Hoa	IV	521	19.01	4	Hai Hung	III	482	18.23
5	An Giang	VIII		443	22						5	Dong Nai	VII	461	21.87
6	Ha Bac	II		431	25.7	6	Ha Bac	II	493	26.35	6	Ha Bac	II	455	25.47
					7	Dong nai	VII	488	29.91	7	Tien Giang	VIII	455	29.06	
8	Hai Hung	III		391	32.72	8	Thai Binh	III	480	33.4					
9	Can Tho	VIII		367	35.87	9	Nam Ha	III	461	36.76	9	Can Tho	VIII	428	36
10	Nam ha	III		357	38.94	10	Can Tho	VIII	460	40.12	10	Nam Ha	III	419	38.31
11	Kien Giang	VIII		354	41.98	11	Tien GianG	VIII	411	43.11	11	Thai Binh	III	397	42.44
12	Ha tay	III		352	45	12	Kien Giang	VIII	391	45.96	12	Kien Giang	VIII	374	45.4
13	Long An	VIII		346	47.97	13	Dac lac	VI	390	48.8	13	Ha Tay	III	362	48.26
14	Vinh Phu	II		335	50.85	14	Ha tay	III	388	51.63	14	Long An	VIII	358	51.09
15	Minh Hai	VIII		331	53.69	15	Vinh Phu	II	370	54.32	15	Vinh Phu	II	351	53.86
16	Thai Binh	III		326	56.49	16	Long An	VIII	352	56.89	16	Minh Hai	VIII	344	56.58
17	Vinh Long	VIII		303	59.1	17	Minh Hai	VIII	347	59.42	17	Dac lac	VI	332	59.2
18	Dac Lac	VI		284	61.54	18	Vinh Long	VIII	311	61.68	18	Vinh Long	VIII	325	61.77
19	Q.N.D.N	V		279	63.93	19	Tra Vinh	VIII	298	63.86	19	Tra Vinh	VIII	290	64.06
20	Tra Vinh	VIII		276	66.3	20	Q.N.D.N	V	285	65.93	20	Q.N.D.N	V	278	66.25
21	Soc Trang	VIII		246	68.42	21	Ha Tinh	IV	278	67.96	21	Soc Trang	VIII	264	68.34
22	Ben Tre	VIII		219	70.3	22	Song Be	VII	278	69.98	22	Song be	VII	242	70.25
23	Song be	VII		208	72.08	23	Soc Trang	VIII	258	71.86	23	Ben Tre	VIII	231	72.08
24	Binh Dinh	V		195	73.76	24	Ben Tre	VIII	231	73.55	24	Ha Tinh	IV	218	73.8
25	Ha Tinh	IV		186	75.36	25	Bac Thai	II	219	75.14	25	Binh Dinh	V	197	75.35
26	Bac Thai	II		178	76.89	26	Hai Phong	III	213	76.7	26	Bac Thai	II	189	76.85
27	Tay Ninh	VII		177	78.41	27	Binh Dinh	V	206	78.2	27	Tay Ninh	VII	184	78.3
28	HCC	VII		164	79.81	28	Tay Ninh	VII	200	79.65	28	Hai Phong	III	182	79.74
29	Hai Phong	III		155	81.15	29	HCC	VII	187	81.02	29	HCC	VII	176	81.13
30	Khanh Hoa	V		154	82.47	30	Lam Dong	VII	185	82.37	30	Khanh Hoa	V	166	82.44
31	Lam Dong	VII		132	83.6	31	Khanh Hoa	V	177	83.66	31	Lam Dong	VII	161	83.71
32	Gia Lai	VI		130	84.72	32	Ha Noi	III	162	84.84	32	Gia Lai	VI	139	84.81
33	Ha Noi	III		124	85.78	33	Vung tau	VII	158	85.99	33	Ha Noi	III	137	85.89
34	Phu Yen	V		121	86.82	34	Gia lai	VI	152	87.09	34	Vung tau	VII	129	86.91
35	Quang Ngai	V		120	87.85	35	Ninh Thuan	VII	135	88.08	35	Ninh Binh	III	128	87.92
36	Quang Ninh	II		118	88.87	36	Ninh Binh	III	132	89.04	36	Quang Ngai	V	121	88.88
37	Ninh Binh	III		116	89.86	37	Binh Thuan	VII	129	89.98	37	Phu Yen	V	121	89.83
38	Vung tau	VII		104	90.76	38	Quang Ngai	V	126	90.9	38	Quang Ninh	II	117	90.76
39	Yen Bai	II		99	91.61	39	Quang Ninh	II	123	91.79	39	Ninh Thuan	VII	117	91.68
40	Ninh Thuan	VII		96	92.43	40	Yen Bai	II	122	92.68	40	Binh Thuan	VII	114	92.58
41	Lam Son	II		95	93.25	41	Phu Yen	V	122	93.57	41	Yen bai	II	111	93.46
42	Binh Thuan	VII		95	94.06	42	Lai Chau	I	108	94.36	42	Lai Chau	I	98	94.23
43	Lai Chau	I		94	94.87	43	Son La	I	108	95.15	43	Lam Son	II	97	95
44	Son La	I		82	95.58	44	Lam Son	II	106	95.92	44	Son La	I	93	95.73
45	Quang Tri	IV		76	96.23	45	Hoa Binh	I	84	96.53	45	Hoa Binh	I	80	96.37
46	Cao Bang	II		75	96.87	46	Cao Bang	II	83	97.14	46	Cao Bang	II	77	96.97
47	Hoa Binh	I		74	97.51	47	Quang Binh	IV	76	97.69	47	T.T. Hue	IV	72	97.54
48	Quang Binh	IV		64	98.06	48	T.T. Hue	IV	73	98.22	48	Quang Binh	IV	68	98.08
49	Kon Tum	VI		64	98.61	49	Kon Tum	VI	68	98.72	49	Kon Tum	VI	66	98.6
50	T.T. Hue	IV		60	99.12	50	Tuyen Quang	II	65	99.19	50	Quang Tri	IV	65	99.12
51	Tuyen Quang	II		56	99.6	51	Ha Giang	II	59	99.62	51	Tuyen Quang	II	59	99.58
52	Ha Giang	II		46	100	52	Quang Tri	IV	52	100	52	Ha Giang	II	53	100
53	Lao Cai	II		0	100	53	Lao cai	II	0	100	53	Lao Cai	II	0	100
	Total			11.642	100		Total		13.723	100		TOTAL			100

SOURCE: "Progress Report II, the Study on the Integrated Regional Socio-Economic Development Master Plan for the key area of the Central Region of the Socialist Republic of Vietnam" March 1996 - JICA

**Table 2.1.3: Ranking of Provinces by Gross Value of Industrial Output (1990-1994)**  
(Constant 1989 Price Base)

(Unit: Billion VND/percent)

1990 Ranking					1994 Ranking					Average 1990 - 94 Ranking				
Rank	Provin.	SDR	Indus.	Accum. Indus.	Rank	Provin.	SDR	Indus.	Accum. Indus.	Rank	Provin.	SDR	Indus.	Accum. Indus.
1	HCC	VII	1326	23.93	1	Vung Tau	VII	2.059	23.51	1	HCC	VII	1593	22.73
2	Vung Tau	VII	845	39.17	2	HCC	VII	2.053	46.96	2	Vung Tau	VII	1467	43.67
3	Ha Noi	III	355	45.58	3	Ha Noi	III	510	52.78	3	Ha Noi	III	417	49.62
4	Minh Hai	VIII	210	49.37	4	Hoa Binh	I	335	56.61	4	Hoa Binh	I	249	53.18
5	Dong Nai	VII	274	52.51	5	Dong nai	VII	307	60.11	5	Minh Hai	VIII	249	56.73
6	Hoa Binh	I	272	55.61	6	Minh Hai	VIII	294	63.47	6	Dong nai	VII	240	60.15
7	Thanh Hoa	IV	143	58.19	7	Hai Phong	III	205	65.81	7	Khanh Hoa	V	174	62.64
8	Khanh Hoa	V	142	60.75	8	Khanh Hoa	V	194	68.03	8	Thanh Hoa	IV	157	64.88
9	Q.N.D.N	V	136	63.21	9	Kien Giang	VIII	190	70.2	9	Kien Giang	VIII	156	67.1
10	Quang Ninh	II	133	65.61	10	Thanh Hoa	IV	174	72.18	10	Hai Phong	III	152	69.27
11	Kien Giang	VIII	118	67.74	11	Q.N.D.N	V	166	74.08	11	Q.N.D.N	V	143	71.31
12	Hai Phong	III	116	69.83	12	Quang Ninh	II	160	75.9	12	Quang Ninh	II	139	73.3
13	Can Tho	VIII	97	71.58	13	Hai Hung	III	150	77.62	13	Hai Hung	III	121	75.02
14	Vinh Phu	II	95	73.29	14	Can Tho	VIII	136	79.17	14	Can Tho	VIII	110	76.59
15	Hai Hung	III	95	75.01	15	Vinh Phu	II	112	80.45	15	Vinh Phu	II	103	78.06
16	Ha Tay	III	85	76.54	16	Ha tay	III	106	81.66	16	Ha tay	III	93	79.39
17	Nam Ha	III	81	78	17	Bac Thai	II	98	82.78	17	Bac Thai	II	92	80.71
18	Bac Thai	II	73	79.32	18	T.T. Hue	IV	90	83.81	18	Nam Ha	III	79	81.83
					19	An Giang	VIII	88	84.81	19	T.T. Hue	IV	79	82.96
					20	Song Be	VII	86	85.79	20	An Giang	VIII	75	84.03
20	T.T. Hue	IV	70	81.85	22	Nam Ha	III	83	87.7	22	Ben Tre	VIII	71	86.09
21	Ben Tre	VIII	70	83.11	23	Binh Dinh	V	76	88.57	23	Binh Dinh	V	66	87.03
22	An Giang	VIII	63	84.25	24	Ben Tre	VIII	76	89.44	24	Song be	VII	62	87.91
23	Dong Thap	VIII	60	85.33	25	Tien Giang	VIII	72	90.26	25	Dong Thap	VIII	61	88.78
24	Binh Dinh	V	60	86.41	26	Quang Ngai	V	67	91.02	26	Quang Ngai	V	59	89.62
25	Ninh Thuan	VII	57	87.44	27	Dong Thap	VIII	66	91.78	27	Ninh Thuan	VII	59	90.47
26	Soc Trang	VIII	55	88.43	28	Ninh Thuan	VII	64	92.51	28	Soc Trang	VIII	57	91.28
27	Long An	VIII	54	89.41	29	Soc Trang	VIII	61	93.21	29	Ha Bac	II	56	92.08
28	Ha Bac	II	50	90.31	30	Ha Bac	II	59	93.88	30	Tien Giang	VIII	55	92.86
29	Quang Ngai	V	49	91.19	31	Vinh Long	VIII	59	94.55	31	Vinh Long	VIII	52	93.61
30	Thai Binh	III	46	92.02	32	Lam Dong	VII	54	95.17	32	Long An	VIII	51	94.33
31	Vinh Long	VIII	45	92.84	33	Thai Binh	III	50	95.74	33	Lam Dong	VII	46	94.99
32	Tien Giang	VIII	43	93.61	34	Binh Thuan	VII	44	96.24	34	Thai Binh	III	45	95.63
33	Song Be	VII	43	94.39	35	Long An	VIII	44	96.75	35	Binh Thuan	VII	38	96.18
34	Lam Dong	VII	36	95.04	36	Ninh Binh	III	34	97.13	36	Phu Yen	V	32	96.63
35	Tra Vinh	VIII	34	95.65	37	Tay Ninh	VII	34	97.52	37	Tra Vinh	VIII	32	97.09
36	Binh Thuan	VII	32	96.23	38	Ha Tinh	IV	29	97.85	38	Ninh Binh	III	30	97.52
37	Phu Yen	V	30	96.77	39	Quang Binh	IV	28	98.17	39	Tay Ninh	VII	28	97.92
38	Ninh Binh	III	28	97.28	40	Phu Yen	V	27	98.48	40	Ha Tinh	IV	26	98.29
39	Ha Tinh	IV	25	97.73	41	Tra Vinh	VIII	26	98.78	41	Quang Binh	IV	24	98.63
40	Quang Binh	IV	24	98.16	42	Dac Lac	VI	22	99.03	42	Dac Lac	VI	19	98.9
41	Tay Ninh	VII	22	98.56	43	Yen Bai	II	18	99.23	43	Tuyen Quang	II	16	99.13
42	Dac Lac	VI	20	98.92	44	Tuyen Quang	II	18	99.44	44	Yen Bai	II	15	99.34
43	Tuyen Quang	II	13	99.15	45	Quang Tri	IV	12	99.58	45	Quang Tri	IV	12	99.51
44	Gia Lai	VI	11	99.35	46	Gia Lai	VI	11	99.7	46	Gia Lai	VI	11	99.67
45	Quang Tri	IV	10	99.53	47	Lai Chau	I	7	99.78	47	Lai Chau	I	6	99.76
46	Yen Bai	II	9	99.69	48	Lang Son	II	6	99.85	48	Lang Son	II	6	99.84
47	Lang Son	II	5	99.78	49	Kon Tum	VI	4	99.9	49	Cao Bang	II	4	99.9
48	Lai Chau	I	4	99.86	50	Son La	I	3	99.93	50	Kon Tum	VI	3	99.94
49	Kon Tum	VI	3	99.91	51	Ha Giang	II	3	99.97	51	Son La	I	2	99.97
50	Son La	I	2	99.95	52	Cao Bang	II	3	100	52	Ha Giang	II	2	100
51	Ha Giang	II	2	99.98	53	Lao Cai	II	0	100	53	Lao Cai	II	0	100
52	Cao Bang	II	1	100										
53	Lao Cai	II	0	100										
Total:			5.542	100	Total			8.757	100	Total			7.067	100

SOURCE: "Progress Report II, the Study on the Integrated Regional Socio-Economic Development Master Plan for the key area of the Central Region of the Socialist Republic of Vietnam" March 1996 - JICA

Table 3.2. Ranking of Provinces by Gross Value of Agriculture & Forestry Output  
(1990-1994)

(Constant 1989 price base)

(Unit: Tillion VND/year)

1990 Ranking					1994 Ranking					Average 1990-94 Ranking				
Province	Rank	GV	GV	GV	Province	Rank	GV	GV	GV	Province	Rank	GV	GV	GV
1. Hanoi	I	10.44	1	10.44	1. Hanoi	VIII	6.3	6.19	6.19	1. Hanoi	VII	7.9	6.19	6.19
2. Ho Chi Minh	II	10.1	2	10.1	2. HCMC	VIII	6.7	11.9	11.9	2. HCMC	VIII	9.3	10.1	10.1
3. Dong Thap	IX	4.9	11.7	8	3. Dong Thap	IV	8.8	18.2	18.2	3. Dong Thap	IV	19.0	11.7	11.7
4. Binh Duong	XI	4.6	18.1	4	4. Binh Duong	IV	8.2	19.0	19.0	4. Binh Duong	VI	18.7	18.1	18.1
5. Binh Thuan	XII	3.4	2.7	5	Nghe An	IV	5.14	22.76	22.76	5. Vinh Nam	XII	19.1	2.7	2.7
6. Binh Hoa	II	13.1	25.9	6	Ha Bac	II	19.3	26.35	26.35	6. Ha Bac	II	18.5	25.9	25.9
7. Nghe An	IV	426	29.36	7	Dong Nai	XII	4.8	29.01	29.01	7. Long An	XII	18.9	29.36	29.36
8. Binh Phuoc	III	8.1	32.7	8	Binh Phuoc	II	18.9	33.1	33.1	8. Nghe An	IV	430	32.7	32.7
9. Binh Phuoc	XII	8.7	33.8	9	Nam Dinh	II	19.1	36.76	36.76	9. Binh Phuoc	XIII	4.8	33.8	33.8
10. Binh Thuan	XII	8.7	38.0	10	Binh Thuan	XII	16.9	40.1	40.1	10. Binh Thuan	III	11.9	38.0	38.0
11. Binh Thuan	XIII	8.1	41.08	11	Binh Thuan	XIII	11.1	43.1	43.1	11. Binh Thuan	III	3.9	41.08	41.08
12. Binh Thuan	III	8.2	42	12	Binh Thuan	XIII	8.1	43.96	43.96	12. Binh Thuan	XIII	3.1	42	42
13. Binh Thuan	XIII	4.6	47.9	13	Binh Thuan	XI	6.0	48.8	48.8	13. Binh Thuan	III	3.6	47.9	47.9
14. Binh Thuan	II	13.6	50.8	14	Binh Thuan	II	18.8	51.63	51.63	14. Binh Thuan	XIII	3.88	50.8	50.8
15. Binh Thuan	XIII	8.2	53.0	15	Binh Thuan	II	13.6	54.1	54.1	15. Binh Thuan	II	3.6	53.0	53.0
16. Binh Thuan	II	12.6	56.19	16	Binh Thuan	XIII	18.2	56.8	56.8	16. Binh Thuan	XIII	3.4	56.19	56.19
17. Binh Thuan	XIII	8.1	59.1	17	Binh Thuan	XIII	11.1	59.4	59.4	17. Binh Thuan	XI	3.2	59.1	59.1
18. Binh Thuan	XI	18.4	61.0	18	Binh Thuan	XIII	11.1	61.68	61.68	18. Binh Thuan	XIII	3.25	61.0	61.0
19. Binh Thuan	XI	2.3	63.9	19	Binh Thuan	XIII	1.98	63.86	63.86	19. Binh Thuan	XIII	2.9	63.9	63.9
20. Binh Thuan	XIII	3.96	66.0	20	Binh Thuan	XI	2.88	66.93	66.93	20. Binh Thuan	XI	2.78	66.0	66.0
21. Binh Thuan	XIII	1.96	68.4	21	Binh Thuan	IV	2.78	67.96	67.96	21. Binh Thuan	XIII	2.64	68.4	68.4
22. Binh Thuan	XIII	3.9	70.0	22	Binh Thuan	XI	2.78	69.66	69.66	22. Binh Thuan	XIII	2.42	70.0	70.0
23. Binh Thuan	XIII	2.06	71.06	23	Binh Thuan	XIII	2.78	71.86	71.86	23. Binh Thuan	XIII	2.3	71.06	71.06
24. Binh Thuan	XI	1.6	73.0	24	Binh Thuan	XIII	2.3	73.35	73.35	24. Binh Thuan	IV	2.18	73.0	73.0
25. Binh Thuan	XI	1.8	76.3	25	Binh Thuan	II	2.16	78.1	78.1	25. Binh Thuan	XI	1.9	76.3	76.3
26. Binh Thuan	XI	1.76	76.3	26	Binh Thuan	III	2.14	78.1	78.1	26. Binh Thuan	II	1.86	76.3	76.3
27. Binh Thuan	XI	1.76	76.3	27	Binh Thuan	XI	2.06	78.1	78.1	27. Binh Thuan	XII	1.84	76.3	76.3
28. Binh Thuan	XIII	1.74	78.0	28	Binh Thuan	XI	2.0	79.65	79.65	28. Binh Thuan	II	1.82	78.0	78.0
29. Binh Thuan	II	1.7	81.1	29	Binh Thuan	XI	1.87	80.0	80.0	29. Binh Thuan	XIII	1.76	81.1	81.1
30. Binh Thuan	XI	1.7	81.1	30	Binh Thuan	XIII	1.85	81.3	81.3	30. Binh Thuan	XI	1.66	81.1	81.1
31. Binh Thuan	XI	1.6	83.0	31	Binh Thuan	XI	1.77	83.06	83.06	31. Binh Thuan	XIII	1.6	83.0	83.0
32. Binh Thuan	XI	1.6	84.0	32	Binh Thuan	III	1.6	84.8	84.8	32. Binh Thuan	XI	1.59	84.0	84.0
33. Binh Thuan	XI	1.6	85.0	33	Binh Thuan	XI	1.58	85.0	85.0	33. Binh Thuan	II	1.5	85.0	85.0
34. Binh Thuan	XI	1.6	85.0	34	Binh Thuan	XI	1.6	85.0	85.0	34. Binh Thuan	XIII	1.49	85.0	85.0
35. Binh Thuan	XI	1.6	85.0	35	Binh Thuan	XI	1.6	85.0	85.0	35. Binh Thuan	XIII	1.4	85.0	85.0
36. Binh Thuan	XI	1.6	85.0	36	Binh Thuan	XI	1.6	85.0	85.0	36. Binh Thuan	III	1.48	85.0	85.0
37. Binh Thuan	XI	1.6	85.0	37	Binh Thuan	XI	1.6	85.0	85.0	37. Binh Thuan	XI	1.4	85.0	85.0
38. Binh Thuan	XI	1.6	85.0	38	Binh Thuan	XI	1.6	85.0	85.0	38. Binh Thuan	XI	1.3	85.0	85.0
39. Binh Thuan	XI	1.6	85.0	39	Binh Thuan	XI	1.6	85.0	85.0	39. Binh Thuan	XI	1.2	85.0	85.0
40. Binh Thuan	XI	1.6	85.0	40	Binh Thuan	XI	1.6	85.0	85.0	40. Binh Thuan	XI	1.1	85.0	85.0
41. Binh Thuan	XI	1.6	85.0	41	Binh Thuan	XI	1.6	85.0	85.0	41. Binh Thuan	XI	1.1	85.0	85.0
42. Binh Thuan	XI	1.6	85.0	42	Binh Thuan	XI	1.6	85.0	85.0	42. Binh Thuan	XI	1.1	85.0	85.0
43. Binh Thuan	XI	1.6	85.0	43	Binh Thuan	XI	1.6	85.0	85.0	43. Binh Thuan	XI	1.1	85.0	85.0
44. Binh Thuan	XI	1.6	85.0	44	Binh Thuan	XI	1.6	85.0	85.0	44. Binh Thuan	XI	1.1	85.0	85.0
45. Binh Thuan	XI	1.6	85.0	45	Binh Thuan	XI	1.6	85.0	85.0	45. Binh Thuan	XI	1.1	85.0	85.0
46. Binh Thuan	XI	1.6	85.0	46	Binh Thuan	XI	1.6	85.0	85.0	46. Binh Thuan	XI	1.1	85.0	85.0
47. Binh Thuan	XI	1.6	85.0	47	Binh Thuan	XI	1.6	85.0	85.0	47. Binh Thuan	XI	1.1	85.0	85.0
48. Binh Thuan	XI	1.6	85.0	48	Binh Thuan	XI	1.6	85.0	85.0	48. Binh Thuan	XI	1.1	85.0	85.0
49. Binh Thuan	XI	1.6	85.0	49	Binh Thuan	XI	1.6	85.0	85.0	49. Binh Thuan	XI	1.1	85.0	85.0
50. Binh Thuan	XI	1.6	85.0	50	Binh Thuan	XI	1.6	85.0	85.0	50. Binh Thuan	XI	1.1	85.0	85.0
51. Binh Thuan	XI	1.6	85.0	51	Binh Thuan	XI	1.6	85.0	85.0	51. Binh Thuan	XI	1.1	85.0	85.0
52. Binh Thuan	XI	1.6	85.0	52	Binh Thuan	IV	1.6	85.0	85.0	52. Binh Thuan	II	1.1	85.0	85.0
53. Binh Thuan	XI	1.6	85.0	53	Binh Thuan	II	1.6	85.0	85.0	53. Binh Thuan	II	1.1	85.0	85.0
54. Binh Thuan	XI	1.6	85.0	54	Binh Thuan	II	1.6	85.0	85.0	54. Binh Thuan	II	1.1	85.0	85.0
55. Binh Thuan	XI	1.6	85.0	55	Binh Thuan	II	1.6	85.0	85.0	55. Binh Thuan	II	1.1	85.0	85.0
56. Binh Thuan	XI	1.6	85.0	56	Binh Thuan	II	1.6	85.0	85.0	56. Binh Thuan	II	1.1	85.0	85.0
57. Binh Thuan	XI	1.6	85.0	57	Binh Thuan	II	1.6	85.0	85.0	57. Binh Thuan	II	1.1	85.0	85.0
58. Binh Thuan	XI	1.6	85.0	58	Binh Thuan	II	1.6	85.0	85.0	58. Binh Thuan	II	1.1	85.0	85.0
59. Binh Thuan	XI	1.6	85.0	59	Binh Thuan	II	1.6	85.0	85.0	59. Binh Thuan	II	1.1	85.0	85.0
60. Binh Thuan	XI	1.6	85.0	60	Binh Thuan	II	1.6	85.0	85.0	60. Binh Thuan	II	1.1	85.0	85.0
61. Binh Thuan	XI	1.6	85.0	61	Binh Thuan	II	1.6	85.0	85.0	61. Binh Thuan	II	1.1	85.0	85.0
62. Binh Thuan	XI	1.6	85.0	62	Binh Thuan	II	1.6	85.0	85.0	62. Binh Thuan	II	1.1	85.0	85.0
63. Binh Thuan	XI	1.6	85.0	63	Binh Thuan	II	1.6	85.0	85.0	63. Binh Thuan	II	1.1	85.0	85.0
64. Binh Thuan	XI	1.6	85.0	64	Binh Thuan	II	1.6	85.0	85.0	64. Binh Thuan	II	1.1	85.0	85.0
65. Binh Thuan	XI	1.6	85.0	65	Binh Thuan	II	1.6	85.0	85.0	65. Binh Thuan	II	1.1	85.0	85.0
66. Binh Thuan	XI	1.6	85.0	66	Binh Thuan	II	1.6	85.0	85.0	66. Binh Thuan	II	1.1	85.0	85.0
67. Binh Thuan	XI	1.6	85.0	67	Binh Thuan	II	1.6	85.0	85.0	67. Binh Thuan	II	1.1	85.0	85.0
68. Binh Thuan	XI	1.6	85.0	68	Binh Thuan	II	1.6	85.0	85.0	68. Binh Thuan	II	1.1	85.0	85.0
69. Binh Thuan	XI	1.6	85.0	69	Binh Thuan	II	1.6	85.0	85.0	69. Binh Thuan	II	1.1	85.0	85.0
70. Binh Thuan	XI	1.6	85.0	70	Binh Thuan	II	1.6	85.0	85.0	70. Binh Thuan	II	1.1	85.0	85.0
71. Binh Thuan	XI	1.6	85.0	71	Binh Thuan	II	1.6	85.0	85.0	71. Binh Thuan	II	1.1	85.0	85.0
72. Binh Thuan	XI	1.6	85.0	72	Binh Thuan	II	1.6	85.0	85.0	72. Binh Thuan	II	1.1	85.0	85.0
73. Binh Thuan	XI	1.6	85.0	73	Binh Thuan	II	1.6	85.0	85.0	73. Binh Thuan	II	1.1	85.0	85.0
74. Binh Thuan	XI	1.6	85.0	74	Binh Thuan	II	1.6	85.0	85.0	74. Binh Thuan	II	1.1	85.0	85.0
75. Binh Thuan	XI	1.6	85.0	75	Binh Thuan	II	1.6	85.0	85.0	75. Binh Thuan	II	1.1	85.0	85.0
76. Binh Thuan	XI	1.6	85.0	76	Binh Thuan	II	1.6	85.0	85.0	76. Binh Thuan	II	1.1	85.0	85.0
77. Binh Thuan	XI	1.6	85.0	77	Binh Thuan	II	1.6	85.0	85.0	77. Binh Thuan	II	1.1	85.0	85.0
78. Binh Thuan	XI	1.6	85.0	78	Binh Thuan	II	1.6	85.0	85.0	78. Binh Thuan	II	1.1	85.0	85.0
79. Binh Thuan	XI	1.6	85.0	79	Binh Thuan	II	1.6	85.0	85.0	79. Binh Thuan	II	1.1	85.0	85.0

Table 2.1.3: Ranking of Provinces by Gross Value of Industrial Output (1990-1999)  
 (in constant 1999 Price Billion VND)

1990 Ranking				1999 Ranking			
Province	Rank	Value	Order	Province	Rank	Value	Order
1. Hanoi	1	1,279	1	1. Hanoi	1	1,874	1
2. Ho Chi Minh	2	947	2	2. Ho Chi Minh	2	1,267	2
3. Haiphong	3	433	3	3. Da Nang	3	778	3
4. Thanh Hoa	4	311	4	4. Vinh	4	616	4
5. Dong Ngai	5	273	5	5. Quang Nam	5	561	5
6. Da Nang	6	237	6	6. Quang Nam	6	561	6
7. Thanh Hoa	7	144	7	7. Haiphong	7	478	7
8. Thanh Hoa	8	117	8	8. Thanh Hoa	8	464	8
9. Q.N.T.N.	9	106	9	9. Thanh Hoa	9	464	9
10. Quang Nam	10	105	10	10. Thanh Hoa	10	464	10
11. Quang Nam	11	115	11	11. Q.N.T.N.	11	466	11
12. Thanh Hoa	12	119	12	12. Quang Nam	12	466	12
13. Thanh Hoa	13	97	13	13. Thanh Hoa	13	466	13
14. Thanh Hoa	14	92	14	14. Thanh Hoa	14	466	14
15. Thanh Hoa	15	63	15	15. Thanh Hoa	15	466	15
16. Thanh Hoa	16	85	16	16. Thanh Hoa	16	466	16
17. Thanh Hoa	17	81	17	17. Thanh Hoa	17	466	17
18. Thanh Hoa	18	73	18	18. Thanh Hoa	18	466	18
19. Thanh Hoa	19	70	19	19. Thanh Hoa	19	466	19
20. Thanh Hoa	20	70	20	20. Thanh Hoa	20	466	20
21. Thanh Hoa	21	70	21	21. Thanh Hoa	21	466	21
22. Thanh Hoa	22	70	22	22. Thanh Hoa	22	466	22
23. Thanh Hoa	23	70	23	23. Thanh Hoa	23	466	23
24. Thanh Hoa	24	70	24	24. Thanh Hoa	24	466	24
25. Thanh Hoa	25	70	25	25. Thanh Hoa	25	466	25
26. Thanh Hoa	26	70	26	26. Thanh Hoa	26	466	26
27. Thanh Hoa	27	70	27	27. Thanh Hoa	27	466	27
28. Thanh Hoa	28	70	28	28. Thanh Hoa	28	466	28
29. Thanh Hoa	29	70	29	29. Thanh Hoa	29	466	29
30. Thanh Hoa	30	70	30	30. Thanh Hoa	30	466	30
31. Thanh Hoa	31	70	31	31. Thanh Hoa	31	466	31
32. Thanh Hoa	32	70	32	32. Thanh Hoa	32	466	32
33. Thanh Hoa	33	70	33	33. Thanh Hoa	33	466	33
34. Thanh Hoa	34	70	34	34. Thanh Hoa	34	466	34
35. Thanh Hoa	35	70	35	35. Thanh Hoa	35	466	35
36. Thanh Hoa	36	70	36	36. Thanh Hoa	36	466	36
37. Thanh Hoa	37	70	37	37. Thanh Hoa	37	466	37
38. Thanh Hoa	38	70	38	38. Thanh Hoa	38	466	38
39. Thanh Hoa	39	70	39	39. Thanh Hoa	39	466	39
40. Thanh Hoa	40	70	40	40. Thanh Hoa	40	466	40
41. Thanh Hoa	41	70	41	41. Thanh Hoa	41	466	41
42. Thanh Hoa	42	70	42	42. Thanh Hoa	42	466	42
43. Thanh Hoa	43	70	43	43. Thanh Hoa	43	466	43
44. Thanh Hoa	44	70	44	44. Thanh Hoa	44	466	44
45. Thanh Hoa	45	70	45	45. Thanh Hoa	45	466	45
46. Thanh Hoa	46	70	46	46. Thanh Hoa	46	466	46
47. Thanh Hoa	47	70	47	47. Thanh Hoa	47	466	47
48. Thanh Hoa	48	70	48	48. Thanh Hoa	48	466	48
49. Thanh Hoa	49	70	49	49. Thanh Hoa	49	466	49
50. Thanh Hoa	50	70	50	50. Thanh Hoa	50	466	50
51. Thanh Hoa	51	70	51	51. Thanh Hoa	51	466	51
52. Thanh Hoa	52	70	52	52. Thanh Hoa	52	466	52
53. Thanh Hoa	53	70	53	53. Thanh Hoa	53	466	53
Total		5,412		Total		5,412	

Source: The Press Report of the Statistical Bureau of the Ministry of Planning, Hanoi, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 2681, 2682, 2683, 2684, 2685, 2686, 2687, 2688, 2689, 2690, 2691, 2692, 2693, 2694, 2695, 2696, 2697, 2698, 2699, 2700, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2708, 2709, 2710, 2711, 2712, 2713, 2714, 2715, 2716, 2717, 2718, 2719, 2720, 2721, 2722, 2723, 2724, 2725, 2726, 2727, 2728, 2729, 2730, 2731, 2732, 2733, 2734, 2735, 2736, 2737, 2738, 2739, 2740, 2741, 2742, 2743, 2744, 2745, 2746, 2747, 2748, 2749, 2750, 2751, 2752, 2753, 2754, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2768, 2769, 2770, 2771, 2772, 2773, 2774, 2775, 2776, 2777, 2778, 2779, 2780, 2781, 2782, 2783, 2784, 2785, 2786, 2787, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2809, 2810, 2811, 2812, 2813, 2814, 2815, 2816, 2817, 2818, 2819, 2820, 2821, 2822, 2823, 2824, 2825, 2826, 2827, 2828, 2829, 2830, 2831, 2832, 2833, 2834, 2835, 2836, 2837, 2838, 2839, 2840, 2841, 2842, 2843, 2844, 2845, 2846, 2847, 2848, 2849, 2850, 2851, 2852, 2853, 2854, 2855, 2856, 2857, 2858, 2859, 2860, 2861, 2862, 2863, 2864, 2865, 2866, 2867, 2868, 2869, 2870, 2871, 2872, 2873, 2874, 2875, 2876, 2877, 2878, 2879, 2880, 2881, 2882, 2883, 2884, 2885, 2886, 2887, 2888, 2889, 2890, 2891, 2892, 2893, 2894, 2895, 2896, 2897, 2898, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 2909, 2910, 2911, 2912, 2913, 2914, 2915, 2916, 2917, 2918, 2919, 2920, 2921, 2922, 2923, 2924, 2925, 2926, 2927, 2928, 2929, 2930, 2931, 2932, 2933, 2934, 2935, 2936, 2937, 2938, 2939, 2940, 2941, 2942, 2943, 2944, 2945, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 2965, 2966, 2967, 2968, 2969, 2970, 2971, 2972, 2973, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2985, 2986, 2987, 2988, 2989, 2990, 2991, 2992, 2993, 2994, 2995, 2996, 2997, 2998, 2999, 3000, 3001, 3002, 3003, 3004, 3005, 3006, 3007, 3008, 3009, 3010, 3011, 3012, 3013, 3014, 3015, 3016, 3017, 3018, 3019, 3020, 3021, 3022, 3023, 3024, 3025, 3026, 3027, 3028, 3029, 3030, 3031, 3032, 3033, 3034, 3035, 3036, 3037, 3038, 3039, 3040, 3041, 3042, 3043, 3044, 3045, 3046, 3047, 3048, 3049, 3050, 3051, 3052, 3053, 3054, 3055, 3056, 3057, 3058, 3059, 3060, 3061, 3062, 3063, 3064, 3065, 3066, 3067, 3068, 3069, 3070, 3071, 3072, 3073, 3074, 3075, 3076, 3077, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3085, 3086, 3087, 3088, 3089, 3090, 3091, 3092, 3093, 3094, 3095, 3096, 3097, 3098, 3099, 3100, 3101, 3102, 3103, 3104, 3105, 3106, 3107, 3108, 3109, 3110, 3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3120, 3121, 3122, 3123, 3124, 3125, 3126, 3127, 3128, 3129, 3130, 3131, 3132, 3133, 3134, 3135, 3136, 3137, 3138, 3139, 3140, 3141, 3142, 3143, 3144, 3145, 3146, 3147, 3148, 3149, 3150, 3151, 3152, 3153, 3154, 3155, 3156, 3157, 3158, 3159, 3160, 3161, 3162, 3163, 3164, 3165, 3166, 3167, 3168, 3169, 3170, 3171, 3172, 3173, 3174, 3175, 3176, 3177, 3178, 3179, 3180, 3181, 3182, 3183, 3184, 3185, 3186, 3187, 3188, 3189, 3190, 3191, 3192, 3193, 3194, 3195, 3196, 3197, 3198, 3199, 3200, 3201, 3202, 3203, 3204, 3205, 3206, 3207, 3208, 3209, 3210, 3211, 3212, 3213, 3214, 3215, 3216, 3217, 3218, 3219, 3220, 3221, 3222, 3223, 3224, 3225, 3226, 3227, 3228, 3229, 3230, 3231, 3232, 3233, 3234, 3235, 3236, 3237, 3238, 3239, 3240, 3241, 3242, 3243, 3244, 3245, 3246, 3247, 3248, 3249, 3250, 3251, 3252, 3253, 3254, 3255, 3256, 3257, 3258, 3259, 3260, 3261, 3262, 3263, 3264, 3265, 3266, 3267, 3268, 3269, 3270, 3271, 3272, 3273, 3274, 3275, 3276, 3277, 3278, 3279, 3280, 3281, 3282, 3283, 3284, 3285, 3286, 3287, 3288, 3289, 3290, 3291, 3292, 3293, 3294, 3295, 3296, 3297, 3298, 3299, 3300, 3301, 3302, 3303, 3304, 3305, 3306, 3307, 3308, 3309, 3310, 3311, 3312, 3313, 3314, 3315, 3316, 3317, 3318, 3319, 3320, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3332, 3333, 3334, 3335, 3336, 3337, 3338, 3339, 3340, 3341, 3342, 3343, 3344, 3345, 3346, 3347, 3348, 3349, 3350, 3351, 3352, 3353, 3354, 3355, 3356, 3357, 3358, 3359, 3360, 3361, 3362, 3363, 3364, 3365, 3366, 3367, 3368, 3369, 3370, 3371, 3372, 3373, 3374, 3375, 3376, 3377, 3378, 3379, 3380, 3381, 3382, 3383, 3384, 3385, 3386, 3387, 3388, 3389, 3390, 3391, 3392, 3393, 3394, 3395, 3396,



**Table 2.1.4: Ranking of Provinces by Gross Value of Construction Sector (1990-1994)**

(Constant 1989 Price base)

(Unit: Billion VND/percent)

1990 Ranking					1994 Ranking					Average 1990 - 94 Ranking				
Rank	Provin.	SDR	Const.	Accum. Const	Rank	Provin.	SDR	Const.	Accum. Const	Rank	Provin.	SDR	Const.	Accum. Const
1	HCC	VII	180	15.92	1	HCC	VII	401	21.52	1	HCC	VII	270	19.07
2	Ha Noi	III	102	24.93	2	Ha Noi	III	154	29.79	2	Ha Noi	III	107	26.62
3	Ha Bac	II	80	32.01	3	Hai Phong	III	103	35.32	3	Ha Bac	II	84	32.56
4	Thanh Hoa	IV	56	36.96	4	Ha Bac	II	89	40.1	4	Hai Phong	III	72	37.64
5	Hai Phong	III	52	41.56	5	Nam Ha	III	66	43.64	5	Thanh Hoa	IV	57	41.67
6	Kien Giang	VIII	44	45.45	6	Thanh Hoa	IV	62	46.97	6	Nam Ha	III	45	44.84
7	Ha Tay	III	41	49.07	7	Hai Hung	III	56	49.97					
										8	Ha Tay	III	41	50.71
9	Vinh Phu	II	37	55.88	9	Q.N.D.N	V	46	54.97	9	Hai Hung	III	38	53.39
10	Bac Thai	II	36	59.06	10	T.T. Hue	IV	45	57.38	10	Q.N.D.N	V	38	56.07
11	Nam Ha	III	34	62.07	11	Vinh Phu	II	40	59.53	11	Kien Giang	VIII	38	58.76
12	Q.N.D.N	V	33	64.99	12	Ha Tay	III	40	61.67	12	Bac Thai	II	36	61.3
13	Dac Lac	VI	30	67.64	13	Dong Nai	VII	40	63.82	13	Vinh Phu	II	36	63.84
14	Yen Bai	II	25	69.85	14	Kien Giang	VIII	40	65.97	14	Dac Lac	VI	31	66.03
15	Quang Binh	IV	23	71.88	15	Thai Binh	III	38	68.01	15	Yen Bai	II	27	67.94
16	Hai Hung	III	22	73.83	16	Bac Thai	II	37	69.99	16	Quang Binh	IV	26	69.77
17	Ha Tinh	IV	18	75.42	17	Binh Dinh	V	37	71.98	17	T.T. Hue	IV	26	71.61
18	Quang Tri	IV	17	76.92	18	Dac Lac	VI	36	73.91	18	Thai Binh	III	25	73.38
19	Dong Thap	VIII	17	78.43	19	Can Tho	VIII	35	75.79	19	Dong Nai	VII	25	75.14
20	Dong Nai	VII	15	79.75	20	Yen Bai	II	29	77.35	20	Binh Dinh	V	24	76.84
21	Binh Dinh	V	14	80.99	21	Quang Binh	IV	29	78.9	21	Can Tho	VIII	24	78.53
22	Minh Hai	VIII	14	82.23	22	Tien Giang	VIII	26	80.3	22	Minh Hai	VIII	20	79.94
23	T.T. Hue	IV	13	83.38	23	Minh Hai	VIII	26	81.7	23	Dong Thap	VIII	19	81.29
24	Thai Binh	III	12	84.44	24	Vung Tau	VII	25	83.04	24	Ha Tinh	IV	18	82.56
25	Can Tho	VIII	12	85.5	25	Quang Ngai	V	22	84.22	25	Quang Tri	IV	17	83.76
26	Khanh Hoa	V	11	86.47	26	Dong Thap	VIII	21	85.35	26	Tien Giang	VIII	17	94.96
27	Long An	VIII	10	87.36	27	Hoa Binh	I	19	86.37	27	Hoa Binh	I	16	86.09
28	Tien Giang	VIII	10	88.24	28	Ha Tinh	IV	19	87.39	28	Vung Tau	VII	15	87.15
29	Lam Dong	VII	9	89.04	29	Khanh Hoa	V	19	88.41	29	Khanh Hoa	V	13	88.06
30	Ninh Binh	III	8	89.74	30	Quang Tri	IV	17	89.32	30	Tay Ninh	VII	13	88.98
31	Vung Tau	VII	8	90.45	31	Quang Ninh	II	16	90.18	31	Quang Ninh	II	12	89.83
32	Tay Ninh	VII	8	91.16	32	Ninh Binh	III	16	91.04	32	Quang Ngai	V	12	90.68
33	Son La	I	7	91.78	33	Tay Ninh	VII	16	91.89	33	Long An	VIII	12	91.53
34	Quang Ngai	V	7	92.4	34	Long An	VIII	15	92.7	34	Ninh Binh	III	11	92.3
35	Ben Tre	VIII	7	93.02	35	Lam Dong	VII	12	93.34	35	Lam Dong	VII	11	93.08
36	Soc Trang	VIII	7	93.63	36	Binh Thuan	VII	11	93.93	36	Son La	I	8	93.64
37	Lam Son	II	6	94.16	37	Lai Chau	I	10	94.47	37	Soc Trang	VIII	8	94.21
38	Quang Ninh	II	6	94.69	38	Phu Yen	V	10	95.01	38	Lai Chau	I	7	94.7
39	Tra Vinh	VIII	6	95.23	39	Soc Trang	VIII	10	95.54	39	Lam Son	II	7	95.2
40	Hoa Binh	I	5	95.67	40	Lam Son	II	9	96.03	40	Phu Yen	V	7	95.69
41	Phu Yen	V	5	96.11	41	Gia Lai	VI	9	96.51	41	Ben Tre	VIII	7	96.19
42	Gia Lai	VI	5	96.55	42	Son La	I	8	96.94	42	Gia Lai	VI	6	96.61
43	Song Be	VII	5	96.99	43	Song Be	VII	8	97.37	43	Binh Thuan	VII	6	97.03
44	Vinh Long	VIII	5	97.44	44	Ben Tre	VIII	8	97.8	44	Song be	VII	6	97.46
45	Lai Chau	I	4	97.79	45	Vinh Long	VIII	7	98.17	45	Vinh Long	VIII	6	97.88
46	Ha Giang	II	4	98.14	46	Tuyen Quang	II	6	98.5	46	Tra Vinh	VIII	6	98.31
47	Cao Bang	II	4	98.5	47	Ninh Thuan	VII	6	98.82	47	Tuyen Quang	II	5	98.66
48	Tuyen Quang	II	4	98.85	48	Tra Vinh	VIII	6	99.14	48	Ninh Thuan	VII	5	99.01
49	Ninh Thuan	VII	4	99.2	49	Ha Giang	II	5	99.41	49	Ha Giang	II	4	99.29
50	Kon Tum	VI	3	99.47	50	Cao Bang	II	4	99.62	50	Cao Bang	II	4	99.58
51	Binh Thuan	VII	3	99.73	51	An Giang	VIII	4	99.84	51	Kon Tum	VI	3	99.79
52	An Giang	VIII	3	100	52	Kon Tum	VI	3	100	52	An Giang	VIII	3	100
53	Lao Cai	II	0	100	53	Lao Cai	II	0	100	53	Lao Cai	II	0	100
	Total		1.131	100		Total		1.863	100		Total		1.416	100

SOURCE: "Progress Report II, the Study on the Integrated Regional Socio-Economic Development Master Plan for the key area of the Central Region of the Socialist Republic of Vietnam" March 1996 - JICA

**Table 2.1.5: Ranking of Provinces by Gross Value of Services Sector(1990-1994)**

(Constant 1989 price base)

(Unit: Billion VND/percent)

1990 Ranking					1994 Ranking					Average 1990 - 94 Ranking				
Rank	Provin.	SDR	Serv.	Accum Serv	Rank	Provin.	SDR	Serv.	Accum Serv	Rank	Provin.	SDR	Serv.	Accum Serv
1	HCC	VII	6.681	44.26	1	HCC	VII	4040	26.01	1	HCC	VII	3309	25
2	Ha Noi	III	1280	52.74	2	Ha Noi	III	1754	37.3	2	Ha Noi	III	1522	36.5
3	Hai Phong	III	501	56.05	3	Hai Phong	III	615	41.26	3	Hai Phong	III	542	40.6
4	Kien Giang	VIII	414	58.5	4	Kien Giang	VIII	578	44.98	4	Kien Giang	VIII	499	44.37
5	Hai Hung	III	382	61.33	5	Thanh Hoa	IV	451	47.88	5	Hai Hung	III	399	47.38
6	Thanh Hoa	IV	358	63.7	6	Q.N.D.N	V	415	50.55	6	Thanh Hoa	IV	398	50.39
7	Q.N.D.N	V	329	65.88	7	Hai Hung	III	411	53.2	7	Q.N.D.N	V	363	53.13
8	Dong Nai	VII	281	67.74	8	Dong Nai	VII	403	55.79	8	Dong Nai	VII	339	55.69
9	Nam Ha	III	277	69.57	9	Can Tho	VIII	372	58.18	9	Nam Ha	III	306	58.01
10	Can Tho	VIII	251	71.24	10	Nam Ha	III	341	60.38	10	Can Tho	VIII	298	60.26
11	Vinh Phu	II	226	72.73	11	Vinh Phu	II	332	62.52	11	An Giang	VIII	269	62.29
12	An Giang	VIII	226	74.23	12	Quang Ninh	II	318	64.56	12	Vung tau	VII	267	64.31
13	T.T. Hue	IV	196	75.53	13	An Giang	VIII	311	66.57	13	Vinh Phu	II	260	66.27
14	Minh Hai	VIII	194	76.82	14	T.T. Hue	IV	283	68.39	14	Quang Ninh	II	252	68.18
					15	Vung Tau	VII	267	70.11	15	Minh Hai	VIII	235	69.95
16	Vung Tau	VII	189	79.33	16	Ben Tre	VIII	265	71.81					
17	Ha Bac	II	188	80.57						17	T.T. Hue	IV	229	73.43
18	Tien Giang	VIII	184	81.79	18	Minh Hai	VIII	261	75.19	18	Ha Bac	II	214	75.04
19	Ha Tay	III	178	82.97	19	Ha Bac	II	260	76.86	19	Tien Giang	VIII	212	76.64
20	Dong Thap	VIII	170	84.1	20	Tien Giang	VIII	254	78.49	20	Ben tre	VIII	212	78.24
21	Quang Ninh	II	149	85.08	21	Dong Thap	VIII	238	80.03	21	Dong Thap	VIII	205	79.79
22	Ben Tre	VIII	148	96.06	22	Ha Tay	III	220	81.44	22	Ha Tay	III	194	81.25
23	Long An	VIII	126	86.9	23	Khanh Hoa	V	212	82.81	23	Khanh Hoa	V	174	82.57
24	Khanh Hoa	V	124	87.72	24	Vinh Long	VIII	151	83.78	24	Bac Thai	II	137	83.6
25	Bac Thai	II	123	88.53	25	Bac Thai	II	147	84.72	25	Long An	VIII	133	84.61
26	Yen Bai	II	114	89.29	26	Tay Ninh	VII	147	85.67	26	Vinh Long	VIII	132	85.61
27	Dac Lac	VI	114	90.04	27	Long An	VIII	140	86.57	27	Tay Ninh	VII	127	86.57
28	Vinh Long	VIII	106	90.75	28	Binh Dinh	V	139	87.47	28	Yen Bai	II	126	87.52
29	Tay Ninh	VII	102	91.42	29	Thai Binh	III	137	88.35	29	Binh Dinh	V	115	88.39
30	Binh Dinh	V	92	92.03	30	Yen Bai	II	134	89.21	30	Dac Lac	VI	113	89.24
31	Quang Binh	IV	86	92.6	31	Tra Vinh	VIII	119	89.98	31	Thai Binh	III	107	90.05
32	Hoa Binh	I	84	93.16	32	Song Be	VII	118	90.74	32	Tra Vinh	VIII	101	90.81
33	Tra Vinh	VIII	82	93.7	33	Dac Lac	VI	116	91.48	33	Song be	VII	97	91.55
34	Ninh Thuan	VII	81	94.24	34	Quang Ngai	V	106	92.17	34	Quang Ngai	V	92	92.24
35	Thai Binh	III	80	94.77	35	Soc Trang	VIII	104	92.84	35	Ninh Thuan	VII	91	92.93
36	Song Be	VII	80	95.3	36	Ninh Thuan	VII	98	93.47	36	Quang Binh	IV	86	93.58
37	Quang Ngai	V	79	95.82	37	Quang tri	IV	97	94.09	37	Phu Yen	V	82	94.2
38	Phu Yen	V	75	96.32	38	Phu Yen	V	94	94.7	38	Soc Trang	VIII	81	94.81
39	Lam Dong	VII	64	96.74	39	Quang Binh	IV	93	95.29	39	Hoa Binh	I	79	95.41
40	Soc Trang	VIII	60	97.14	40	Lam Dong	VII	86	95.85	40	Quang tri	IV	75	95.97
41	Quang Tri	IV	56	97.51	41	Lang Son	II	82	96.38	41	Lam Dong	VII	73	96.52
42	Lang Son	II	51	97.85	42	Binh Thuan	VII	79	96.88	42	Lang Son	II	64	97.01
43	Binh Thuan	VII	51	98.18	43	Hoa Binh	I	78	97.39	43	Binh Thuan	VII	62	97.48
44	Ninh Binh	III	48	98.5	44	Ninh Binh	III	77	97.88	44	Ninh Binh	III	61	97.91
45	Ha Tinh	IV	47	98.81	45	Ha Tinh	IV	66	98.31	45	Ha Tinh	IV	55	98.35
46	Tuyen Quang	II	42	99.09	46	Tuyen Quang	II	65	98.73	46	Tuyen Quang	II	54	98.74
47	Lai Chau	I	36	99.33	47	Cao Bang	II	57	99.09	47	Lai Chau	I	44	99.07
48	Gia Lai	VI	33	99.55	48	Lai Chau	I	48	99.4	48	Cao Bang	II	40	99.37
49	Cao Bang	II	30	99.75	49	Gia Lai	VI	36	99.63	49	Gia Lai	VI	34	99.63
50	Kon Tum	VI	20	99.88	50	Son La	I	32	99.84	50	Son La	I	25	99.82
51	Son La	I	16	99.99	51	Kon Tum	VI	23	99.99	51	Kon Tum	VI	22	99.98
52	Ha Giang	II	2	100	52	Ha Giang	II	2	100	52	Ha Giang	II	2	100
53	Lao Cai	II	0	100	53	Lao Cai	II	0	100	53	Lao Cai	II	0	100
	Total		15.096	100		Total		15.535	100		Total		13.235	100

SOURCE: "Progress Report II, the Study on the Integrated Regional Socio-Economic Development Master Plan for the key area of the Central Region of the Socialist Republic of Vietnam" March 1996 - JICA

Table 2.1.4: Ranking of Provinces by Gross Value of Construction Sector (1990-1994)

(Constant 1989 Price base)

(Unit: Billion VND/percent)

1990 Ranking				1994 Ranking				Average 1990-1994 Ranking			
Province	GRV	GRV	GRV	Province	GRV	GRV	GRV	Province	GRV	GRV	GRV
	1990	1994	1990		1994	1994	1994		1990	1994	1994
1. Hanoi	1	1	24.7	1. Hanoi	1	24.7	24.7	1. Hanoi	1	1	24.7
2. Ho Chi Minh City	2	2	20.5	2. Ho Chi Minh City	2	20.5	20.5	2. Ho Chi Minh City	2	2	20.5
3. Haiphong	3	3	10.5	3. Haiphong	3	10.5	10.5	3. Haiphong	3	3	10.5
4. Thanh Hoa	4	4	7.5	4. Thanh Hoa	4	7.5	7.5	4. Thanh Hoa	4	4	7.5
5. Vinh	5	5	6.5	5. Vinh	5	6.5	6.5	5. Vinh	5	5	6.5
6. Da Nang	6	6	4.5	6. Da Nang	6	4.5	4.5	6. Da Nang	6	6	4.5
7. Nghe An	7	7	4.0	7. Nghe An	7	4.0	4.0	7. Nghe An	7	7	4.0
8. Ha Tay	8	8	3.5	8. Ha Tay	8	3.5	3.5	8. Ha Tay	8	8	3.5
9. Ha Nam	9	9	3.0	9. Ha Nam	9	3.0	3.0	9. Ha Nam	9	9	3.0
10. N. Ha Nam	10	10	2.5	10. N. Ha Nam	10	2.5	2.5	10. N. Ha Nam	10	10	2.5
11. Quang Nam	11	11	2.0	11. Quang Nam	11	2.0	2.0	11. Quang Nam	11	11	2.0
12. Phu Thuan	12	12	1.5	12. Phu Thuan	12	1.5	1.5	12. Phu Thuan	12	12	1.5
13. Binh Phu	13	13	1.0	13. Binh Phu	13	1.0	1.0	13. Binh Phu	13	13	1.0
14. Phuoc Ninh	14	14	0.5	14. Phuoc Ninh	14	0.5	0.5	14. Phuoc Ninh	14	14	0.5
15. Binh Thuan	15	15	0.5	15. Binh Thuan	15	0.5	0.5	15. Binh Thuan	15	15	0.5
16. Quang Binh	16	16	0.5	16. Quang Binh	16	0.5	0.5	16. Quang Binh	16	16	0.5
17. Quang Tri	17	17	0.5	17. Quang Tri	17	0.5	0.5	17. Quang Tri	17	17	0.5
18. Binh Dinh	18	18	0.5	18. Binh Dinh	18	0.5	0.5	18. Binh Dinh	18	18	0.5
19. Dong Nai	19	19	0.5	19. Dong Nai	19	0.5	0.5	19. Dong Nai	19	19	0.5
20. Binh Long	20	20	0.5	20. Binh Long	20	0.5	0.5	20. Binh Long	20	20	0.5
21. Quang Tho	21	21	0.5	21. Quang Tho	21	0.5	0.5	21. Quang Tho	21	21	0.5
22. Binh Hoa	22	22	0.5	22. Binh Hoa	22	0.5	0.5	22. Binh Hoa	22	22	0.5
23. Quang Thap	23	23	0.5	23. Quang Thap	23	0.5	0.5	23. Quang Thap	23	23	0.5
24. Phu Thuan	24	24	0.5	24. Phu Thuan	24	0.5	0.5	24. Phu Thuan	24	24	0.5
25. Binh Thuan	25	25	0.5	25. Binh Thuan	25	0.5	0.5	25. Binh Thuan	25	25	0.5
26. Binh Thuan	26	26	0.5	26. Binh Thuan	26	0.5	0.5	26. Binh Thuan	26	26	0.5
27. Binh Thuan	27	27	0.5	27. Binh Thuan	27	0.5	0.5	27. Binh Thuan	27	27	0.5
28. Binh Thuan	28	28	0.5	28. Binh Thuan	28	0.5	0.5	28. Binh Thuan	28	28	0.5
29. Binh Thuan	29	29	0.5	29. Binh Thuan	29	0.5	0.5	29. Binh Thuan	29	29	0.5
30. Binh Thuan	30	30	0.5	30. Binh Thuan	30	0.5	0.5	30. Binh Thuan	30	30	0.5
31. Binh Thuan	31	31	0.5	31. Binh Thuan	31	0.5	0.5	31. Binh Thuan	31	31	0.5
32. Binh Thuan	32	32	0.5	32. Binh Thuan	32	0.5	0.5	32. Binh Thuan	32	32	0.5
33. Binh Thuan	33	33	0.5	33. Binh Thuan	33	0.5	0.5	33. Binh Thuan	33	33	0.5
34. Binh Thuan	34	34	0.5	34. Binh Thuan	34	0.5	0.5	34. Binh Thuan	34	34	0.5
35. Binh Thuan	35	35	0.5	35. Binh Thuan	35	0.5	0.5	35. Binh Thuan	35	35	0.5
36. Binh Thuan	36	36	0.5	36. Binh Thuan	36	0.5	0.5	36. Binh Thuan	36	36	0.5
37. Binh Thuan	37	37	0.5	37. Binh Thuan	37	0.5	0.5	37. Binh Thuan	37	37	0.5
38. Binh Thuan	38	38	0.5	38. Binh Thuan	38	0.5	0.5	38. Binh Thuan	38	38	0.5
39. Binh Thuan	39	39	0.5	39. Binh Thuan	39	0.5	0.5	39. Binh Thuan	39	39	0.5
40. Binh Thuan	40	40	0.5	40. Binh Thuan	40	0.5	0.5	40. Binh Thuan	40	40	0.5
41. Binh Thuan	41	41	0.5	41. Binh Thuan	41	0.5	0.5	41. Binh Thuan	41	41	0.5
42. Binh Thuan	42	42	0.5	42. Binh Thuan	42	0.5	0.5	42. Binh Thuan	42	42	0.5
43. Binh Thuan	43	43	0.5	43. Binh Thuan	43	0.5	0.5	43. Binh Thuan	43	43	0.5
44. Binh Thuan	44	44	0.5	44. Binh Thuan	44	0.5	0.5	44. Binh Thuan	44	44	0.5
45. Binh Thuan	45	45	0.5	45. Binh Thuan	45	0.5	0.5	45. Binh Thuan	45	45	0.5
46. Binh Thuan	46	46	0.5	46. Binh Thuan	46	0.5	0.5	46. Binh Thuan	46	46	0.5
47. Binh Thuan	47	47	0.5	47. Binh Thuan	47	0.5	0.5	47. Binh Thuan	47	47	0.5
48. Binh Thuan	48	48	0.5	48. Binh Thuan	48	0.5	0.5	48. Binh Thuan	48	48	0.5
49. Binh Thuan	49	49	0.5	49. Binh Thuan	49	0.5	0.5	49. Binh Thuan	49	49	0.5
50. Binh Thuan	50	50	0.5	50. Binh Thuan	50	0.5	0.5	50. Binh Thuan	50	50	0.5
51. Binh Thuan	51	51	0.5	51. Binh Thuan	51	0.5	0.5	51. Binh Thuan	51	51	0.5
52. Binh Thuan	52	52	0.5	52. Binh Thuan	52	0.5	0.5	52. Binh Thuan	52	52	0.5
53. Binh Thuan	53	53	0.5	53. Binh Thuan	53	0.5	0.5	53. Binh Thuan	53	53	0.5
Total	100	100	100	Total	100	100	100	Total	100	100	100

Source: 1994-1995 gross report of the Ministry of the Integrated Regional Socio-Economic Development Master Plan

for the key areas of the Central region of the Socialist Republic of Vietnam, March 1996-1997

Table 2.1.5: Ranking of Provinces by Gross Value of Services Sector (1990-1994)  
(Constant 1989 price base)

1990 Ranking					1994 Ranking					Average 1990-1994 Ranking				
Rank	Province	SGD	SGV	AVG. of SGD SGV	Rank	Province	SGD	SGV	AVG. of SGD SGV	Rank	Province	SGD	SGV	AVG. of SGD SGV
1	Hà Nội	VII	67.83	44.26	1	Hà Nội	VII	70.4	46.8	1	Hà Nội	VII	69.1	45.53
2	Hải Phòng	III	17.8	53.73	2	Hải Phòng	III	17.4	53.8	2	Hải Phòng	III	17.4	53.8
3	Hải Phòng	I	9.04	86.09	3	Hải Phòng	III	17.4	53.8	3	Hải Phòng	III	17.4	53.8
4	Quảng Ninh	VIII	4.4	88.3	4	Quảng Ninh	VII	8.9	43.8	4	Quảng Ninh	VII	9.4	46.05
5	Lào Cai	II	48.7	61.68	5	Yên Bái	IV	1.2	43.88	5	Lào Cai	II	48.7	61.68
6	Đông Bắc	IV	88.8	6.4	6	Đông Bắc	V	4.9	44.7	6	Đông Bắc	V	4.9	44.7
7	Quảng Nam	V	87.4	63.88	7	Quảng Nam	VI	4.4	44.7	7	Quảng Nam	VI	4.4	44.7
8	Đông Bắc	VII	78.4	67.3	8	Đông Bắc	VII	4.8	43.8	8	Đông Bắc	VII	4.8	43.8
9	Yên Bái	II	2.7	69.8	9	Yên Bái	VII	8.7	48.4	9	Yên Bái	II	2.7	69.8
10	Quảng Ninh	VIII	28.4	71.73	10	Quảng Ninh	III	4.4	60.38	10	Quảng Ninh	VIII	28.4	71.73
11	Yên Bái	II	22.6	75.3	11	Yên Bái	II	6.2	60.4	11	Yên Bái	VIII	28.4	71.73
12	Yên Bái	VII	27.6	74.7	12	Yên Bái	II	4.8	62.4	12	Yên Bái	VII	27.6	74.7
13	Yên Bái	IV	19.9	75.8	13	Yên Bái	VII	9.4	60.8	13	Yên Bái	IV	19.9	75.8
14	Yên Bái	VIII	19.4	76.8	14	Yên Bái	IV	9.8	60.4	14	Yên Bái	VIII	19.4	76.8
15	Nghệ An	IV	19.0	78.07	15	Yên Bái	VII	7.6	71.4	15	Yên Bái	VII	7.6	71.4
16	Yên Bái	VII	18.9	79.88	16	Yên Bái	VII	7.6	71.8	16	Nghệ An	IV	21.0	74.69
17	Hải Phòng	II	18.8	80.8	17	Nghệ An	IV	23.3	73.5	17	Yên Bái	IV	26.4	74.4
18	Đông Bắc	VIII	18.4	81.79	18	Yên Bái	VII	7.6	74.4	18	Hải Phòng	II	21.4	75.4
19	Hải Phòng	II	1.8	82.9	19	Hải Phòng	II	2.6	76.89	19	Đông Bắc	VIII	21.4	75.4
20	Đông Bắc	VIII	17.9	84	20	Đông Bắc	VIII	2.4	78.4	20	Đông Bắc	VII	20.8	76.7
21	Quảng Ninh	II	11.9	85.98	21	Đông Bắc	VIII	2.8	80.0	21	Đông Bắc	VII	20.8	76.7
22	Yên Bái	VIII	11.8	90.96	22	Hải Phòng	II	2.2	81.44	22	Hải Phòng	II	11.4	81.7
23	Yên Bái	VIII	12.6	86.9	23	Đông Bắc	V	9.9	80.8	23	Đông Bắc	V	11.4	81.7
24	Đông Bắc	V	12.4	87.7	24	Yên Bái	VII	1.9	83.8	24	Hải Phòng	II	11.4	81.7
25	Bắc Bình	II	12.3	88.8	25	Bắc Bình	II	1.4	84.79	25	Yên Bái	VIII	11.8	84.6
26	Yên Bái	II	11.4	89.29	26	Yên Bái	VII	1.4	84.8	26	Yên Bái	VII	11.7	84.6
27	Đông Bắc	VII	11.4	90.44	27	Yên Bái	VIII	1.6	86.8	27	Yên Bái	VII	11.7	84.6
28	Yên Bái	VIII	10.6	90.78	28	Đông Bắc	V	1.4	87.4	28	Yên Bái	II	10.6	90.44
29	Yên Bái	VII	10.2	91.42	29	Đông Bắc	II	1.4	88.8	29	Đông Bắc	V	11.4	84.6
30	Đông Bắc	V	9.2	92.03	30	Yên Bái	II	1.4	89.4	30	Đông Bắc	V	11.4	84.6
31	Quảng Ninh	V	8.6	93.6	31	Yên Bái	VII	1.9	89.8	31	Yên Bái	V	11.4	84.6
32	Hải Phòng	I	8.4	93.26	32	Sông Bé	VII	1.4	90.4	32	Yên Bái	V	11.4	84.6
33	Hải Phòng	VII	8.2	93.7	33	Đông Bắc	V	1.6	91.38	33	Yên Bái	V	11.4	84.6
34	Nghệ An	VII	8.4	94.44	34	Quảng Ninh	V	1.4	92.4	34	Yên Bái	V	11.4	84.6
35	Hải Phòng	II	8.0	94.7	35	Sông Bé	VIII	1.4	92.84	35	Yên Bái	VII	11.4	84.6
36	Sông Bé	VII	8.0	95.8	36	Nghệ An	VII	0.8	93.4	36	Yên Bái	V	11.4	84.6
37	Quảng Ninh	V	7.6	96.82	37	Quảng Ninh	IV	0.4	94.09	37	Yên Bái	V	11.4	84.6
38	Phu Yên	V	7.8	96.8	38	Phu Yên	V	0.4	94.7	38	Sông Bé	VIII	11.4	84.6
39	Yên Bái	VII	6.4	96.74	39	Quảng Ninh	V	0.4	96.29	39	Hải Phòng	V	11.4	84.6
40	Sông Bé	VIII	6.0	97.14	40	Yên Bái	VII	0.8	96.88	40	Quảng Ninh	V	11.4	84.6
41	Quảng Ninh	IV	5.6	97.81	41	Yên Bái	II	0.8	96.88	41	Hải Phòng	V	11.4	84.6
42	Yên Bái	II	5.4	97.88	42	Đông Bắc	VII	2.6	97.88	42	Yên Bái	II	11.4	84.6
43	Đông Bắc	VII	5.4	98.18	43	Hải Phòng	I	2.8	97.36	43	Yên Bái	V	11.4	84.6
44	Nghệ An	III	4.8	98.8	44	Nghệ An	II	2.2	97.88	44	Nghệ An	V	11.4	84.6
45	Hải Phòng	IV	4.7	98.84	45	Hải Phòng	IV	0.6	98.8	45	Yên Bái	V	11.4	84.6
46	Yên Bái	II	4.2	99.09	46	Yên Bái	II	0.8	98.7	46	Yên Bái	II	11.4	84.6
47	Hải Phòng	I	4.0	99.44	47	Cao Bằng	II	3.2	99.09	47	Yên Bái	V	11.4	84.6
48	Cao Bằng	VII	4.4	99.84	48	Hải Phòng	I	4.8	99.4	48	Hải Phòng	V	11.4	84.6
49	Cao Bằng	II	4.0	99.78	49	Hải Phòng	VII	4.0	99.6	49	Hải Phòng	V	11.4	84.6
50	Kon Tum	VII	2.6	99.88	50	Sông Bé	V	4.0	99.84	50	Yên Bái	V	11.4	84.6
51	Sông Bé	I	2.6	99.99	51	Kon Tum	VII	2.8	99.99	51	Yên Bái	V	11.4	84.6
52	Hải Phòng	II	2.2	100	52	Hải Phòng	II	2.2	100	52	Hải Phòng	V	11.4	84.6
53	Lào Cai	II	0	100	53	Lào Cai	II	2.2	100	53	Lào Cai	II	11.4	84.6
Total			15.096	100	Total		15.848	100		Total		15.14	100	

Source: RCT Progress Report II: The Study on the Integrated Regional Socio-Economic Development Master Plan

for the key economic central regions of the socialist Republic of Vietnam, North (1990-1994).

**Table 2.1.6: Social Indicators in Viet Nam**

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Per capita income	\$200	
Incidence of Poverty	51	percent nationwide
	71	percent in north central region
	33	percent in southeast
	57	percent rural
	26	percent urban
Population	73	million
Population Growth Rate	2.1	percent
Age Structure	40	percent less than 15 years
Medium Age	20	years
Rural Population	7	percent
Ethnic Minority Population	13	percent
Person Per km <sup>2</sup>	220	
Fertility Rate	3.1	percent
Life Expectancy	67	
Calorie Intake	1,928	calories per adult
Infant Mortality	45	deaths per 1,000 live births
Persons Per Doctor	2,694	
Piped Water	approx. 50	percent of urban population
	approx. 20	percent of rural population
Sanitation	53	percent
Literacy Rate	89	percent for adult population
	84	percent for females
	93	percent for males
Average Number of Years of Schooling	5.4	years

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**Table 2.2.1 Targets of Socio Economic Development in the Master Plan  
(1996-2000-2010)**

**(1) Scenario 1**

Items	Unit	Growth rate %					
		1995	2000	2010	1991-1995	1996-2001	2001-2010
* Population	1000	2,791.88	3,067.73	3,557.81	2.25	1.81	1.40
	Price of 1989						
* GDP	Bill. VND	1,120.63	2,113.55	7,498.46	8.90	14.00	13.50
- Industry and construction sector	Bill. VND	158.24	464.21	2,756.50	10.70	27.50	19.50
- Agriculture, forestry and fishery sector	Bill. VND	609.13	787.76	1,419.55	5.90	6.00	5.50
- Service sector	Bill. VND	353.24	861.27	3,322.41	14.60	17.60	14.50
* GDP	Bill. VND	4,796.53	19,038.13	202,446.00			
- Industry and construction sector	Bill. VND	659.98	3,998.01	71,159.77			
- Agriculture, forestry and fishery sector	Bill. VND	2,404.87	6,663.34	34,152.64			
- Service sector	Bill. VND	1,730.68	8,376.78	97,133.59			
* GDP structure	%	100.00	100.00	100.00			
- Industry and construction sector	%	13.70	21.00	35.15			
- Agriculture, forestry and fishery sector	%	50.14	35.00	16.87			
- Service sector	%	36.16	44.00	47.98			
* Average GDP	USD/Per.	207.00	400.00	1,145.00			
* Income for budget	Bill. VND	427.75	2,284.00	44,538.00			
* As % of GDP	%	9.75	12.00	22.00			
* Investment capital for development	Mill. USD		1996-2000	2001-2010			
- Total investment capital	Mill. USD		1,091.68	5,656.80			
- Industry and construction sector	Mill. USD		395.34	2,379.80			
- Agriculture, forestry and fishery sector	Mill. USD		135.44	379.49			
- Service sector	Mill. USD		560.90	2,897.51			

**(2) Scenario 2**

Items	Unit	Growth rate %				
		1995	2000	2010	1996-2001	2001-2010
* Population	1000	2,791.88	3,067.73	3,557.81	1.85	1.40
	Price of 1989					
* GDP		1,120.63	1,932.48	5,713.76	12.00	11.41
- Industry and construction sector	Bill. VND	158.24	387.76	1,963.90	23.00	17.00
- Agriculture, forestry and fishery sector	Bill. VND	609.13	763.35	1,304.39	5.50	5.00
- Service sector	Bill. VND	353.24	781.06	2,545.47	15.80	12.30
* GDP		4,796.50	17,421.31	154,591.57		
- Industry and construction sector	Bill. VND	659.98	3,339.66	48,356.24		
- Agriculture, forestry and fishery sector	Bill. VND	2,404.87	6,512.08	33,499.99		
- Service sector	Bill. VND	1,731.68	7,569.57	72,735.00		
* GDP structure	%	100.00	100.00	100.00		
- Industry and construction sector	%	13.70	19.17	31.28		
- Agriculture, forestry and fishery sector	%	50.14	37.38	21.67		
- Service sector	%	36.16	43.45	47.05		
* Average GDP	USD/Person	207.00	350.00	1,045.00		
* Income for budget	Bill. VND	427.75	2,090.00	30,918.00		
* As % of GDP	%	9.75	12.00	20.00		
* Investment capital for development	Mill. USD		1996-2000	2001-2010		
- Total investment capital	Mill. USD		890.38	4,157.71		
- Industry and construction sector	Mill. USD		302.89	1,788.24		
- Agriculture, forestry and fishery sector	Mill. USD		122.92	370.62		
- Service sector	Mill. USD		464.57	1,988.84		

Source: Master Plan for Socio-economic Development of Nghe An Province(1996-2010)

### *CHAPTER 3 : THE STUDY AREA*

## CHAPTER 3 : THE STUDY AREA

### 3.1 GENERAL FEATURES

#### 3.1.1 Study Area

The Study Area covers Nam Dan District in Nghe An Province, which is located 300 km south of Hanoi, the capital city of Viet Nam. The Nam Dan District has an area of approximately 30,000 ha and a population of 160,000 people. In addition to the Study Area, the Study will also cover certain areas outside of Nam Dan District including Vinh city for the agro-industry and marketing studies. Concerning irrigation and drainage studies, the area covered by the "South Nghe An Province Irrigation Project" supported by the World Bank is excluded. However, this area is also included in the studies for other sectors.

#### 3.1.2 Administration

Nam Dan District consists of 1 town and 23 communes. In each commune, People's Committee is established at communal level under control of the People's Committee of the District. The District People's Committee consists of 9 members (chairman 1, vice chairman 2, member 6) who are elected by the District Assembly (5 years term, public election) and governs major activities of the District (classified into 3 sections : 1.Economic 2.Society and Culture, 3.Internal Issue Section). The Commune People's Committee consists of 7 members (5 years term, public election) and supports activities of the District.

Table 3.1.1 gives information about number of districts, and communes for Nghe An Province. Fig. 3.1.1 shows the organizational structure at province level. Fig. 3.1.2 provides information of the organizational structure at district level. Finally, Fig. 3.1.3 shows the organizational structure at commune level.

#### 3.1.3 Population

The total population of Nam Dan District is approximately 158 thousands and 20% (with the population density of 170 person/km<sup>2</sup>), 48% (with the density of 800 person/km<sup>2</sup>) and 32% (with the density of 170 person/km<sup>2</sup>) are distributed in the mountain area and in the plain area located on the left side of the Lam river, and in the area located on the right side of the Lam river, respectively. The population is concentrated in the plain area located on the left side of the Lam river.

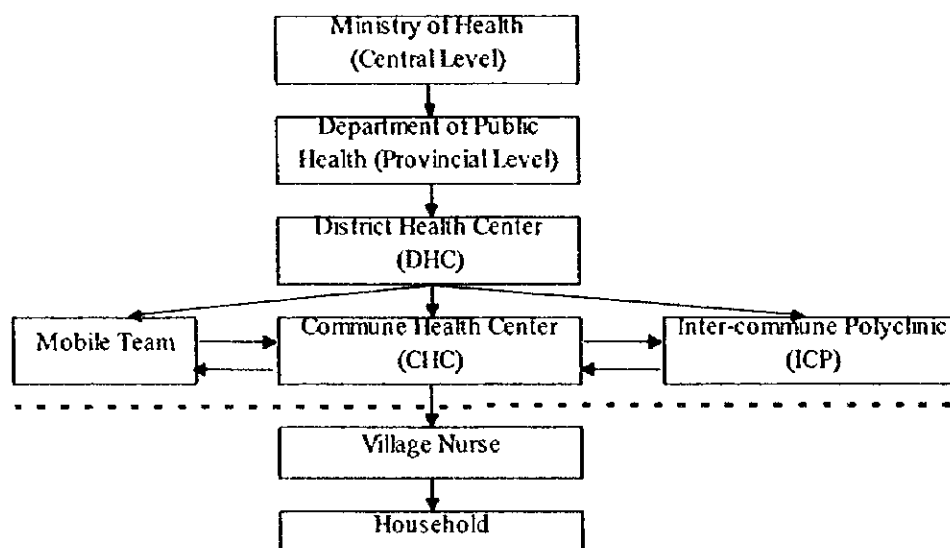
Average annual population growth rate in Nam Dan District for the period 1991 - 1995 is 1.4 % and this is lower than that of Nghe An Province (2.5%). The average annual population growth rates for most of the communes located at the mountain region and right side of Lam river are lower than that of the plain region for the last 5 years.



### 3.1.4 Health and Sanitation

#### (1) Present Conditions of Health and Sanitation Services

Organization of the public health system in Viet Nam is a four-tier system as shown on the next page. The Ministry of Health gives policy guidance and technical direction as well as implementation of the above mentioned vertical programs along the health care structure from national to commune levels. Department of Public Health in Nghe An Province supervises health activities in the Province. The Province's Center for Preventive Medicine manages vaccine storage and a support to the District Health Center to carry out the preventive care service. Another major function of the Province is to run provincial hospitals and secondary medical schools.



**Organization of the Public Health Network**

The District Health Center (DHC), located at Nam Dan Town, is the center of health and sanitation activities in the District. DHC has three major functions 1) supervision and management of programs, 2) services of vertical preventive disease control programs such as EIP and IDD and 3) supporting commune health centers (CHC) to deliver the health and sanitation programs. According to the DHC, the average patient visit to the DHC is about seventy people per day while CHC receives about three patient visits per day in Nam Dan District.

Inter-commune Polyclinic (ICP) and Common Health Center (CHC) are service delivery units of health and sanitation activities at commune levels. The main function of the CHC is related to preventive care and support infant delivery services rather than the curative care. Under CHCs, there are village nurses who are trained at least nine months and live in the villages they serve. The village nurses provide medical services at a primary level to the villagers and are entrusted by CHC to operate each public pharmacy at their homes. In principle, a prescription by an Assistant Doctor is requested to purchase medicines at the

village pharmacy, however, medicines for minor diseases like influenza, are sold without the description

In Nam Dan District, there are three IPCs at Kim Lien, Nam Trung and Nam Nghia Communes. All twenty-four town and communes each one has CHC and all villages also have village nurses. Salary of staff at the DHC, IPCs and CHCs is paid by the People's Committee of Nam Dan District while salary of village nurses are covered by cooperatives. Number of beds and staff at each health care unit in Nam Dan District are summarized below:

**Number of Beds and Health Care Staff in Nam Dan District**

	No.	No. of Beds	No. of Staff
District Health Center (DHC)	1	70	<b>Total 131</b>
Inter-commune Polyclinic (IPC)	3	30	Doctor 21 Assistant Doctor 48 Secondary Nurse 15 Elementary Nurse 8 Secondary Midwife 2 Secondary Technician 4 Elementary Technician 2 Pharmacist 3 Secondary Pharmacist 6 Elementary Pharmacist 6 Nurse's Assistant 7 Other staff 9
Commune Health Center (CHC)	24	200	<b>Total 103</b> Assistant Doctor 40 Elementary Nurse 26 Elementary Midwife 24 Elementary Pharmacist 11 Traditional Medicine Man 2
Village Nurse			Elementary Nurse 287

## (2) Current Health and Sanitation Situations in Nam Dan District

### 1) Current Health and Sanitation Situations

#### a. Major Health Indicators

Major health indicators of Nam Dan District and comparisons with these of Viet Nam and Nghe An Province are summarized as follows:

**Major Health and Sanitation Indicators (1995)**

	Viet Nam	Nghe An Province	Nam Dan District
Average Life Expectancy at Birth (Years):	65.3	65	66
Female	67.5	67	67
Male	63	63	65
Annual Population Growth Rate (%)	2.2	2.0	1.5
Contraceptive Prevalence Rate, Any Method (%)	64	57	75

	Viet Nam	Nghe An Province	Nam Dan District
Crude Death Rate (per 1,000)	6.7	7.8	7.0
Infant Mortality (per 1,000 live births)	44	46	45
Maternal Mortality (per 100,000 live births)	107*	160	108
Malnourished Children Under Age 5 (%)	47*	52	47
Access to Safe Water (well) (% of household)	31.8	20.6	56.7
Access to Sanitary Latrine (% of household)	14.2	21.5	22.9
Access to Bathroom (% of household)	31.2**	-	38.7

Note: \* Data for 1994, \*\* Access to "sanitary" bathroom

Source: Ministry of Health, Health Statistic Yearbook 1995, Public Health Department of Nghe An Province, District Health Center of Nam Dan District, The Study Team Computation

#### b. Major Disease

Diarrhea, parasite, malaria and respiratory diseases are major diseases in Nam Dan District. In addition, it is estimated that over 90% of adult women have gynecological diseases. In semi-mountainous areas, Acute Respiratory Infection (ARI) and malaria are common while digestive disease like hepatitis and diarrhea in lowland areas. Malaria cases are decreasing lately but still occur in fourteen communes. After the periodical flood at the right bank of the Lam river, cases of influenza and diarrhea rapidly spread in disaster areas. Major disease occurrence by season in Nam Dan District is summarized below:

**Major Diseases by Season in Nam Dan District**

	Summer	Winter	Through the Year	After Floods
Children	Especially Diarrhea Parasite	Respiratory diseases	Diarrhea Parasite Malaria	Diarrhea Parasite Influenza
Adult	Especially Diarrhea Parasite	Respiratory diseases	Diarrhea Parasite Malaria RTI Gynecological Diseases	Diarrhea Parasite Influenza

#### c. Past Achievement

##### 100% Coverage of Commune Health Center (CHC)

All 24 communes in Nam Dan District have a CHC. Decline of CHC utilization is often identified as one of the recent changes in the health sector. However, it has been found that the majority of the rural people in the Nam Dan District greatly depend on CHC and village nurses because there is no alternative health care facility or pharmacy available in communes and villages. At present, most of health care, both curative and preventive, and medicines for ill-people at commune are processed through either CHC or village nurses.

##### Family Planning

One of the major past achievements in Nam Dan District has been the

successful implementation of Family Planning (FP) as reflected by a low population growth rate of 1.5 %. "The Integrated Project" that has been applied to ten communes in the District has significantly contributed to decrease population growth rate from 2.1% in 1990 to 1.5% in 1995. Another key program for MCH has also contributed to improvement of pregnant women and children's health.

### **(3) Priorities and Goals in Nam Dan District**

Two major priorities of the health sector in Nam Dan District are: 1) improvement of Primary Health Care (PHC); and 2) improvement of treatment quality. The District has goals to be achieved by the year 2000 for health and sanitation as shown below:

**Health and Sanitation Improvement Plans by the Year of 2000 in Nam Dan District**

	Plans	Detailed Goals
1	Maternal and Child Health Care (MCH)	- Retraining of midwife - Improvement of health care for pregnant women - 100% immunization for children
2	Family Planning (FP)	- Socialization about family planning - Decrease in population growth rate: 0.1% every year
3	Environmental Sanitation	- Sanitary latrine to 60% of households - Safe water to 100% of households - Bathroom to 100% of households
4	Information, Education and Communication (IEC)	- Diversification of IEC with radio and television - Integration with other sectors

### **(4) International Cooperation Program (planning/implementing)**

Nam Dan District is one of the districts with the highest priority for development in Viet Nam, so that the District has enjoyed advantages of international cooperation programs. International cooperation programs by two international organizations are currently implemented in Nam Dan District. In addition, another two programs are scheduled to be commenced in 1997.

The programs which has been implemented are:

- 1) "Area Focus Program" and "Rural Water Supply" by United Nations Children's Fund (UNICEF)
- 2) "the Integrated Project" by Ministry of Health in cooperation with Japanese Organization for International Cooperation in Family Planning (JOICFP), United Nations Funds for Population Activities (UNFPA) and United Nations Children's Fund (UNICEF).

New cooperation program scheduled to be implemented are "Reproductive Health Project in Nghe An Province" which is a JICA's technical cooperation and "Support for National Health Care" by World Bank. Both projects include Nam Dan District as a part of their project areas. The JICA's technical cooperation

program that is planned in extending the experiences through "the Integrated Project" by JOICFP is scheduled to be commenced in 1997 and to be continued for 3 years. This program covers all 244 communes in 8 Districts located in Nghe An Province. The objectives of the programs are prepared based on the levels of health care services at Province, District and Commune level. World Bank will start "Support for National Health Care" covering all districts and communes in Nghe An Provinces.

The following contents of the program is planned for DHC and CHC:

- DHC : procurement of technical facilities (operating room, laboratory and etc.) and equipment
- CHC : improvement of facilities for CHC, re-training for midwives, loan for medicine budget

At the provincial level, the following activities will be implemented:

- 1) Tuberculosis (TB) Control
- 2) Acute Respiratory Infections (ARI) Control.

## **(5) Problems and Tasks in Present Situation**

### **1) Problems on Health/Sanitation and Medical System**

The current issues of health/sanitation and medical system in Nam Dan District are: 1) lack of people's knowledge to improve health and sanitation situation; 2) the necessity of re-training of health staff; 3) lack of equipment at DHC and CHC; and 4) poor facilities at DHC and CHC. Besides the problems described below and pointed out by the DHC, there are others like: 1) lack of a management and monitoring system on DHC and CHC activities including human resource management; and 2) absolute lack of patient-oriented approach in health services; for example, when the Study Team visited the inpatient building at DHC, no health care staff was attending patients in the building, and the sanitary facilities such as latrine, bathroom and kitchen for patients are in poorer conditions than those found at the staff's housing.

**Current Detailed Problems in Nam Dan Pointed Out by the DHC**

Level	Problems
DHC Level	<ul style="list-style-type: none"> <li>-Deteriorated patient examination room</li> <li>-Lack of Emergency Department</li> <li>-Lack of equipment for surgery</li> <li>-Lack of post graduate retraining for Doctors</li> </ul>
CHC Level	<ul style="list-style-type: none"> <li>-Lack of education on health and sanitation for people, mainly to farmers</li> <li>-Lack of sanitary facilities (well, latrine and bathroom) at household</li> <li>-Lack of retraining for secondary and elementary midwives</li> <li>-Unsanitary situation of delivery room</li> </ul>

## 2) Tasks for Improvement

### Poor health conditions of women

According to the result of interviews, over 90% of adult women in Nam Dan District suffer from gynecological diseases mainly caused by a lack of sanitary bathrooms, and unsanitary conditions related to hard agriculture work. Rate of pregnant women with anemia in Nam Dan is 30%, which is 10% higher than the one for the Nghe An Province (20%).

### Poor health condition of children

Infant mortality in Nam Dan District is relatively higher and malnutrition status for children is also problematic. In the Nam Dan District the main children diseases are diarrhea and parasite diseases in summer and respiratory diseases in winter. According to the report for "the Integration Project" prepared by People's Committee of Nam Dan District, percentage of parasite-infected children was 98.6% in 1991. With the parasite control project, the infection rate decreased to 84.4% in 1995 at the 10 targeted communes. However, since the introduction of the project is limited to only 10 selected communes, it is estimated that nearly 100% of children in the District are still infected by parasite.

### Shortage of sanitary facilities

Lack of safe water access, shortage of water quantity, particularly in dry season and after flood, and inadequate treatment of excreta seriously affected not only children's health but also adults' health in general. Currently, 70.8% of people have one or another type of latrines, 76.3% wells, and 38.7% bathrooms at homes in Nam Dan District. As to "sanitary" latrine and well, the rate of access drastically decrease to 22.9% for latrine and 56.7% for well. The major reasons causing these poor environmental sanitation conditions are pointed out as: 1) low knowledge level of people on sanitation; 2) lack of sanitary education, 3) lack of integration with other services, 4) low living standard and 5) geographical constraints.

## 3) Underlying Causes of Health and Sanitation Issues

### Lack of access to safe water and shortage of water

Supply of safe water and health situation, in special with diarrhea disease and infant mortality, is closely related to each other. As mentioned before, contaminated water and shortage of safe water creates difficulties for the people to keep proper health and sanitation conditions. Various factors related to access to safe water may be one of the major factors causing diarrhea and parasite diseases in Nam Dan District.

Majority of wells in the District are dug and kept without covers. At only a few houses, water is filtered for cooking and drinking use. For example, underground water is not available at 4 villages of Nam Cat Commune and accumulated and contaminated water in ponds seeps into the wells nearby. In

the area, people are using brown colored water for cooking and drinking without filtering. Laundry are mainly done at ponds out of convenient.

Lack of information on water quality for people is another problem. Presently, the Ministry of Agriculture and Rural Development has performing regular water quality checks at certain points of the communes. However, the ministry takes care of water supply only for irrigation purpose. Ministry of Health also has a regular test of water quality. The result of both water quality checks seem to be not informed to the people. At present, farmers are evaluated water quality of their wells by only color or smell of water.

#### Lack of sanitary facilities, knowledge and practice

As mentioned above, sanitary facilities, i.e., clean latrines and bathrooms, are in shortage. There are some communes where knowledge and practice levels of people on environmental sanitation are higher due to an experience of "the Integrated Project." However, at present, the level of knowledge and practice on sanitation at present is not high enough in the District, and the spread of sanitary knowledge and practice, including proper excreta treatment, among people is too limited to prevent occurrence of infectious diseases. Even though most of the farmers have some degree of knowledge about keeping health and sanitation conditions, actual good hygiene practices are poorly kept in everyday life. The health education for children at school seems to be rather a theoretical one so that it is not effectively perceived by the children in rural areas.

#### Poor economic conditions and heavy agricultural workload

94.7% of the total population rely on agricultural activities in Nam Dan District. With the harsh natural environment and frequent disasters like low infertile land, Lao Wind and flood, farmers' living standards are low in spite of their heavy workload. After the introduction of the "Doi Moi" policy, farmers particularly seek income first, and health and sanitation matters have a lower priority at the household level. When the Study Team interviewed farmers in Nam Dan District, many of them replied that improvement of living standards by income generation is more urgent, and that health and sanitation conditions will come about as a consequence.

Heavy workload, especially for women, suffering from malnutrition leads to poor health and sanitary conditions. Women's hard workload largely influences health and sanitary conditions of both women themselves and children. Traditionally, the role of women in rural areas of Viet Nam is very important. House chores are also traditionally carried out mainly by women as well as taking care of children. Many of the female farmers mentioned that they are very busy with their daily workload and can not carefully supervise their children's health and sanitary practices.

Currently, there are no formal public extension services to integrate improvement of both living standards and health and sanitation standard in Nam Dan District.

### **3.1.5 Education**

#### **(1) System and Overview of Education in Vietnam**

##### **1) Educational System**

The education is the responsibility of the Ministry of Education and Training  
The national education system in Vietnam includes as follows:

##### **Pre-school Education**

- Creche: 3 years
- Kindergarten: 3 years

##### **General Education**

- Primary School: 5 years from 6 years old to 10 years old
- Lower Secondary School: 4 years from 11 years old to 14 years old
- Upper Secondary School: 3 years from 15 years old to 17 years old

##### **Technical and Vocational Education; 1 to 4 years**

- Technical School
- Technical Middle School
- Vocational Middle School

##### **Higher Education**

- College: 3 years
- Bachelor: 4-6 years
- Master
- Ph. D.

The delivery of education services is the responsibility of the Ministry of Education and Training (MOET) which is organized into 15 departments, 2 national research institutes in educational sciences, and a variety of other institutes and agencies. Each province and three cities have the Department of Education (DOET) and Training and each district has the Bureau of Education and Training (BOET).

The MOET is responsible for policy making, guidance and supervision of all education programs and administration of higher education institutions. Some provinces administer some colleges. Upper secondary schools are administered at the provincial level, and lower secondary schools and primary schools at the district/commune level. Technical and vocational education is administered by various ministries or by provincial administrations. Funding of the education system is a joint responsibility of each level with MOET providing most of the funds of salaries and scholarships. The provinces, districts and communes support most other expenditures, from construction of schools to subsidizing salaries for teachers.



**2) Educational Aids**

The establishment of textbooks, guidebooks and reference books etc., for schools in the nation is implemented by the Education Publishing House (EPH) and the production, purchasing and distribution of educational materials, teaching instrument and equipment are implemented by the General Company for Educational Equipment (GCEE) under the MOET. DOET in each province and three cities has its own Book and School Equipment Company which purchases educational equipment and textbook from EPH and GCEE to be provided to each school under them.

**3) School Constructions**

The construction standard of schools in the nation is set up by the Institute of Architecture and Construction Standard and the Institute for Research and Design of School in cooperation with MOET. Beside this, the design of schools in rural area is sometimes executed by the Department of Construction (herein after referred as DOC) in each province when some communes construct school building with small budget from the contribution of commune people. In these cases, a special design prepared by the DOC is used. MOET has a plan for the improvement of educational facilities for 610 primary schools in 30 Provinces. Among them, 60 primary schools in 6 Provinces have been constructed till 1997 by a Japanese Grant Aid Project.

**(2) Overview of Education in Nghe An Province**

Nhghhe An province became administratively independent from the former Nohe Tinh Province in 1992. In 1995-96 SY, there were 280 nursery schools with 28,055 children, 434 kindergartens with 124,945 children, 608 primary schools with 463,163 pupils, 374 lower secondary schools with 183,055 pupils, 54 upper secondary schools with 46,108 pupils, 8 colleges for teacher training, 5 technical middle schools and 10 vocational middle schools under the province's administration, and one University under MOET.

**(3) Education and Training in Nam Dan District**

**1) Bureau of Education and Training (BOET)**

The Bureau of Education and Training (BOET) is divided into three sections :  
a) General Education covering primary, lower secondary education and universalization and illiteracy; b) Pre-school Education covering Crèche and Kindergarten; and c) Administration covering accountant, cashier and school facility, library and teaching equipment. The upper secondary education is administered by the DOET in the province.

**2) General Education**

There are 31 pre schools covering crèche and kindergarten, 32 primary schools, 18 lower secondary schools and 2 upper secondary school, 1 combined lower and upper secondary school, 1 regular educational center for continuing education, and 1 vocational center in the District. The number of pupils at each educational level of pre-school, primary, lower secondary and upper

secondary is 11,239 children, 24,234 pupils, 12,100 pupils and 3,911 pupils at the beginning of the school year 1996-97 respectively. At present no higher education exist except part-time course for teacher training at the regular educational center. Facilities for 2 primary school are under construction in Nam Hung commune and Hung Tien commune through the assistance program of the Japanese Government.

There are one class in Primary School of the Town and one lower secondary school; there is a Nam Dan Secondary School for gifted pupils in the district set up following the instruction of DOET. MOET is promoting the expansion of semi public class which was introduced so that pupils might study from teachers who graduated high level of education by paying additional money, through the province. In the district, 30 semi-public classes in the lower secondary and 19 semi-public classes in the upper secondary school are offered.

#### **a) Educational Statistical Results**

The net enrollment ratio in primary and lower secondary schools in the District is 99% and 75% respectively in the school year 1995-96. The net enrollment ration from primary to lower secondary school is 83%. This means that 83% of children from 6 to 14 years old go to school.. The rate of over aged pupils against total pupils is 15% in primary school. This proportion is still high. In Hanoi which is an advanced area as shown by the educational statistics, the enrollment rate of over aged pupils is less than 3% according to the DOET in Hanoi. If the over aged enrollment will be eradicated in the future, the net enrollment ratio will be maintained or it will go up, but the gross enrollment ratio will go down. The repetition rate and drop out rate are rather low in comparison with the national average as shown above.

#### **b) Facilities and Equipment**

Many of primary and lower secondary schools constructed with the contributions from commune people do not comply with the construction standard of schools in the district because of budgetary problem. The classrooms suffer from shortage of sunlight, having small windows without glasses.

The classrooms necessary for heavy repair or re-building in primary and secondary schools amount to 37% of total rooms and if the room necessary kind of repairing is included, it reaches 55% of total according to the data of BOET. Many classrooms with damages on walls and roofs can be observed and some of them are not safe to be used as classrooms for fear of collapse. Almost all schools have no laboratory, no library and no teaching staff room.

At any level of school including teacher retraining, no teaching aids is used and no printing system exists in the district. Educational aids such as instruction manuals for teacher, teaching instrument and equipment, laboratory equipment, books in library and supplementary textbook produced by the teachers largely relate to the quality of education. Based on the results

of the survey of regular educational center for teacher re-training in the district and Vinh University mainly for teacher training, it was found that the shortage of teaching aids was serious.

**3) Regular Educational Center**

Regular educational center was established originally for continuing education at each provincial and district level. The education and training in Nam Dan District are as follows;

- a) Training for teachers of lower secondary school (part-time course)
- b) Bachelor course for teachers of lower secondary school(2.5 month/session, 3 years)
- c) Teacher training middle course for teachers of primary school(8 school hours/session, 2 sessions/week, 2 years)
- d) Teacher training for kindergarten(2 years in summer season only)
- e) Complementary School(3 grades of 10 to 12, 2 years)
- f) Training of commune officials
- g) Training of agricultural officer(3 years diploma course and 5 month bachelor course)
- h) English class(6 month and 10 month)

**4) Vocational Center**

Vocational center was established in 1989 through the assistance of UNICEF and the courses and fields opened are as follows;

**a) Courses**

- Training of pupils from grade 8 to 9 in lower secondary school located at the nearest area
- Vocational orientation of pupils from grade 11 to 12 (1 time/week, 1 year)
- Vocational training for handicapped people of age from 15 to 20 years old
- Sending trainers for the vocational orientation to the schools
- Training center for Integrated Pest Management Program and sending trainers for training farmers depending on the request from each commune (2-3 month or 6 month)

**b) Fields**

- Civil Electricity
- Electronic
- Motorbike Repairing
- Garment
- Technical Drawing
- Rice Plantation

**c) Facilities and Equipment**

The facilities are damaged by the lack of maintenance system and the equipment for training are equipped with poor condition.

### 5) Target

The targets in the year 2000 in the District are as follows;

- to ensure the improvement of educational facilities;
- to upgrade all teachers' ability based on the qualification standard;
- to mobilize public and private capitals for education;
- to popularize the lower secondary level for people 15 to 17 years old and expand the semi-public class;
- to provide vocational training for pupils who can not proceed to higher education;
- to select gifted students and provide them with adequate educational environment and high quality learning facilities and teachers; and
- to expand regular educational center to re-train teachers of primary school and then finally to upgrade to a University level.

The concrete targets before the year 2000 in the district are to universalize the primary education by 100% for the children of 6 to 14 years old, to universalize the lower secondary education by 100% for the children of 14 to 17 years old, and popularize the upper secondary school by 50% for the school aged youth.

### 3.1.6 Social Infrastructure

#### (1) Road Network

##### 1) Present Condition of Road Network

The road network in the province is fairly dense and concentrated in the plain region; road network conditions for the mountainous region are undeveloped. Even in the plain region, road surface conditions are still poor except for major national roads, and it restricts transportation development in the province because of the low speed and high cost of transportation.

In Nam Dan District, the national road Route.46 and the provincial road Route 15A become the basic road network. The district road network links each commune center to the basic road network. The commune road network aims to link village areas and fields.

The road network in the Study Area is considered as well developed from the aspect of road density. The total length of roads in the Study Area is 403 km and the road density is 1.37 km/km<sup>2</sup> besides 9,220 km of total length and 0.56 km/km<sup>2</sup> in the province as of 1995. The length of roads in each types is shown below.

### Road Type and Length

Road Type	In Nghe An Province (Total Area 16,370 km <sup>2</sup> )		In Nam Dan District (Total Area 295.2 km <sup>2</sup> )	
	Total Length (km)	Road Density (km/km <sup>2</sup> )	Total Length (km)	Road Density (km/km <sup>2</sup> )
National Roads	394	0.02	16.0	0.05
Provincial Roads*	538	0.03	43.7	0.15
District Roads	1,917	0.12	85.0	0.29
Commune Roads	6,371	0.39	258.6	0.88
Total	9,220	0.56	403.3	1.37

\* : Including national roads operated by the Province.

Source : Nghe An Province and Nam Dan District

### 2) Present Condition of Transportation

In the Study Area, 1,867 vehicles were registered and the number of vehicles per 1,000 persons is 12.1. There is a large number of motor cycles in the Study Area and representing more than 85 % of the total number of vehicles. The number of vehicles per 1,000 persons excluding motor cycles in the Study Area is 1.7, which is significantly lower than the nationwide average of 3.1.

### Number of Vehicles per 1,000 Persons

Item	Types of Vehicles					Total
	Motor Cycle	Car	Small Truck	Truck	Bus	
Total Number of Vehicles	1,619	5	182	57	27	1,890
Number of Vehicles per 1,000 Persons	10.25	0.03	1.15	0.36	0.17	11.96

Source : Study Team, 1997

Motor cycles and bicycles are the major transportation means for agricultural products in the Study Area. Agricultural products are delivered to the markets by the farmers and collected by commission merchants by motor cycle or bicycle individually. A system or organization for gathering and shipping products is not developed.

For farming-related transportation activities, such as transportation of agricultural input or output in and around the fields, primitive vehicles pulled by cow or water buffalo are the major transportation means. Some small tracks called Cong Nong with a capacity for less than 2 ton and very slow in speed, are observed in the Study Area but the number is limited.

Public transportation of passengers is not well developed in the Study Area. Only mini-bus with a capacity for 8 passengers are used as public passenger transportation mean in the Study Area. 15 mini-buses are registered and supply approximate 30 services a day between Nam Dan Town and Vinh City, each trip taking 40 minutes.

While mini-bus service between Nam Dan District and Vinh City is planned to be replaced to large buses from 1997, the Nam Dan Bus Terminal is not well prepared and difficult to use in the rainy season because of no pavement.

At present, inland water transportation occupies a very small part of the total in the province because of unsuitable river conditions. There are some inland water

transportation on the Lam River and transiting in the rivulet mouth such as Quynh Luu, Nghi Loc, Hung Nguyen and Nam Dan District, however, the amount of inland water transportation in recent years is not significant.

In the Study Area, inland water transportation is used for transporting wooden materials from the mountain region in the upper reach, construction materials such as sand and pebble from Nam Thuong Commune, and agricultural products such as sugarcane and rice from communes in the right bank of the Lam River. That type of transportation is considered as a substitute for land transportation due to the poor road conditions.

### 3) Road Conditions

#### a. Road Conditions

The road surface types and their length in Nghe An Province and Nam Dan District are shown below. The pavement ratio, consisting of asphalt, concrete and macadam penetration, of total road length in the Study Area is 9.6 %, which is higher than the ratio for 7.0 % in the Province. However, that pavement ratio is considered as significantly low. Almost all roads are not paved at present.

**Road Surface Type and Length**

Road Types	Surface Types (km)					Total
	Asphalt, Concrete	Macadam Penetration	Gravel	Earth/ Gravel	Earth	
<b>1. In Nghe An Province</b>						
National Roads	64	237	93			394
Provincial Roads*	6	195	135	80	122	538
District and Commune Roads		143	616	4,805	2,724	8,288
Total	70	575	844	4,885	2,846	9,220
(%)	0.8%	6.2%	9.2%	53.0%	30.9%	
<b>2. In Nam Dan District</b>						
National Roads	12.3	2.3			1.4	16.0
Provincial Roads*	3.7	8.2		6.8	24.8	43.4
District Roads		5.6		79.4		85.0
Commune Roads		6.9	2.4	120.0	129.3	258.6
Total	15.9	23.0	2.4	206.2	155.5	403.0
(%)	3.9%	5.7%	0.6%	51.2%	38.6%	

\* : Including national roads operated by the Province.

The road condition was evaluated as shown below by the criteria prepared by the Study Team for rural roads. The roads conditions during the dry and rainy seasons are shown in Figs.3.1.5 and 3.1.6. A summary of the evaluation results is shown below. The evaluation criteria for the road conditions is shown in Table 3.1.2.

### Present Road Conditions

### Present Road Conditions

Road Types	Road Conditions (km)			
	Good	Fair	Poor	Very Poor
<b>In Dry Season</b>				
National and Provincial Roads	27.6	37.7	3.7	-
District and Commune Roads	7.5	214.5	65.9	8.5
Total	35.1	252.2	69.6	8.5
Proportion (%)	9.6%	69.0%	19.1%	2.3%
<b>In Rainy Season</b>				
National and Provincial Roads	16.8	18.5	30.0	3.7
District and Commune Roads	-	37.3	103.8	153.3
Total	16.8	55.8	133.8	157.0
Proportion (%)	4.6%	15.4%	36.8%	43.2%

Source : Study Team

The lack of pavement has a direct negative effect on the road conditions in the rainy season. 79 % of total length is in good or fair condition in the dry season, however, the rate decreases to 20 % during the rainy season. 43 % of the roads are inadequate for transit of vehicles during that season. Furthermore, 54 km of total length suffers traffic interruption by flooding or inundation after heavy rain over 15 days a year, and 25 km suffers over 30 days. The road network in the Study Area is considered as not suitable to cope with the traffic amount in the rainy season.

#### b. Bridge Conditions

The bridges in the Study Area are in fair or poor structural conditions. The maintenance of bridges has been observed to be not sufficient or adequate especially for steel bridges. In addition, bridges crossing rivers do not have adequate revetment to protect the river bank, so that some of them are damaged by flooding.

There are 108 bridges in the Study Area. 54 % of the bridges in the area have a width from 3.0 m to 4.0 m and this is recognized as enough for vehicles' transit. However, 20 % of those bridges have less than 8 ton of loading capacity, which is evaluated as insufficient for heavy vehicles' transit. 30 % of total bridges are inadequate for vehicles' transit due to inadequate width, meaning less than 3.0 m. Submerged bridges can be found mainly on the right bank of the Lam River, and they are serious obstacles for vehicles' transit during the rainy season.

Based on the criteria prepared by the Study Team, existing bridge condition was evaluated to assess the needs for repair. The number of bridges for each classification rank is shown below.

### Evaluation of Existing Bridges

Road Types	Bridge Classification (bridges)			Total	
	A	B	C	Number	Length (m)
National Roads	2			2	90
Provincial Roads	1		2	3	92
District Roads	1	8	9	18	290
Commune Roads	4	11	70	85	743
<b>Total</b>	<b>8</b>	<b>19</b>	<b>81</b>	<b>108</b>	<b>1,215</b>

Note A : Bridge to be used under present conditions

B : Bridge to be used for the time being with minor rehabilitation

C : Bridge which needs to be replaced by a new one

#### c. River Crossing

The Study Area is divided into 2 regions, i.e., the left bank region and the right bank region, divided by the Lam River. The left bank region includes the center of the district and is connected to the center of the Province by the National Road Route 46. On the other hand, the right bank region, which consists of 8 communes, is isolated and land transportation for this region to the main region is not set up.

In the Study Area, there are 1 ferry service and 5 small boat services which provide service to cross the Lam River. The ferry port is located nearby Nam Dan Town and the Provincial Road Route 15 can provide continuous traffic function by the ferry system. This route is recognized as the backbone for economic activities in the right bank region. However, the access is interrupted one and half months a year due to flooding of the Lam River, and submerged bridges on the Route 15A. It creates transportation problems for the right bank region.

Small boat services crossing the Lam River are privately owned and operated and transports passengers, goods, bicycles and motor cycles. For the people passing the river by bicycle or motor cycle, small boat services represents the major transport mode.

## (2) Electricity Supply

### 1) General

According to data of 1996, there are 32,907 households in the District, of which 31,532 (95.8 % of the total population) receive electricity services. Electricity consumption in the District during 1996 was 10.2 GWh. The characteristics of electricity consumption are as follows:

#### Region 1 (Plain area and Nam Dan town) :

This region has good electrical equipment with power lines in good conditions in this region compared with those of Region 2 and Region 3. In this region, economic and living standards of the population are rather better than those in other regions; average electricity consumption level is 70 kWh/person/year.



There are 15,055 households receiving electricity services (97.7 % of total households).

**Region 2 (Right side of Lam river area):**

Usually flood coarse during the rainy and typhoon seasons. Average electricity consumption is 55 kWh/person/year, and there are 9,298 households receiving electricity services (92.7 % of total households).

**Region 3 (Mountainous area at the northern part of Nam Dan District):**

This region is a depopulated area with poor economical conditions. Average electricity consumption is 60 kWh/person/year, and there are 7,179 households receiving electricity services (96.4% of total households). The technical problems on the lines and substations is occurring frequently.

## **2) Facilities**

### **a. Generation**

In Nghe An Province, there are about 20 mini-hydropower plants. No power plant is installed in the Nam Dan District. There is a plan to construct the Ban Mai hydropower at the upper stream of Lam River. A ranking study for the project was completed in 1993 and the pre-feasibility study was completed in 1994. At present the project is under discussion. The Ban Mai Hydropower is supposed to be constructed with a capacity from 350 - 500 MW. The catchment area of the Ban Mai dam is about 14,250 km<sup>2</sup> and the plant location is proposed to be at Truong Duong District in the Nghe Tinh Province.

### **b. Transmission**

#### **High-Voltage Line**

At present, there are 2 high-voltage lines (500 kV and 110 kV) in the Nam Dan District, which are not connected to the electricity network of the District.

#### **Medium-Voltage Line**

At present, two 35 kV and three 10 kV lines of medium-voltage lines are installed in the Nam Dan District.

### **c. Distribution**

#### **General**

The distribution system in Nam Dan District consists of the following three networks.

Region 1 : Communes in the plain area including Nam Dan town

Region 2 : Communes located at the right side of Lam River

Region 3 : Communes in the mountainous area at the northern part of Nam Dan District

### **Distribution Line**

There are low voltage distribution line of a 3-phase 4-wire (400kV/230v) system classified the following categories:

- Main line : The length of main lines at each commune are about 3 - 5 km. Due to poor distribution capacity, the lines are always over loaded.
- Branch line : As branch lines connecting the main line to the houses have been set up by the farmers themselves, there is a lack of uniformity in the quality and performance of the equipment, causing electricity losses and troubles.

### **d. Substation**

#### **Central Transformer Substation**

At present, there is a central transformer substation in the district, which is located in Nam Dan town. It has a power level of 35/10 kV. It is the electricity source for three 10 kV lines and supplies electricity for densely populated communes, located northwestern part of Nam Dan District and right side of Lam river. The load density has been gradually increased, and the demand power of the 10 kV lines is also increasing according to the load density.

#### **Distribution Transformer Substation**

In 1995, there were 75 distribution substations in the whole district, with a total capacity of 20,570 kVA. 57 substations belonged to cooperatives and used 15,490 kVA. Regarding voltage supply, 17 substations have a range of 35 to 0.4 kV. The remaining substations have a range of 10 / 0.4 kV. Many substations in commune level are not located in the center of the distribution line requiring a longer distribution line for the low - voltage networks. In some areas, the length of the line reaches 3,000 m. On the other hand, 1.5 transformer's equipment per year has burnt out in the District as an average. Most of these problems occur in the mountainous area.

### **3) Tariffs**

Total power consumption is measured by meters located at the distribution transformer sites. Electricity charges are allocated to each consumer based on the consumption measured by the individual meter including distribution energy loss. Actual tariff for each commune including power losses is rather high, and there is a significant tariff differences among regions. The tariff ranges are:

- Region 1	:	550 - 1,800 VND/kWh
- Region 2	:	750 - 1,600 VND/kWh
- Region 3	:	850 - 1,200 VND/kWh

These figures include charge of power loss and are two to three times the national standard unit rate, which is VND 500 per kWh.

4) Operation and Maintenance Work for Distribution Network

An electrical engineer has been posted at the Rural Development Division of Nam Dan District; 36 electricians have been appointed for maintenance of the distribution lines for each commune under the supervision of the electrical engineer. Electricians are classified into 7 levels. Maintenance of the distribution line at a commune requires a Class 2 electrician according to the level of the works. However, the electrician for each commune has been educated only for 3 months due to shortage of funds. Technical grading-up of the electrician should be done as soon as possible.

(3) Rural Water Supply

1) Present Conditions and Problems in Nam Dan District

As most of households have a shallow well near their houses in Nam Dan District, the water for domestic use is secured except in dry and flood seasons. However, the problems such as water shortage in the dry season, inundation of well in the flood season and water quality still exist. For this reason, the people in the District are requiring a safe and stable domestic water supply through out the year. The water supply conditions in the Nam Dan District varies depending on the topographic conditions and the Study Area is classified into 3 areas; plain area, semi-mountainous area and right side of Lam river area.

The shallow wells (dug wells and tube wells) are the main domestic water sources in the Nam Dan District, but in the dry season, the water level in the well lowers; furthermore, the water becomes murky. Especially, in the semi-mountainous area and the right side of Lam river area, most of dugwells usually dry up in the dry season. On the other hand, the dug wells located along the Lam River can not be used in the flood season due to infiltration of polluted river-water into the wells during a flood. In this period, people in the area has to use the water from tube wells in remote area or unsanitary water river from rivers or reservoirs. Many wells are polluted by animals wastes creating difficulties for the people to keep adequate health and sanitation conditions. The quality of the water of dug wells is not suitable for drinking and has been found to be infected by bacteria. The water has iron and manganese concentrations which are higher than those used for drinking water standards.

Water supply facilities in Nam Dan District are dug wells installed by the inhabitants themselves; tube wells installed through the Rural Water Supply Program of UNICEF, and some of them take water from the natural streams. The results of the interview survey made with the People's Committee of each commune concerning the water facilities at commune level are shown in Table 3.1.4. The total number of wells and population covered by the existing water supply facilities in the Nam Dan District are summarized below:

System	Water Source	No. of Facilities	Population Covered
Tubewell	Ground water	1,404	8,289
Dug well	Ground water	26,414	146,015
Gravity Flow System	Stream	2	1,000
Total		27,820	155,304

UNICEF's Rural Water Supply Program in Nam Dan District started in 1986. At present, the Rural Water Supply Office under the Department of Agriculture and Rural Development of Nghe An Province is administering this program. The following accomplishments were achieved in Nam Dan District by the UNICEF's Program during 1986 and 1996:

Year	No. of Tubewells	No. of Gravity Flow Systems	No. of Iron Filter Tanks	Supplied Material Cost (1,000 VND)
1986 -	278	-	150	231,296
1992	40	-	8	73,556
1993	70	1	30	65,072
1994	88	-	45	96,960
1995	116	-	44	112,832
1996				
Total	592	1	277	579,716

## 2) Existing Water Supply Facilities

### a. Tube wells

In the Nam Dan District, there are 1,404 tube wells confirmed by the interview survey. Among these tube wells, 592 tube wells were constructed by the UNICEF's Program and the remaining ones were constructed using local people's own resources. The number of tube wells, number of population using them and the average depth of tube well in each area are shown in the following Table:

Area	No. of Tubewells	Population Covered	Population / Well	Average of Well Depth
Semi - mountainous	5	24	4.8	25.5 m
Plain	1,125	6,749	6.0	14.1 m
Right side of Lam river	274	1,516	5.5	15.9 m
Total	1,404	8,289	5.9	18.5 m

All of the tube wells are equipped with handpumps and their average depth is 18.5 m. As digging of tube wells is made using light equipment such as hand auger and jet flow, it is difficult to construct tube wells in hard rock formations of the hilly areas. For this reason, the number of tube wells is usually low in the mountainous area the right side of Lam river area. The tube wells are installed by the staff of the Department of Agriculture and Rural Development of Nghe An Province. UNICEF is assisting the Department of

Rural Water Supply Program of Nghe An Province by providing PVC pipes and casing, handpumps and a few bags of cement for construction of the wells. The commune is responsible for helping in the construction by providing labour and locally available materials, and by covering part of the labour cost. To maintain and repair the system, a commune handpump caretaker for each commune was selected and trained by UNICEF's Program. This handpump caretaker is also in charge of repairing the handpump.

**b. Dug wells**

Dug wells are the traditional water source in most areas of Viet Nam. Almost all the households have their own dug wells and they become the main water source in Nam Dan District. Many people in the area use cans, buckets and jars to take water from wells. The household's dug well is basically constructed using a concrete sewer with a diameter of 0.6 m., an average depth of 6.4 m which in some cases can go deeper than 8 m. Due to inappropriate location and well structure, most of dug wells are polluted by human and domestic animal wastes which pollutes the water and providing harmful effects on the health of the inhabitants. For communal purposes, usually a dug well of 2 to 3 m is installed in the center of the commune. UNICEF has supplied rehabilitation support and hand pumps for some traditional communal wells. The number of dug wells, number of people using them and the average depth of dug wells in each area are shown in the following Table:

Area	No. of Dugwells	Population Covered	Population / Well	Average of Well Depth
Semi - mountainous	9,569	49,144	5.1	6.9 m
Plain	9,098	47,914	5.3	5.4 m
Right side of Lam river	7,747	48,957	6.3	7.0 m
Total	26,414	146,015	5.5	6.4 m

**c. Gravity Flow System**

In Nam Anh Commune located in the semi-mountainous area, there are two gravity flow systems using stream water for some villages and for a military training school located at relatively high elevations. A gravity flow system for the villages was constructed with assistance of UNICEF (1993). It takes the water from a stream and conveys it to some public water tap in villages through PVC pipes by gravity flow. Though it is reported that the water volume decrease to almost a third of their capacity during the dry season, about 200 households in three villages are using the gravity flow systems.

#### (4) Communications

##### 1) Telecommunications

###### a. Present Conditions

In general, telephones are not yet popular in rural areas because of lack of inadequate network and high services price for farmers. The majority of the telephone users in rural areas are administrative authorities and households having small business, while very few farmers have telephone at their houses.

In the Study Area, 10 communes and 1 town are connected to the telecommunication network as of December 1996, and 1 commune is planned to be connected in the beginning of 1997. The remaining do not have a chance to be linked to the network at present.

There is 1 district level post office, which is in charge of telecommunications service in Viet Nam, 2 sub post offices, i.e., Kim Lien Post Office and Nam Trung Post Office. Kim Lien Post Office covers 3 communes in and around the Commune, and Nam Trung Post Office is planned to cover 5 communes in and around the Commune, of which only 1 commune is connected at present. Nam Dan District Post Office covers the remaining 6 communes and 1 town.

**Present Post Offices and their Capacities in Nam Dan District**

Name of Post Office	Commanded Communes	Capacity of Telephone Line
Nam Dan District	10 communes and 1 town This P.O. covers all over the District except for communes covered by sub P.O.	1,000 lines
Kim Lien	Kim Lien, Nam Cat, Nam Giang	100 lines
Nam Trung	Nam Trung, (Nam Cuong), (Nam Kim), (Nam Phuc), (Khanh Son)	32 lines

The total number of households having telephones is around 400, which is equivalent to 1.2 telephones per 100 households and 0.25 telephones per 100 persons. The density of telephone in the Study Area is much lower than the province average, 1 telephone per 100 persons, and average of Vinh City, 8 telephone per 100 persons.

**Number of Telephones as of December 1996**

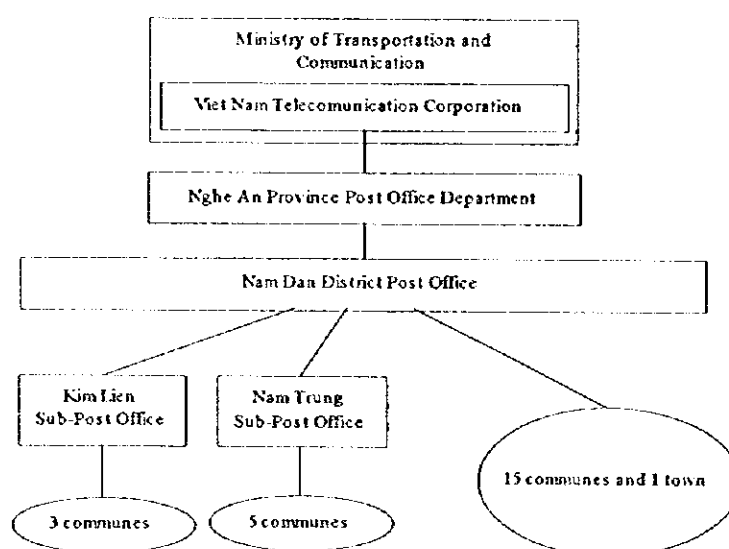
Area and Commune	Number of Telephone	Population	Households	Number of Telephone per 100 persons	Number of Telephone per 100 households	Remarks
In Nam Dan District	394	157,957	33,742	0.25	1.17	
Nam Anh	20	6,826	1,527	0.29	1.31	
Nam Xuan	3	6,048	1,395	0.05	0.22	
Van Dien	10	10,845	2,350	0.09	0.43	
Nam Dan	250	6,398	1,328	3.91	18.83	
Xuan Hoa	20	5,918	1,331	0.34	1.50	
Hung Tien	20	8,881	1,954	0.23	1.02	
Nam Linh	10	5,964	1,286	0.17	0.78	
Kim Lien	40	11,348	2,535	0.35	1.58	Kim Lien P.O.
Nam Giang	10	6,166	1,207	0.16	0.83	Kim Lien P.O.
Nam Cat	1	5,941	1,286	0.02	0.08	Kim Lien P.O.
Nam Trung	10	7,295	1,547	0.14	0.65	Nam Trung P.O.
Nam Cuong	2	5,914	1,295	0.03	0.15	(Planned)

Source : Nam Dan District Post Office

**b. Organization of Telecommunication**

The telecommunication service in Viet Nam is controlled by the Viet Nam Telecommunication Cooperation under the Ministry of Transportation and Communication. The Provincial Post Office department is responsible for operation, planning and development of telecommunications networks under the control of the Corporation.

The organization chart of telecommunication system is shown below.



**Organization Chart of Telecommunication**

**c. Charge and Demarcation of Investments**

When new lines are developed for the telecommunication system in the rural area, the investment is shared by the post office, commune authorities and

users. The demarcation of the investment is shared as shown below;

- Wiring cost from main post office to sub-post office is borne by the post office. Preparation of sub-post office is included in this portion,
- Wiring cost from post office to the commune center is borne by the post office and commune authorities. The allocation of investment is decided based on the expected number of users and the distance from the post office.
- Wiring cost from commune center to each village or household is principally born by users or user groups. The cost for this distance is added on the initial cost of telephone.

As shown above, the initial cost to install a domestic telephone line varies according to the location or distance from post offices and the scale of users groups, telephone charges are the same for all cases. Due to the facts that most rural households are located far from the existing communication networks and small number of users, the financial burden of installing a telephone line is significantly heavy for the prospective rural users.

## 2) Local Broadcasting Service

### a. Present Conditions

The local broadcasting service in the Study Area is divided into 2 levels, i.e., district level and commune level. Both broadcasting levels are operated by the district and each commune authorities, it broadcasts information concerning to the region. The local broadcasting service in the Study Area is identified as follows;

- District TV and Radio Broadcasting,
  - 1 District TV and Radio Station covering:
    - TV Broadcasting                      200 kW of capacity
    - FM Radio Broadcasting            100 kW of capacity
  - The diffusion of TV sets and FM radio sets in the Study Area is estimated by the Station as 1 TV set per 3 households and 1 FM radio set per 2 households.
- District Remote Speaker System,
  - 1 District Broadcasting Station and 45 remote speakers covering all over the District.
- Local Public Speaker System.
  - All of 23 communes and 1 town in the Study Area have the Local Public Speaker Systems operated by each commune or town authority. There are 35 local broadcasting stations equipped with 57 amplifiers of 250~300w capacity with a total of 532 public speakers. Each public speaker covers 50~60 households in the village.

The locations of the broadcasting stations are shown in Fig. 3.1.7.



b. **Activity of District TV and Radio Broadcasting**

The District TV and Radio Station are being operated by the District since 1990, and the station broadcasts 2 weekly programs of TV and 6 weekly of FM radio programs.

The station broadcasts programs concerning regional information besides news and current events received from the Central and Provincial Broadcasting service. The district program usually consists of the following main information items.

**Market Information**

The district program broadcasts price information of major agricultural products and input and living goods in and around the district. The station sends some personnel to each market to collect price data every day, and broadcasts them as a weekly price information.

**Markets Covered by the Broadcasting System**

Hanoi (broadcast from the Central Broadcasting Station), Sanam, Chua, Rong, Con, and Nam Nghia.

**Main Products for Which Information is Broadcast**

Rice, maize, groundnuts, cotton, lemon, orange, pigs.

**Farming Information**

The station broadcasts the following information on farming practices concerning the whole District area as shown below:

- Information on new crops varieties available in the area, including how to introduce and recommended sowing calendar
- Information on agricultural expansion programs to be conducted
- Suggestions about cultivation of subsidiary crops
- Weather information including low and high temperature warnings

**Disaster Information**

Disaster information about heavy storms or floods is also provided to the farmers. This information is sent out in cooperation with the Disaster Management Office of the district.

**Others**

Information on everyday activities, education, health, political decision, administrative announcement, security matters, etc. are also broadcast in the program.

c. **Activity of District Remote Speaker System**

The District Remote Speaker System has the role to inform administrative announcement, other district information and general information on everyday activities and agriculture to farmers. The System broadcasts 6 programs a week and 3 times a day. Comparing with the District TV and Radio Broadcasting, the System is characterized as a administrative announcement

from the District.

d. **Activity of Local Public Speaker System**

The Local Public Speaker System operated by commune authority gives more local interest information compared to the district operated broadcasting, while also transmitting district level information.

A case study was conducted in Nam Linh Commune, which is considered as an average commune for the Local Public Speaker System. The activity of the System of the commune is as follows.

The commune has 1 broadcasting station located at the commune authority office and 21 wired public speakers for 13 villages, where each public speaker covers around 60 households. However the System covers only 60 % of households because the equipment is too old and inefficient.

The commune broadcasts 1 commune program a week besides transmitting programs received from the District Broadcasting. The major contents of the commune program are as follows.

**Market Information**

The price information in Vac market, on which the majority of farmers in the Commune relies, upon is broadcast once a week. The price data of major agricultural products and livestock is collected and informed by the commune's authority.

**Farming Information**

The information on farming practices concerning the commune, such as cropping calendar, recommendation of harvest time, announcement of agricultural expansion program, etc. is also provided in the commune program. This information is coordinated with the Agricultural Expansion Division of the district. Furthermore, an insect information on insects is provided by the Insect Protection Center of the District is also given.

**Disaster Information**

Disaster information such as storm or flood warnings of the Lam River is broadcast to the farmers by this system also. The system plays a most important role in this information area together with the District Remote Speaker System.