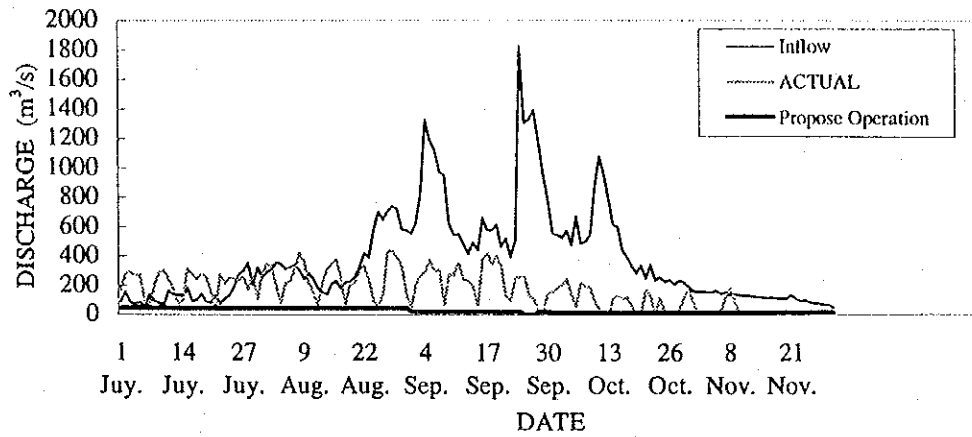
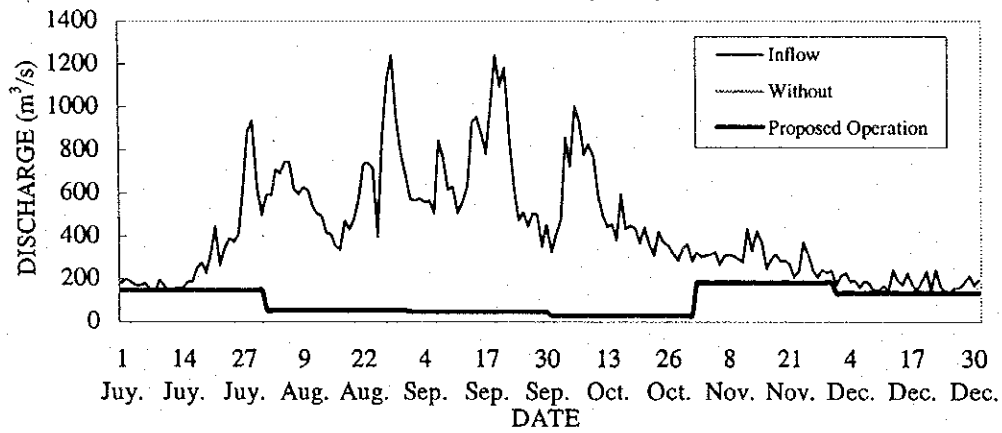


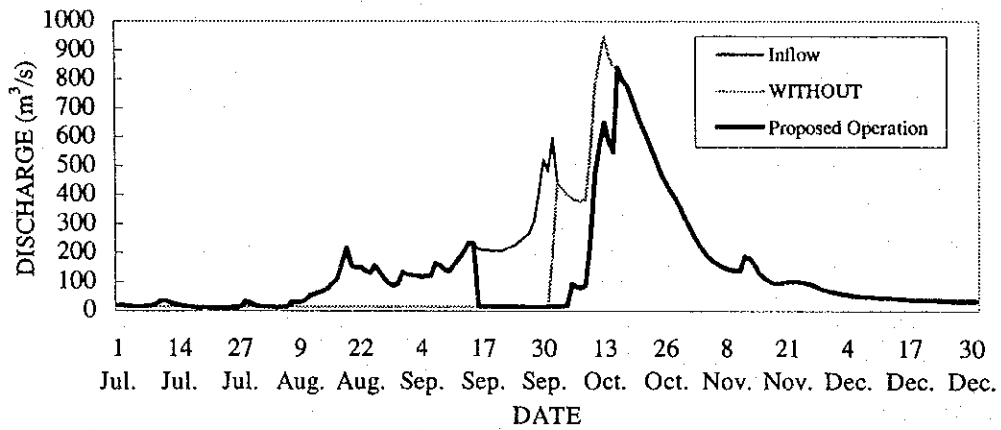
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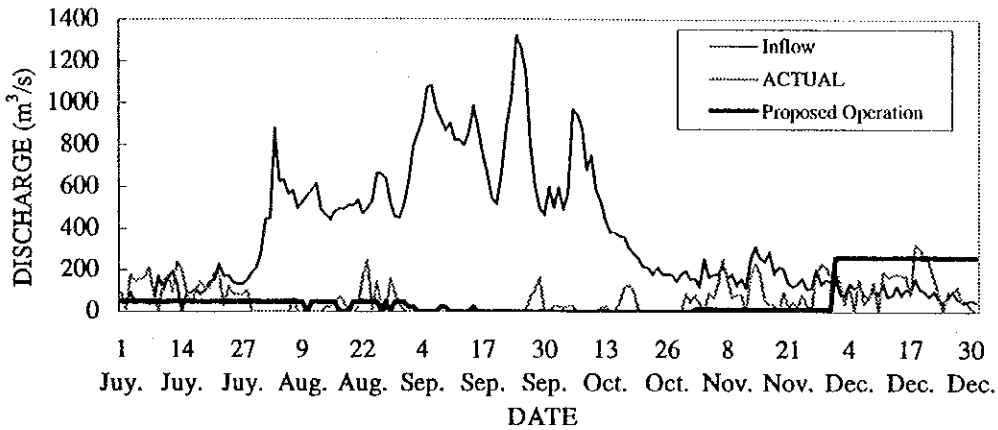
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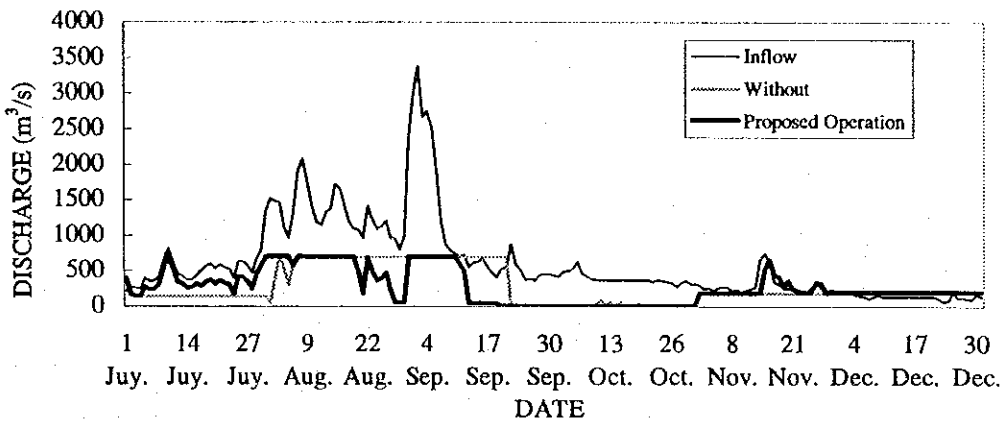
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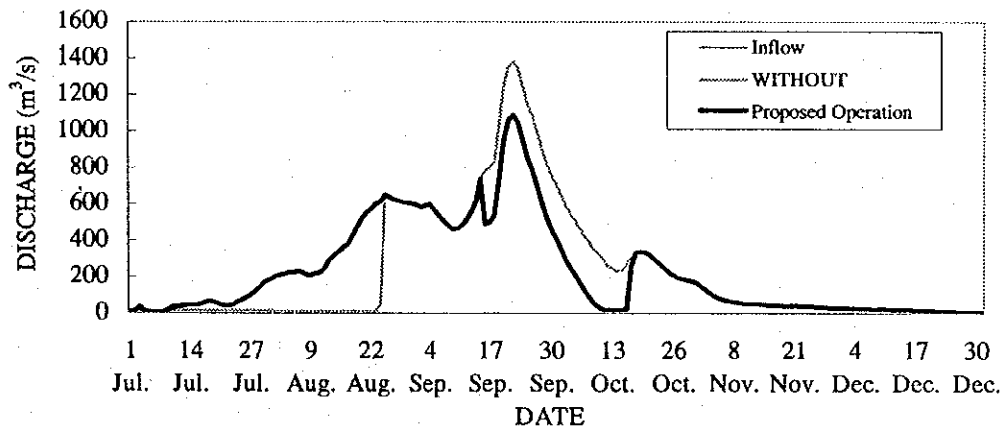
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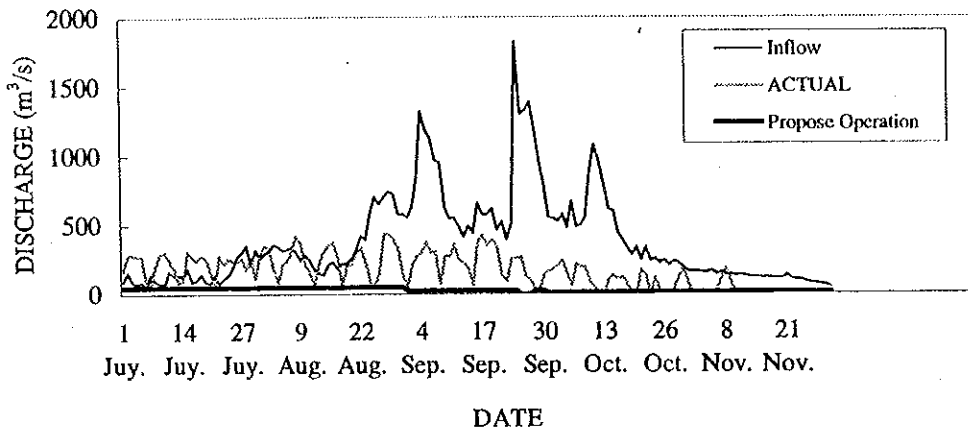
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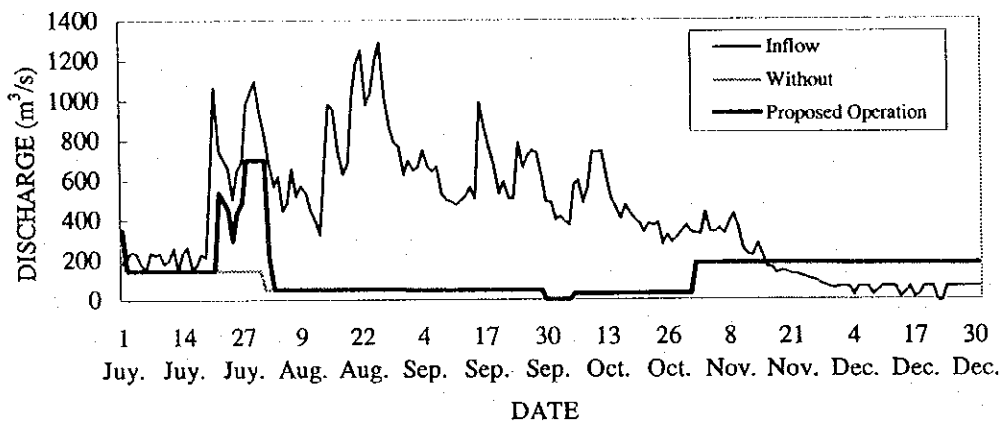
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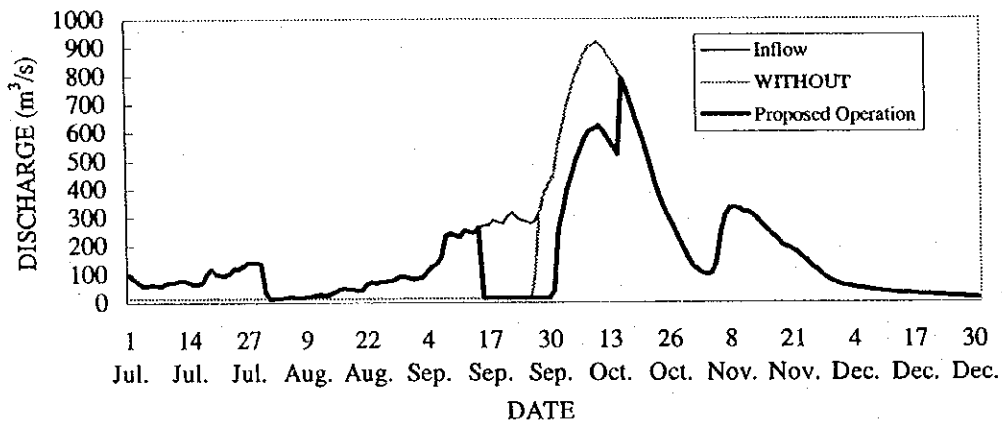
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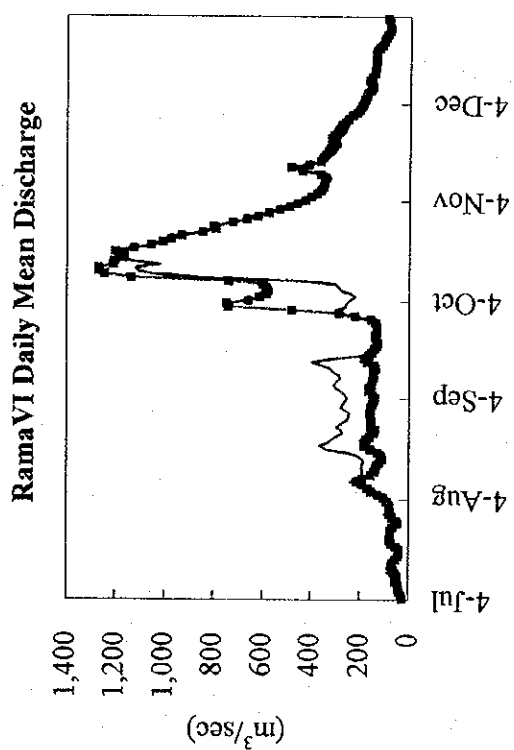
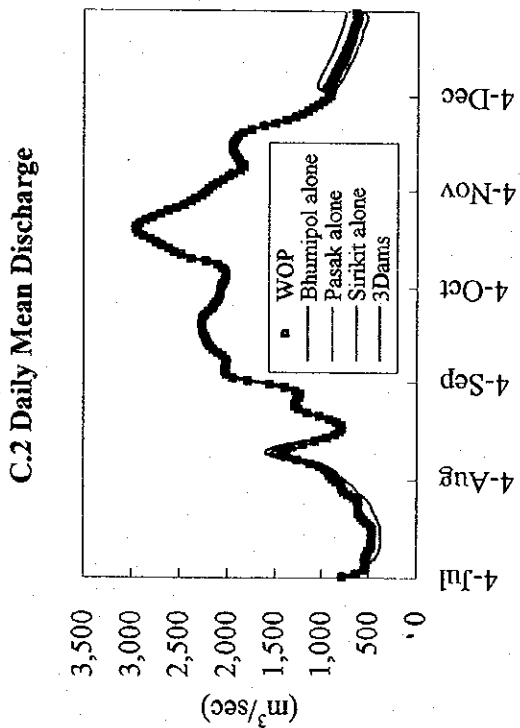
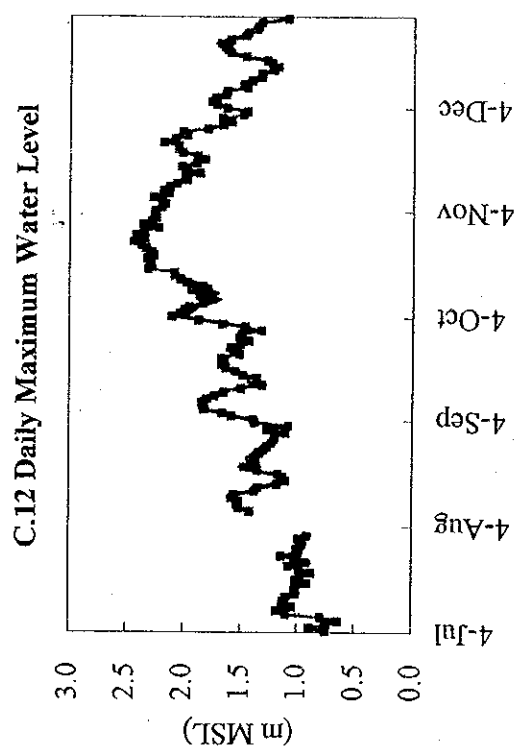
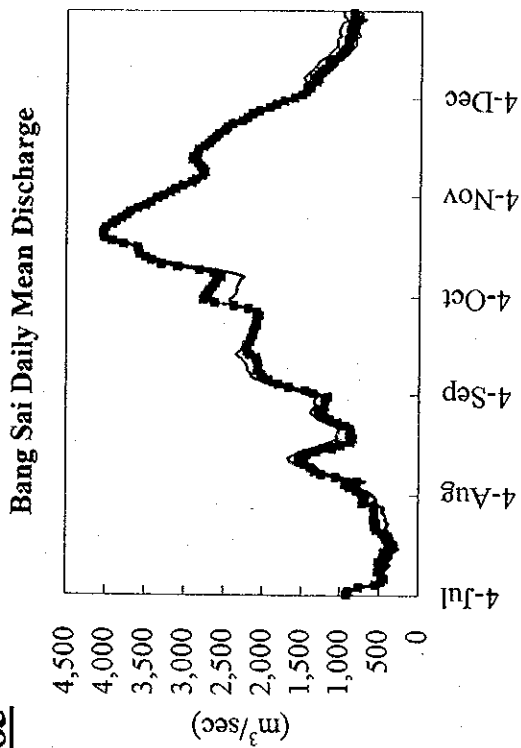
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DAM OUTFLOW HYDROGRAPHS

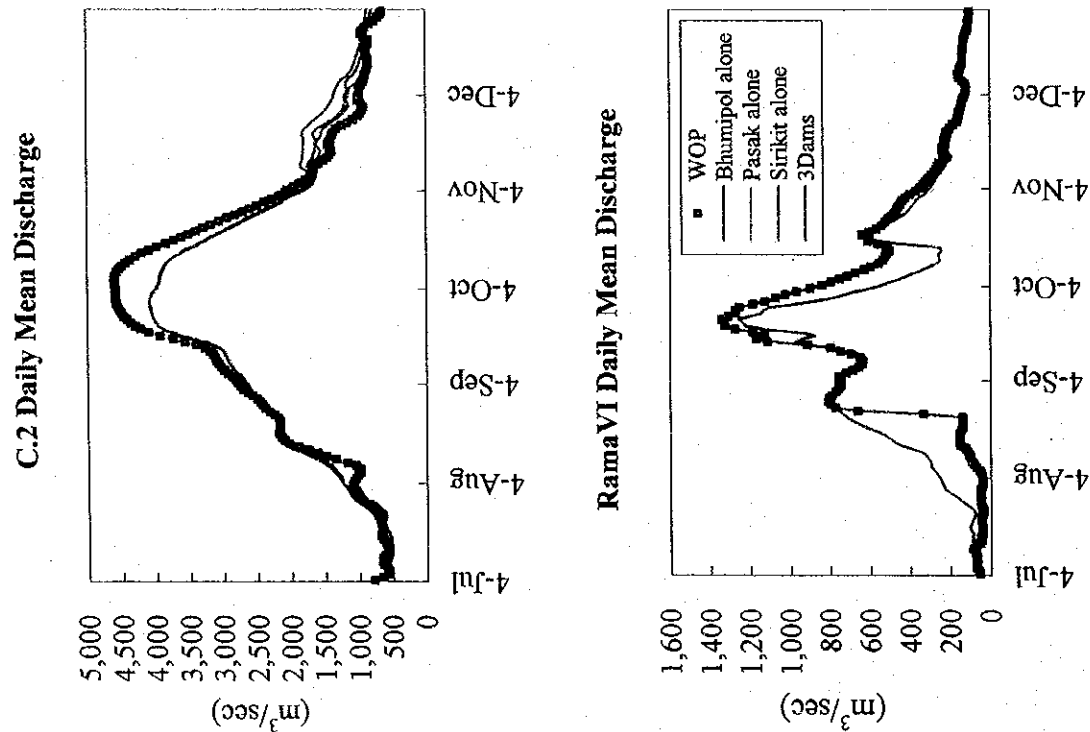
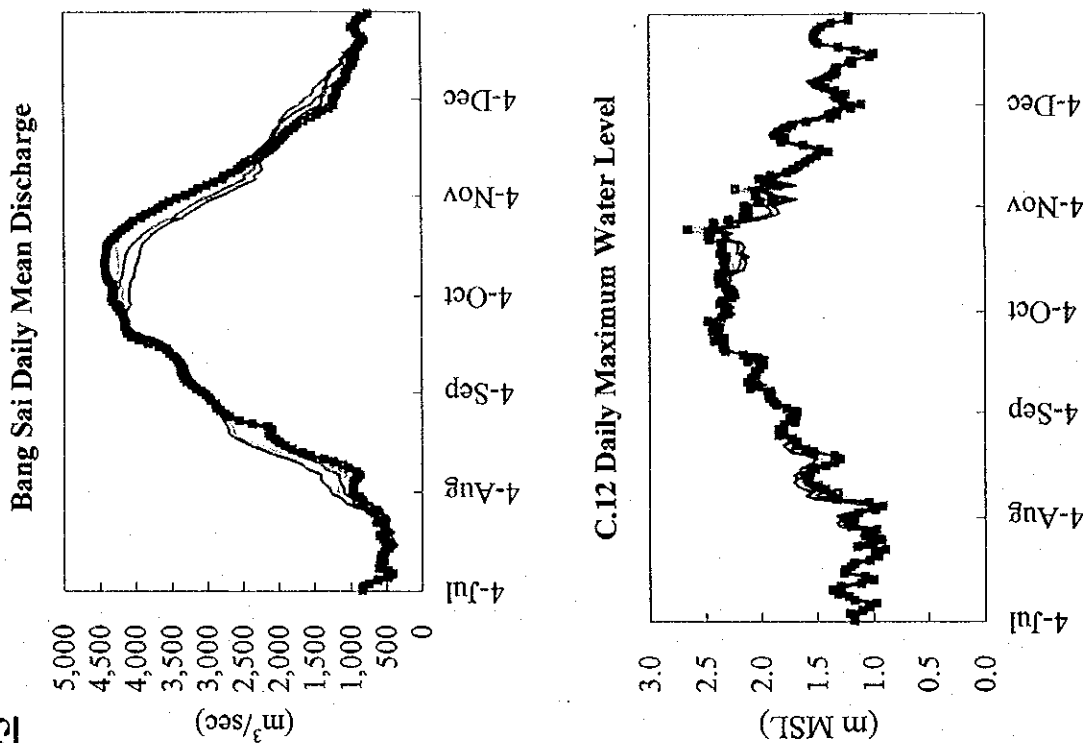
1983



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Fig. 5.3.2(1/3) SIMULATED HYDROGRAPHS WITH AND WITHOUT MODIFICATION OF DAM OPERATION

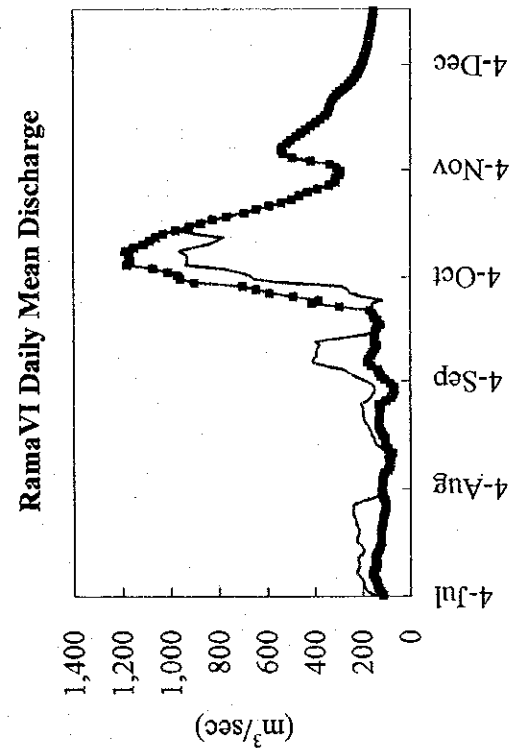
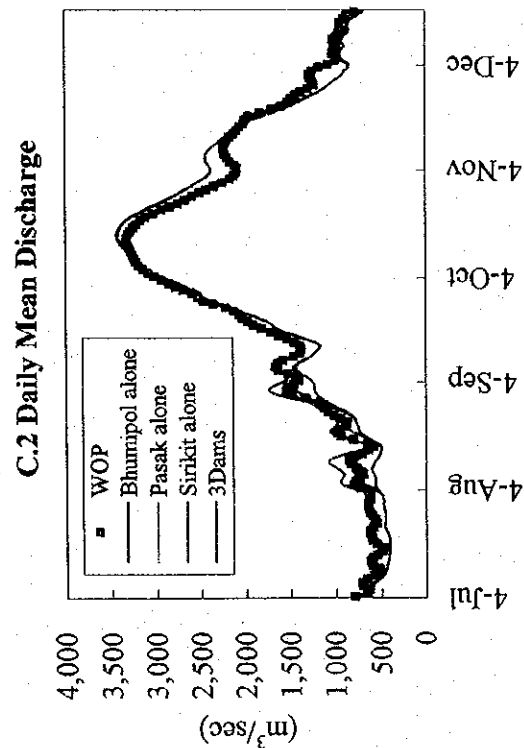
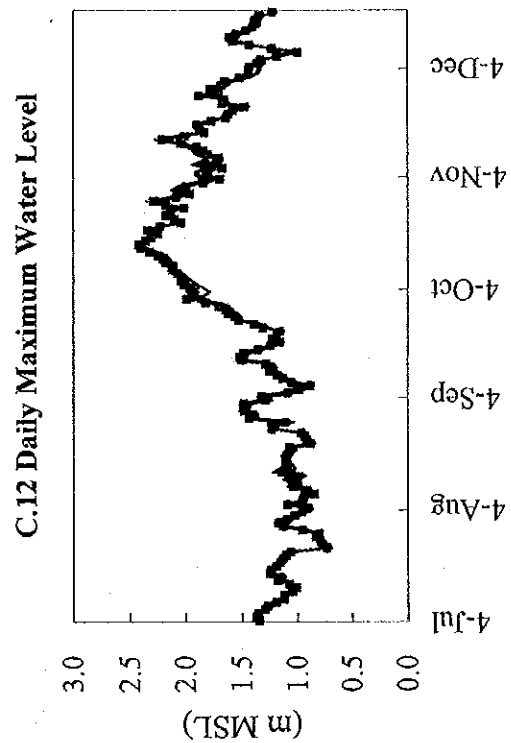
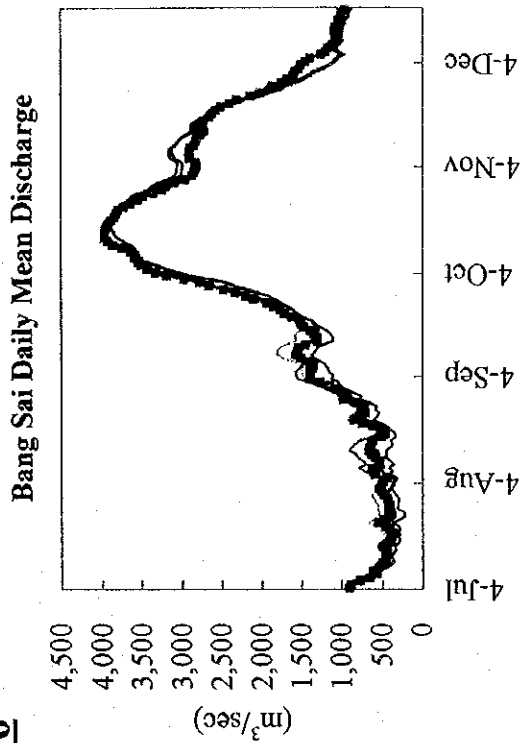
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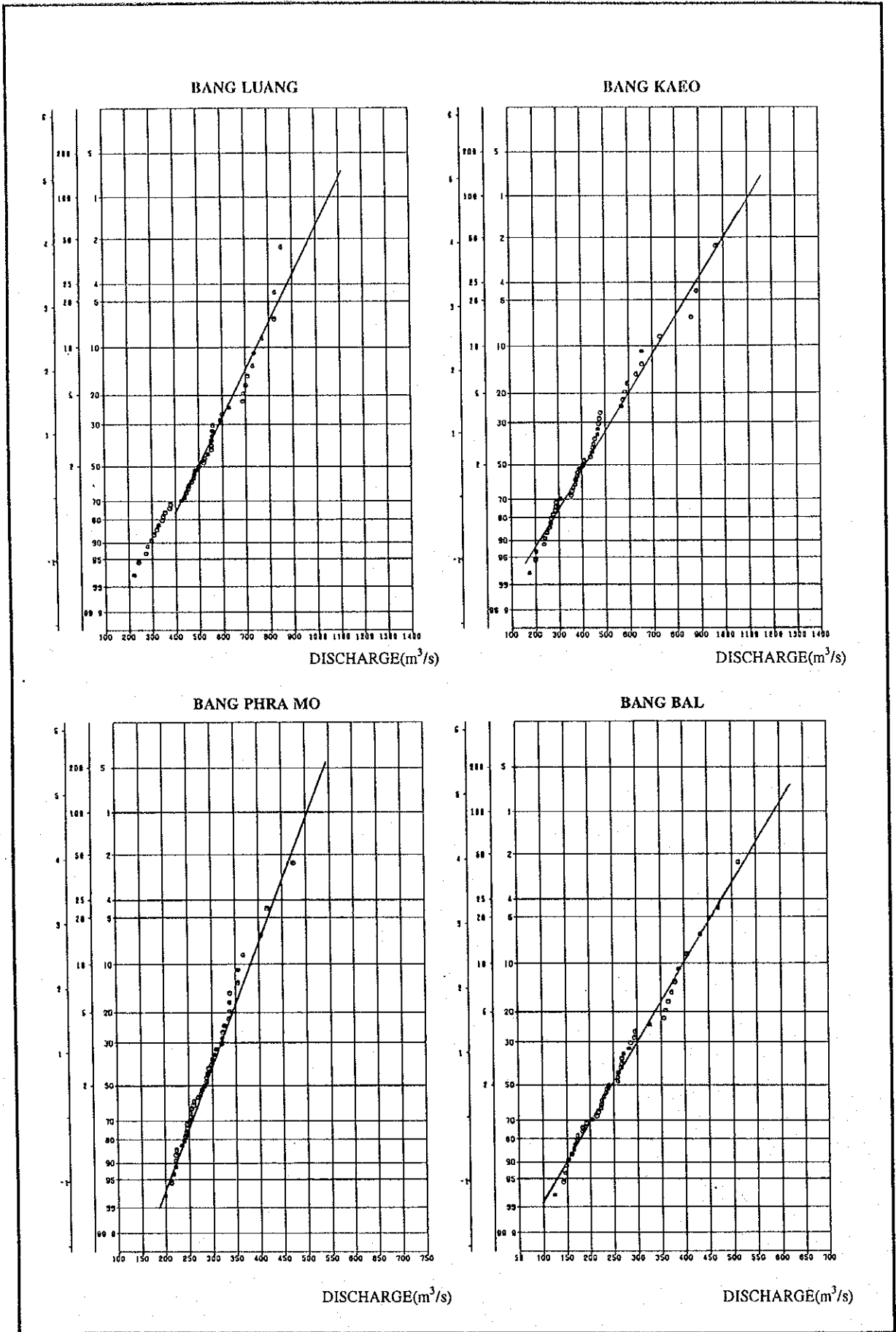
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1996



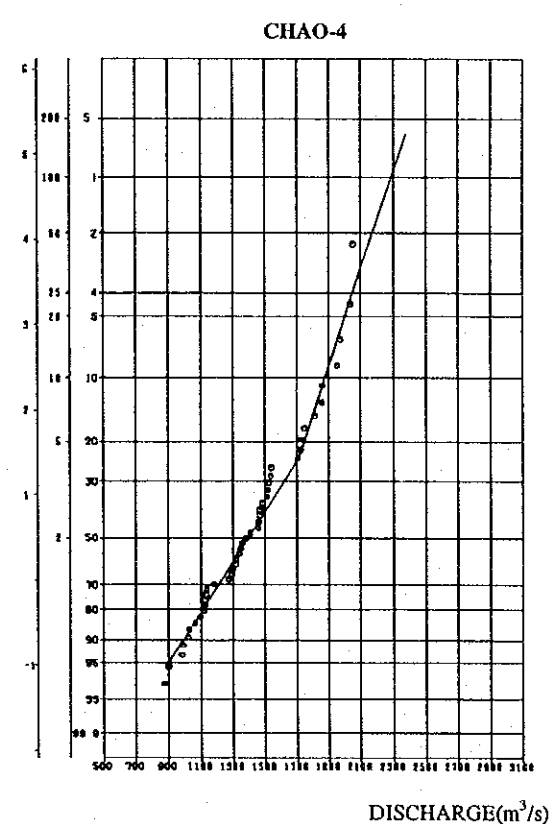
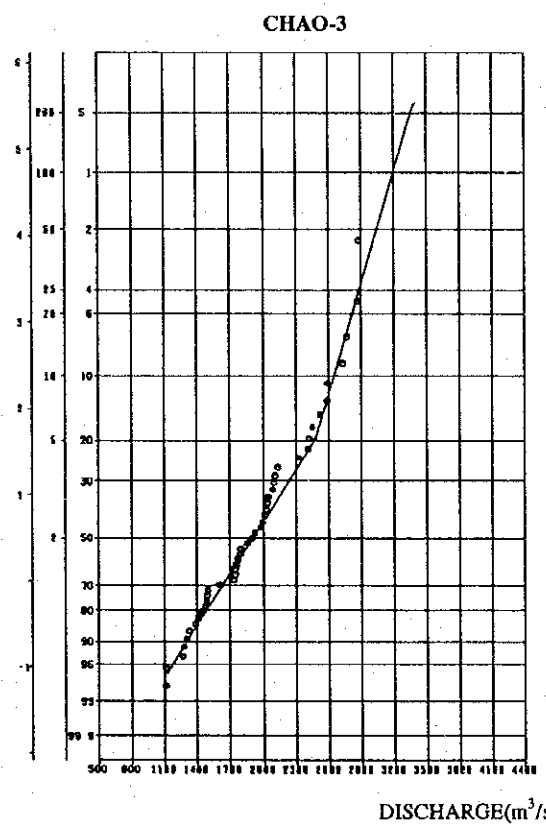
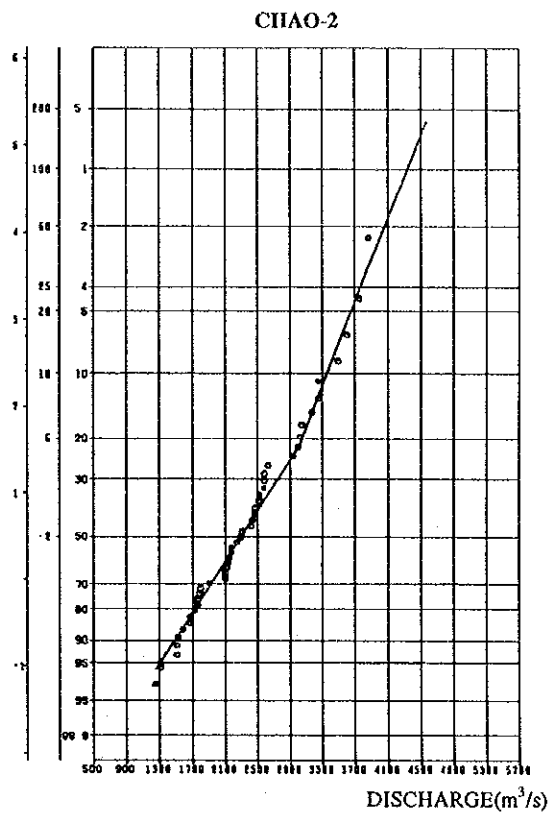
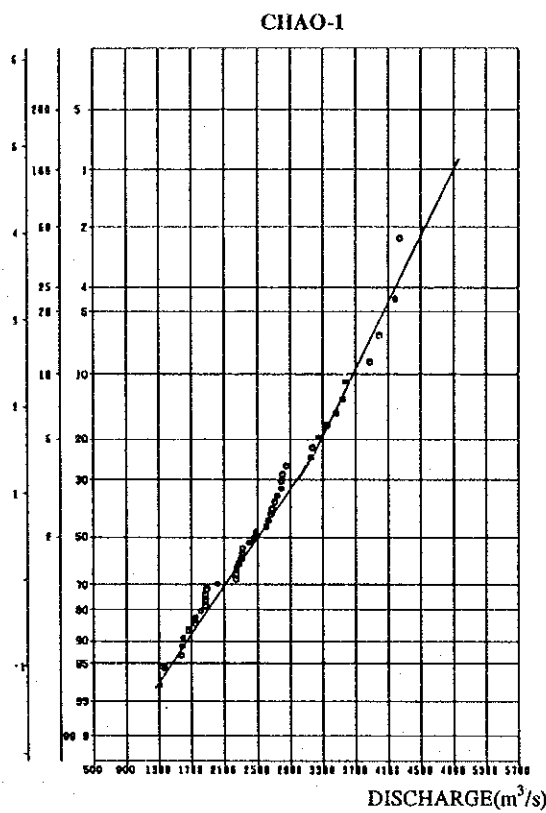
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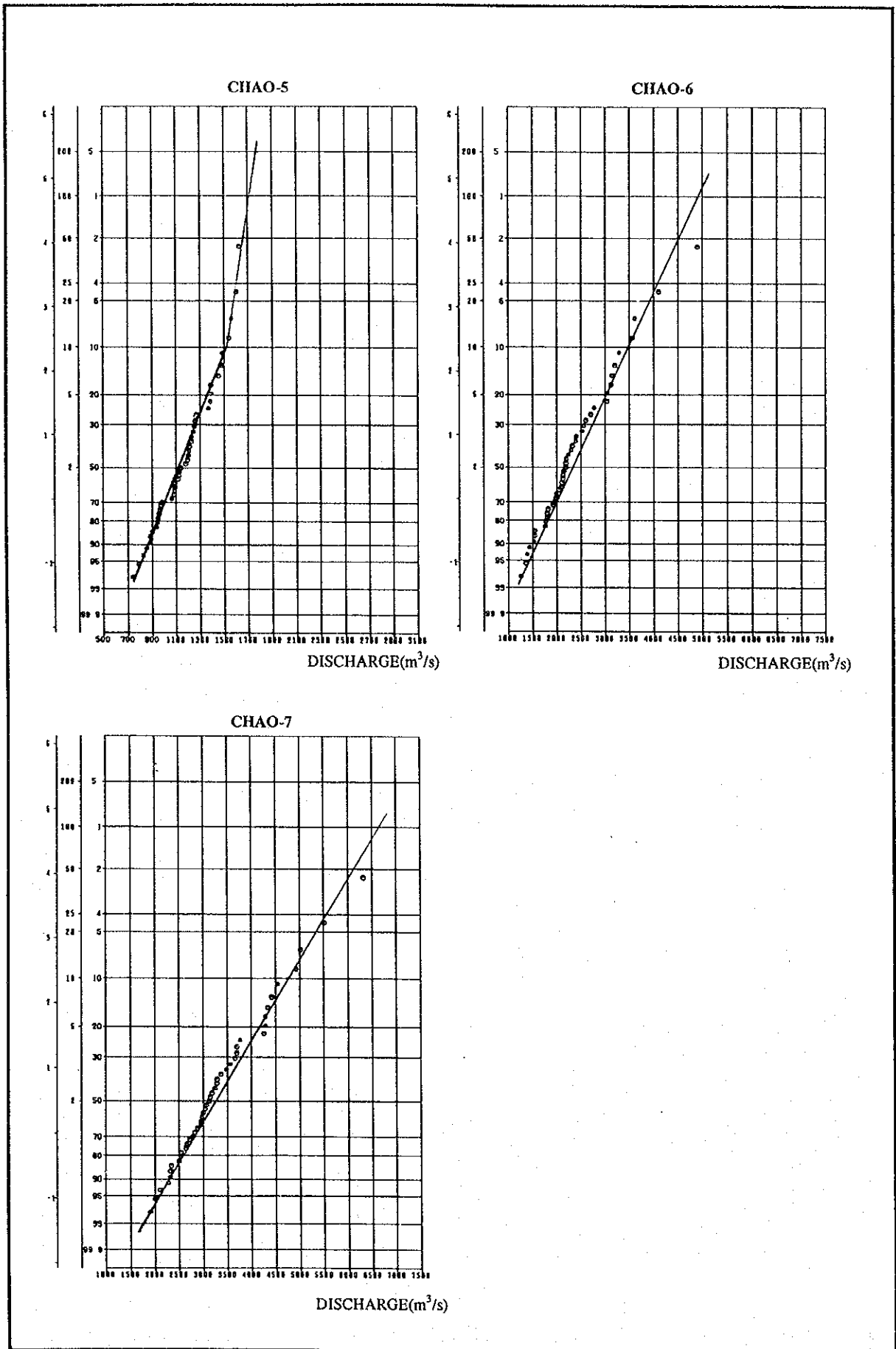
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STUDY ON ON INTEGRATED PLAN FOR FLOOD
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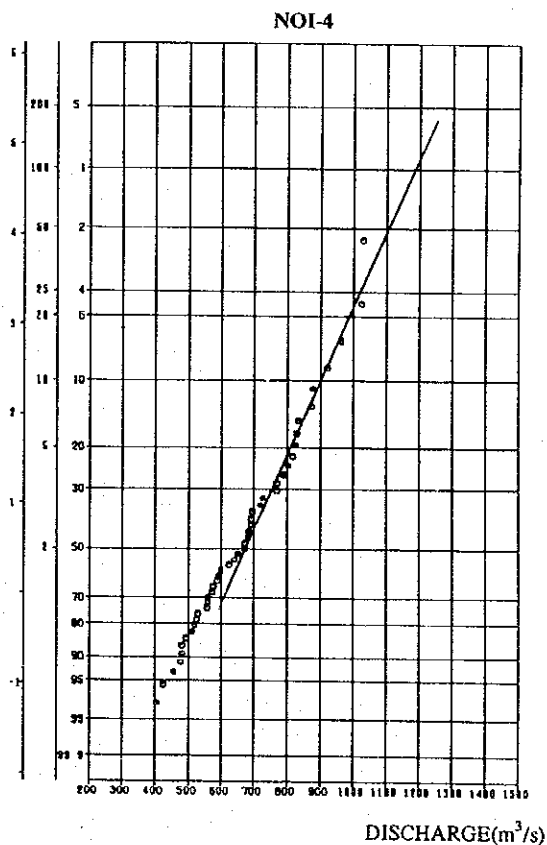
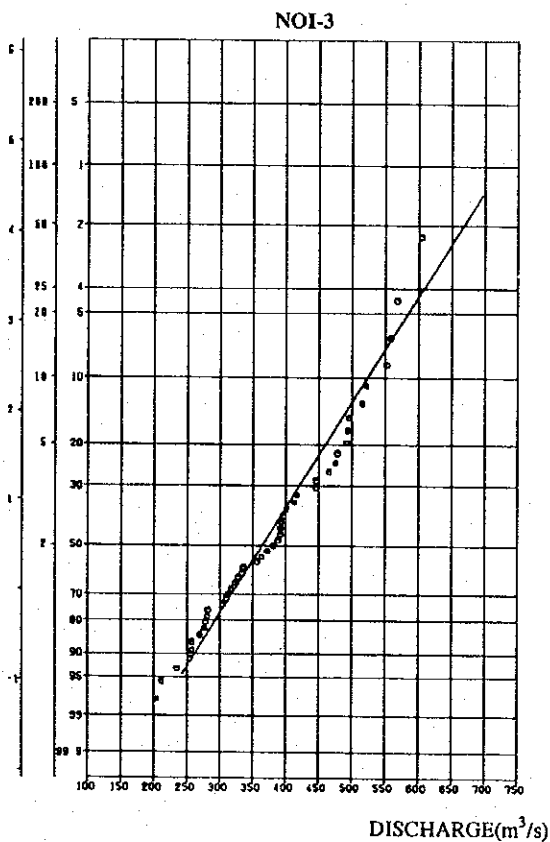
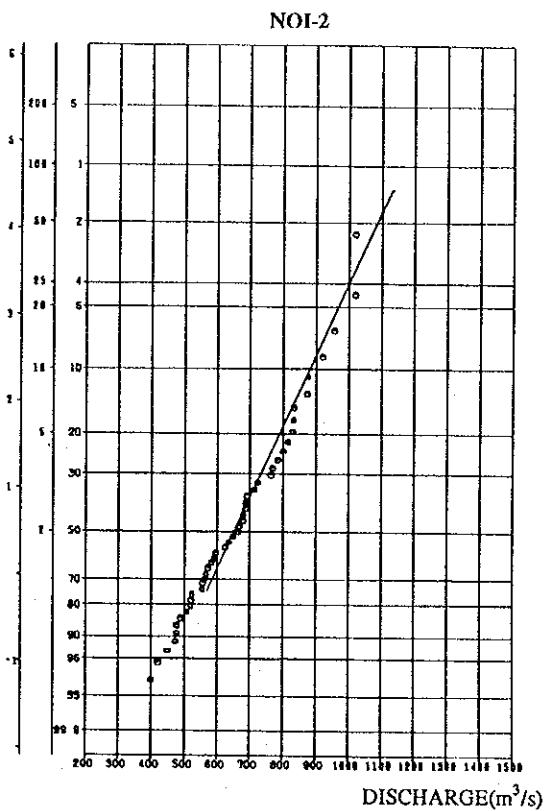
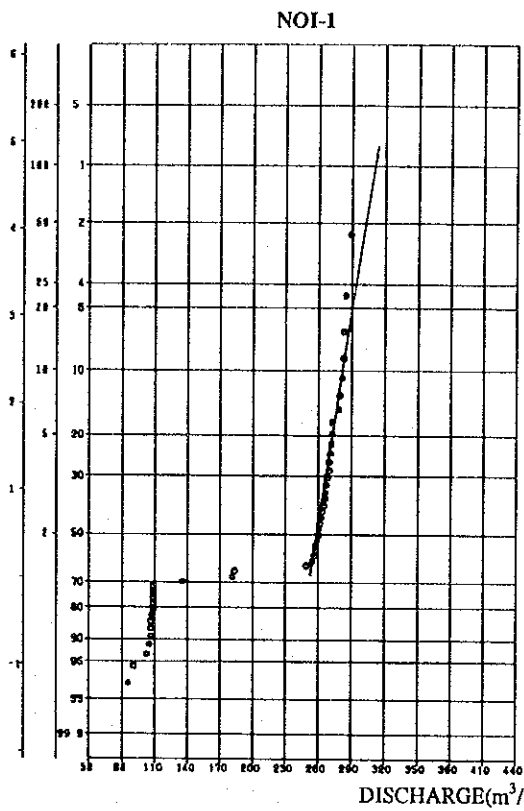
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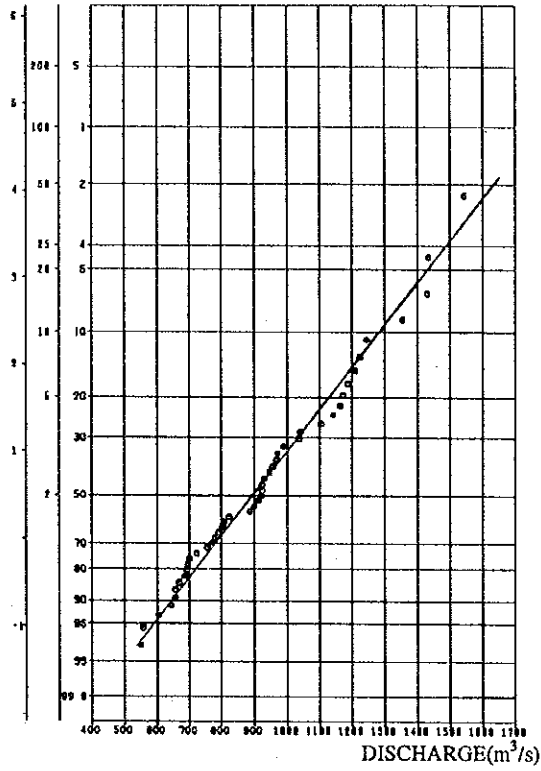


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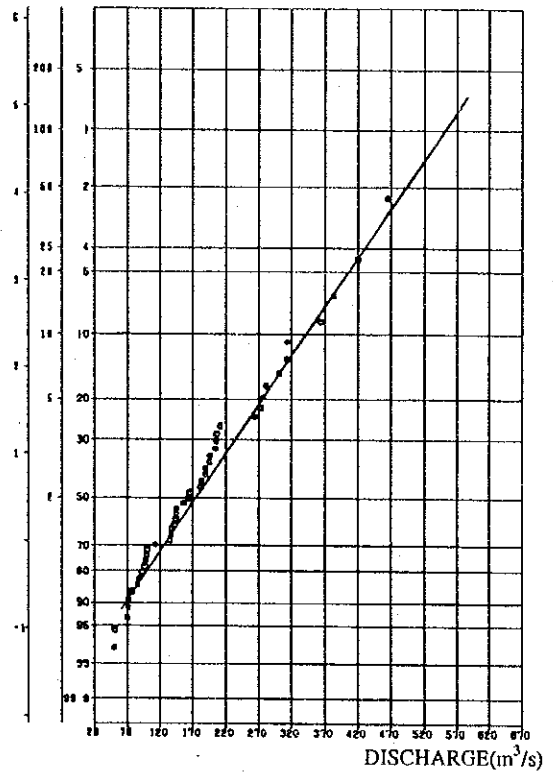
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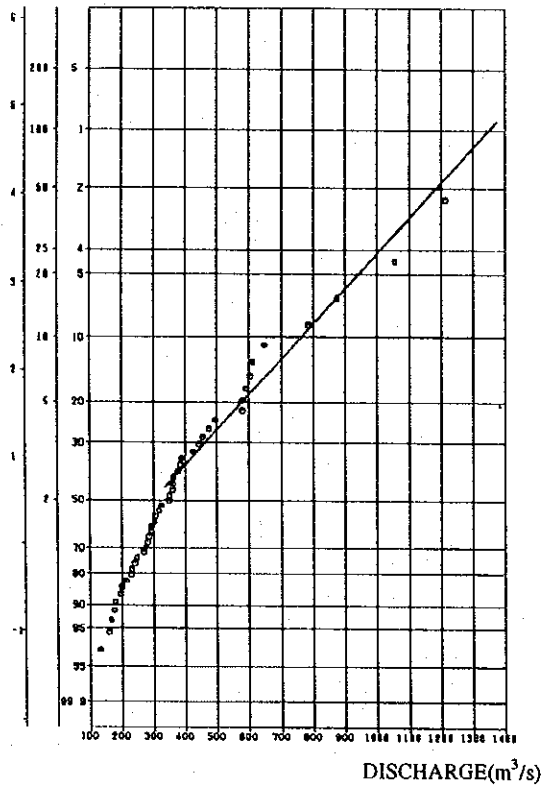
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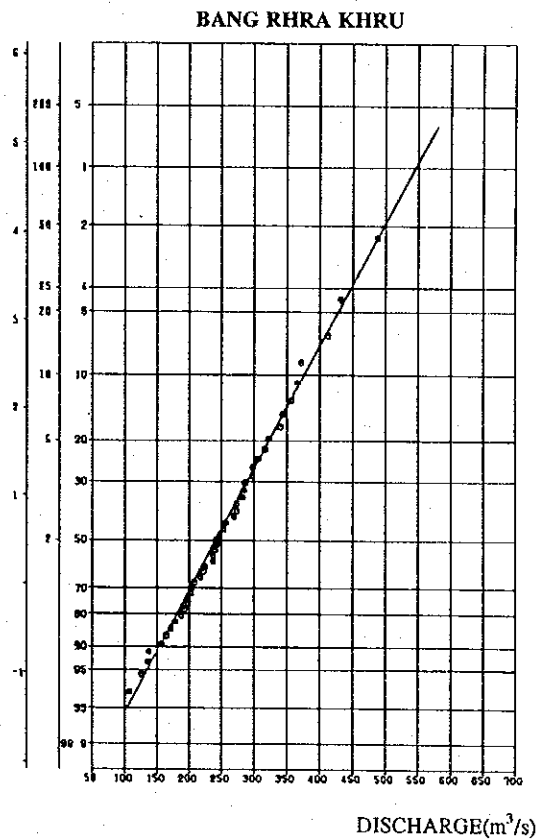
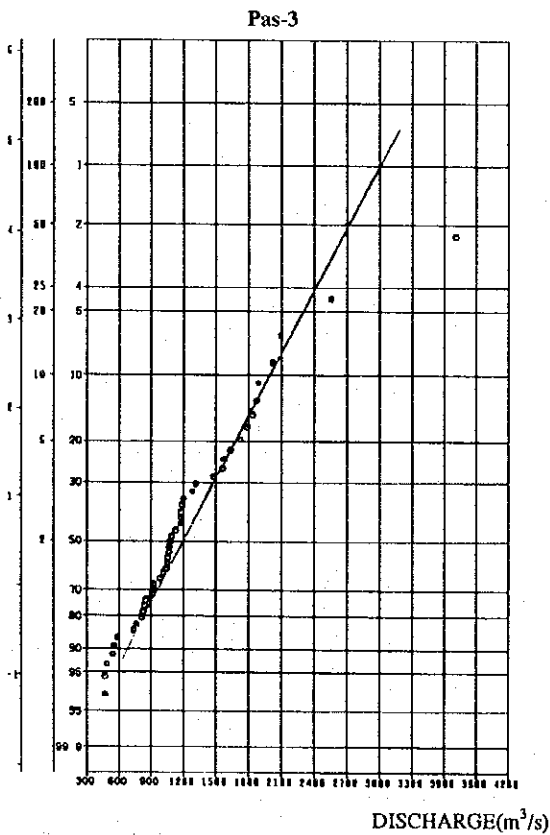
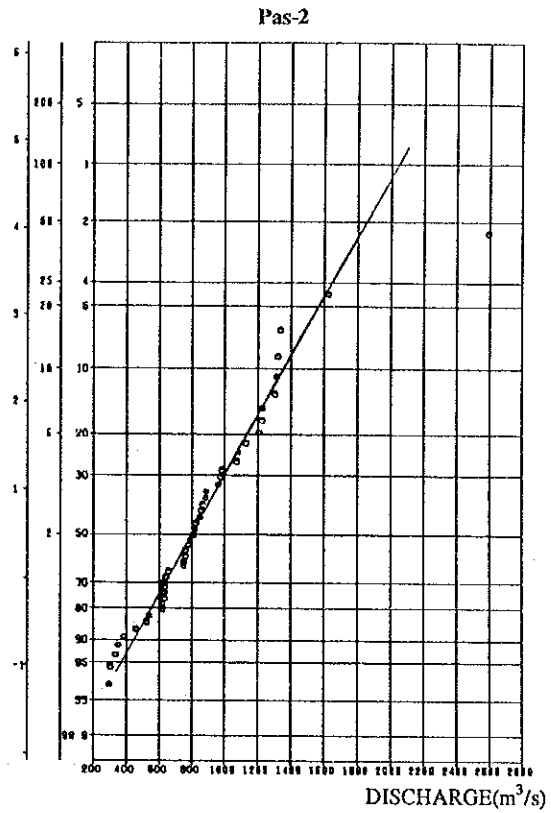
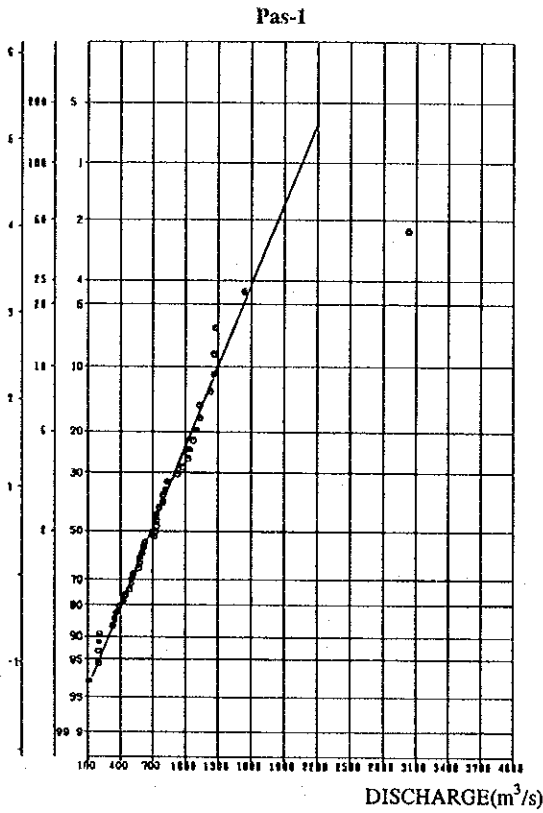
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STUDY ON ON INTEGRATED PLAN FOR FLOOD
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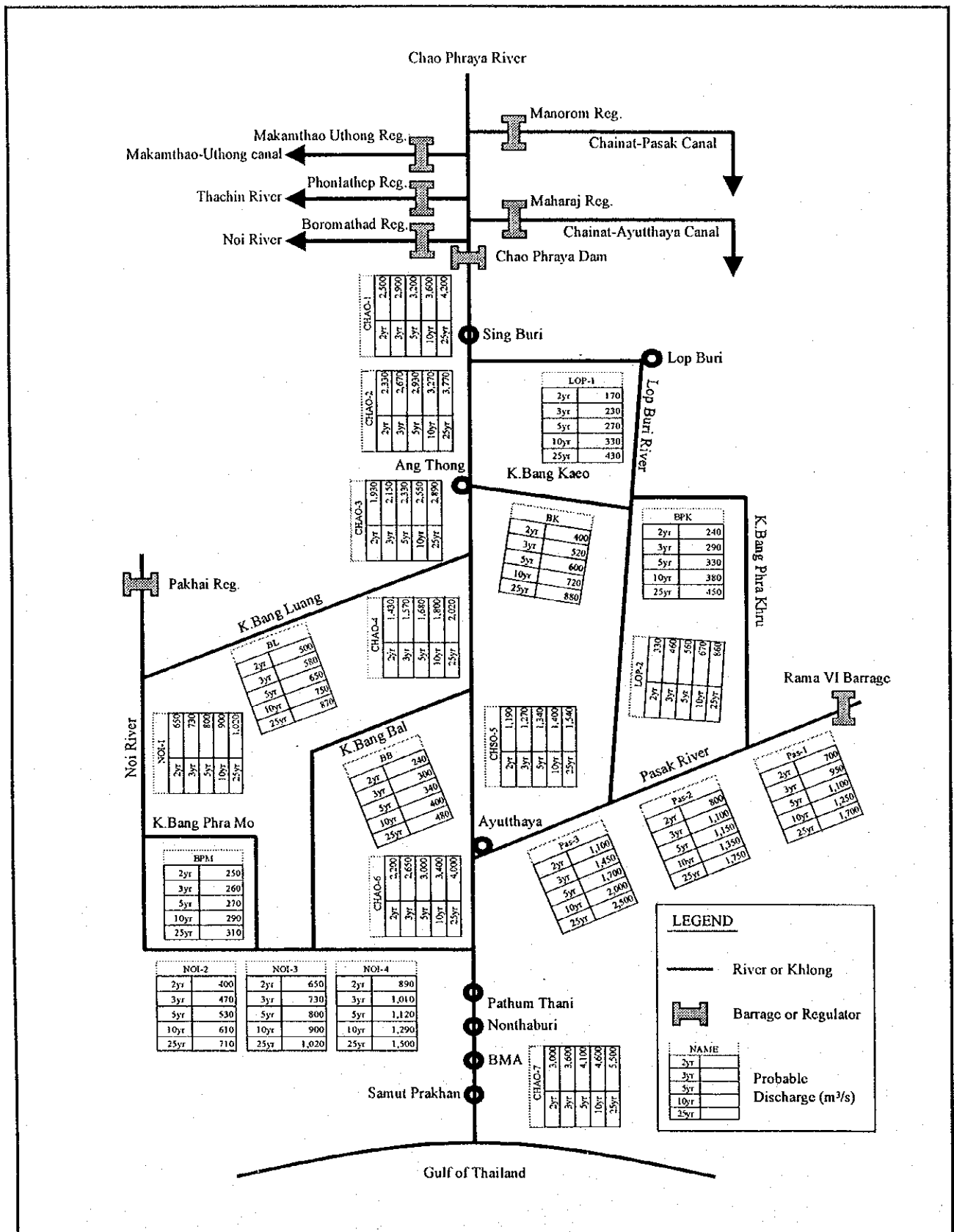
PLOTTING OF DISCHARGES UNDER
 FULL CONFINEMENT



STUDY ON ON INTEGRATED PLAN FOR FLOOD
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CTI ENGINEERING CO. , LTD & INA CORPORATION

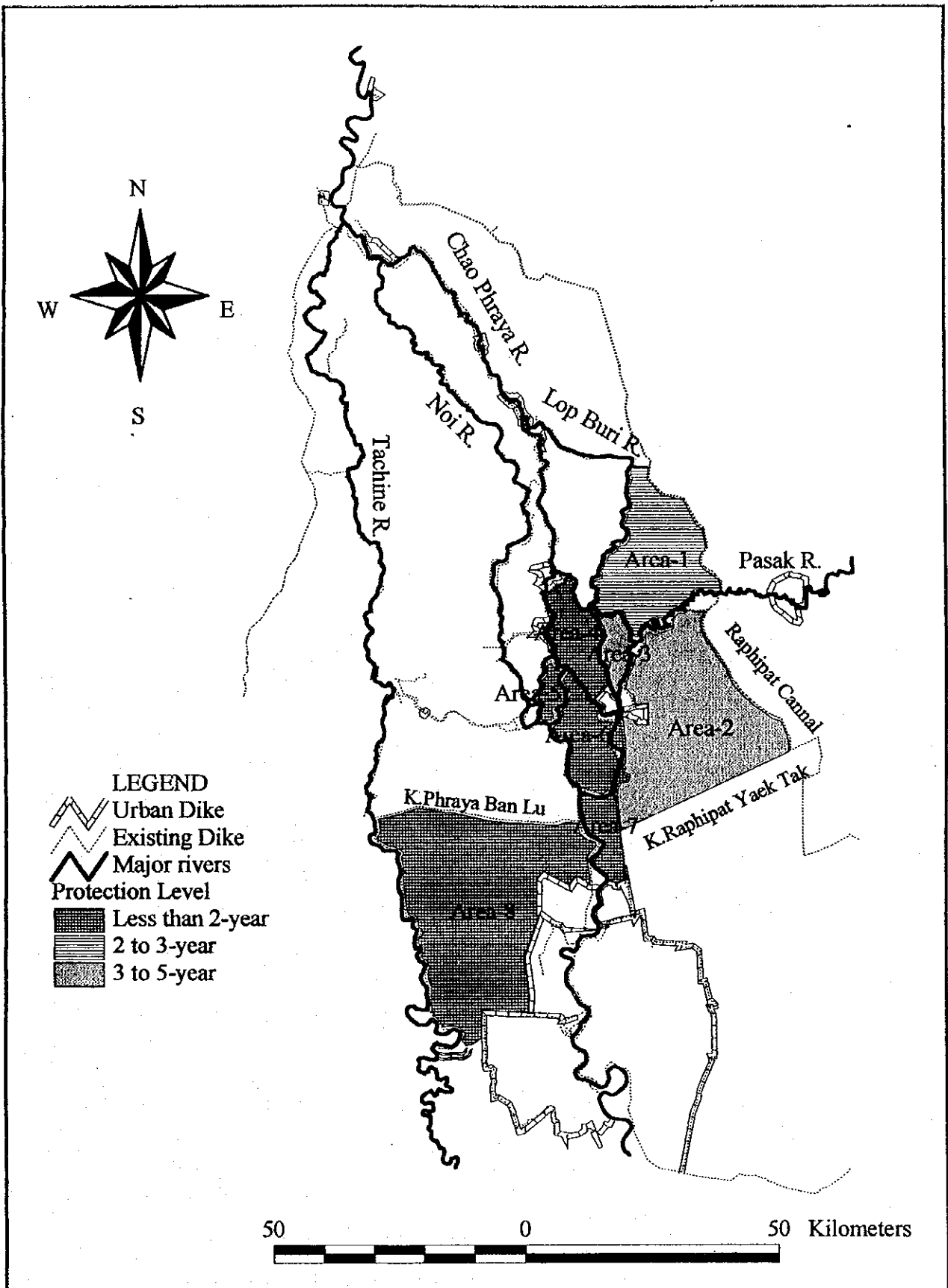
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PLOTTING OF DISCHARGES UNDER
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STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAOPHRAYA RIVER BASIN
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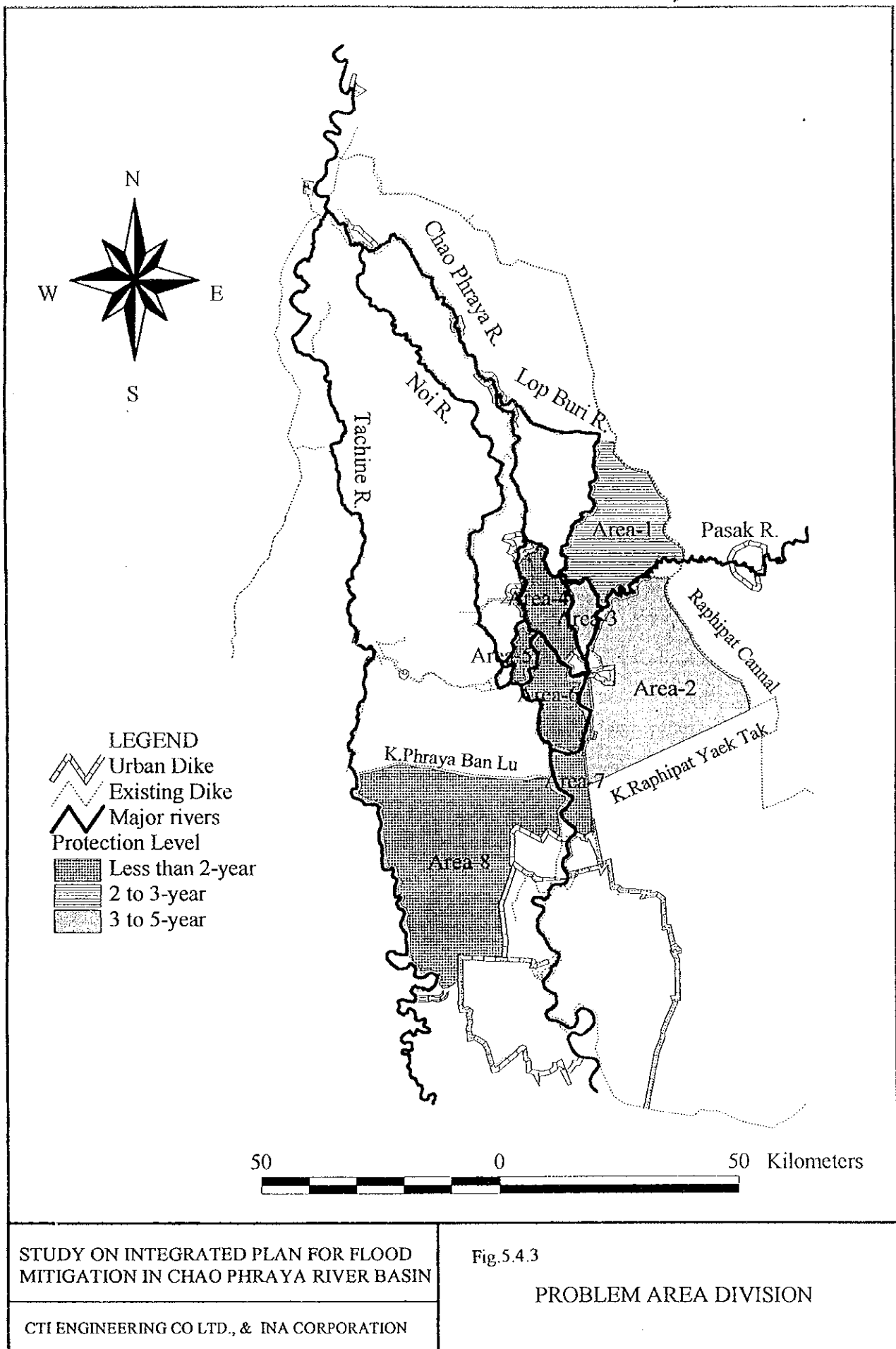


STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

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Fig.5.4.3

PROBLEM AREA DIVISION



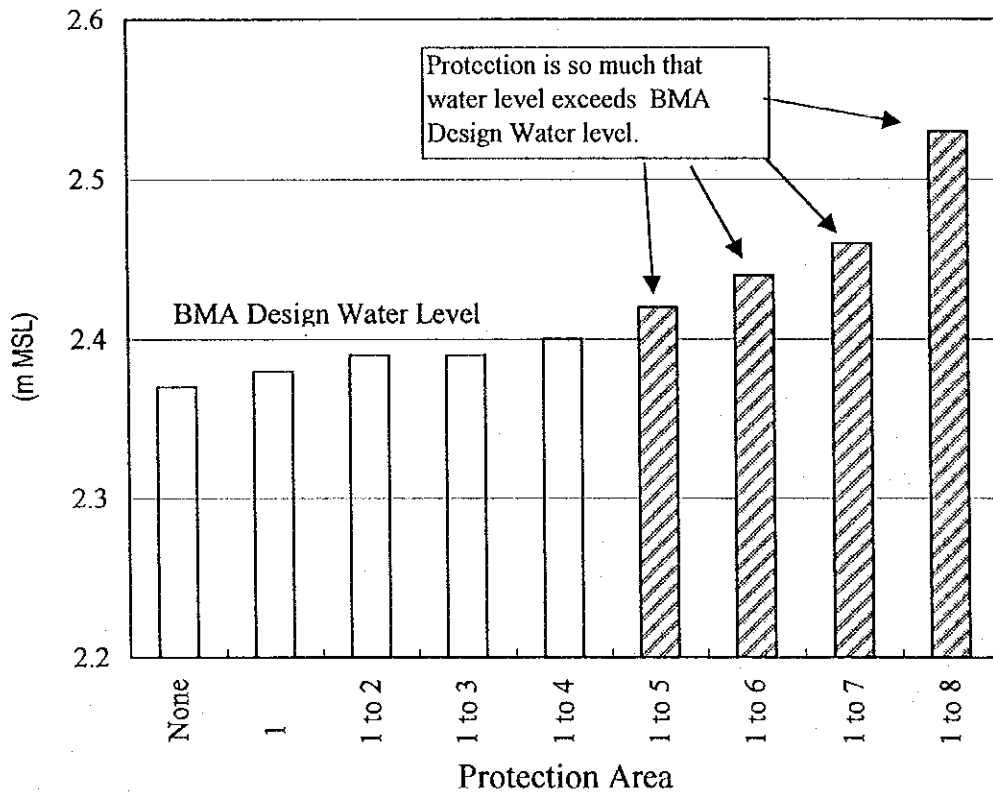
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Fig.5.4.3

PROBLEM AREA DIVISION

CTI ENGINEERING CO LTD., & INA CORPORATION

Protection Area vs. WL.at Samsen

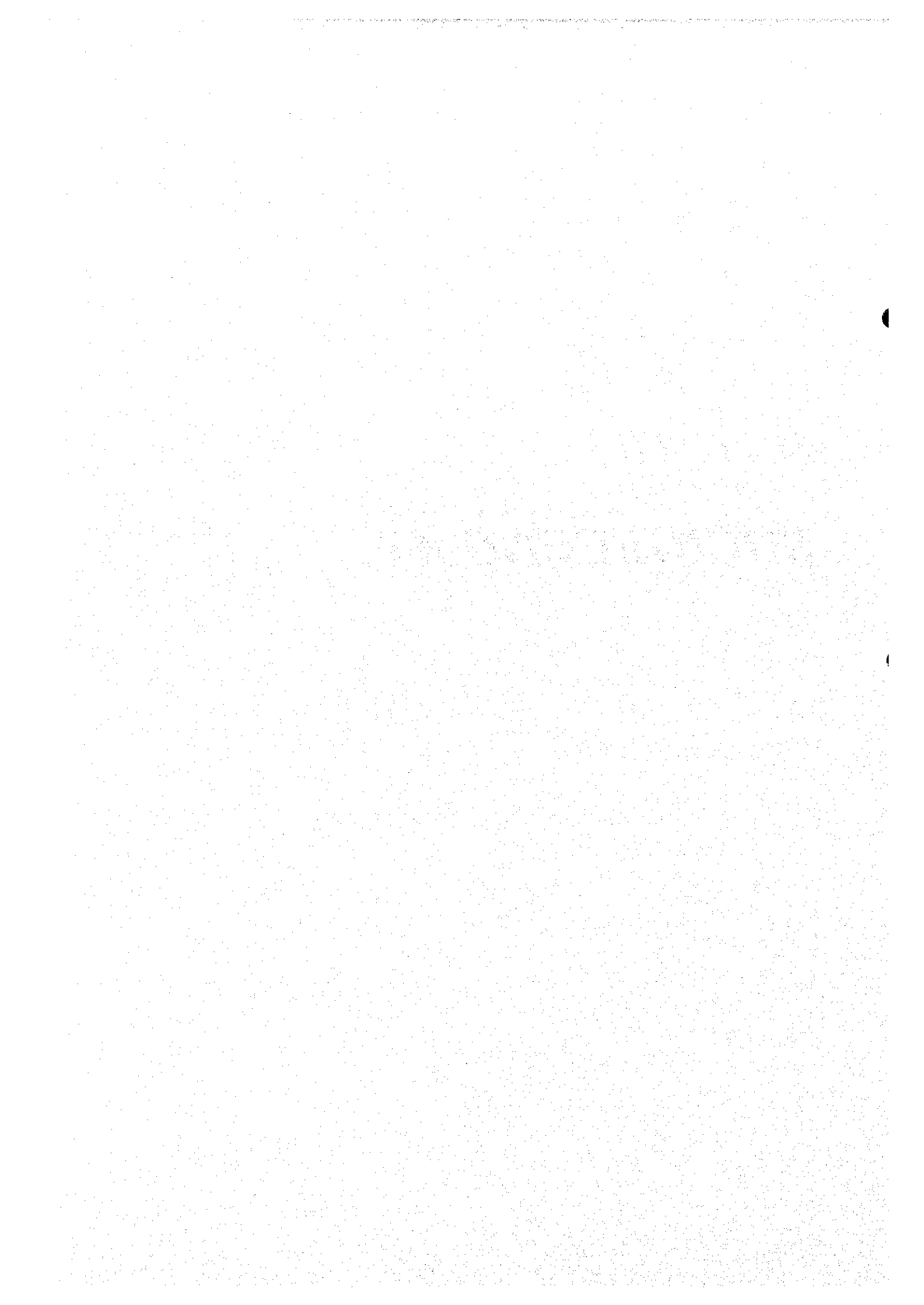


STUDY ON ON INTEGRATED PLAN FOR FLOOD
 MITIGATION IN CHAOPHRAYA RIVER BASIN
 CTI ENGINEERING CO., LTD & INA CORPORATION

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SECTOR II

SOCIOECONOMY



SECTOR II: SOCIOECONOMY

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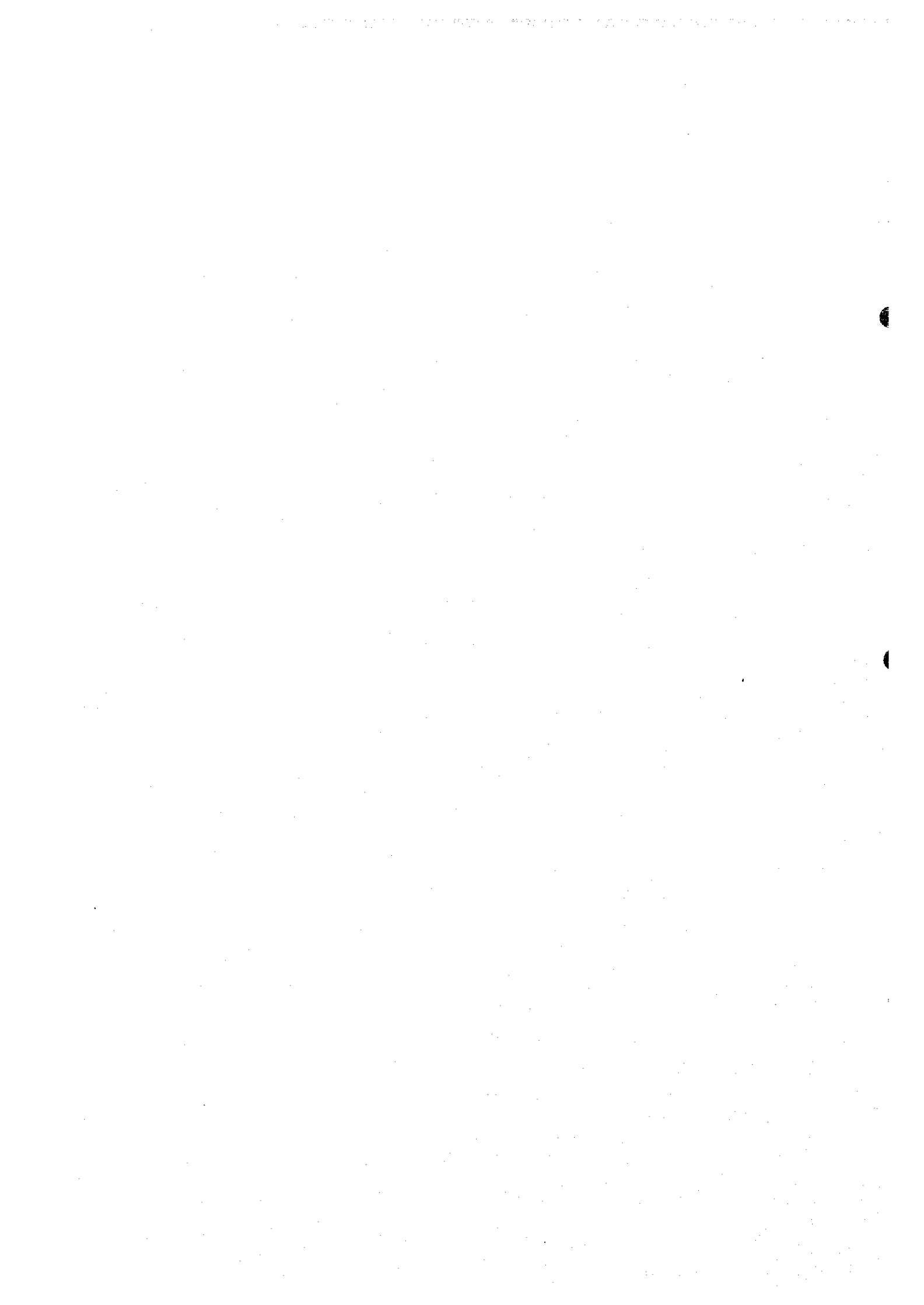
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1. SOCIOECONOMY

1.1 General

“Siam” is the name by which the country was known to the world until 1939 and again between 1945 and 1949. On May 1949, an official proclamation changed the name of the country to “Prathet Thai”, or “Thailand”, by which it has since been known. The word “Thai” means “free”, therefore “Thailand” means “Land of the Free”.

Buddhism, the national religion, is the professed faith of 95 percent of the population. Islam, Christianity, Hinduism and others are embraced by the rest of the population. There is absolute religious freedom. The King of Thailand, under the constitution and in practice, is patron of all major religions embraced by the people.

The Thailand's development out of an educational concern shall bring more emphasis on education for long-term development of human resources to serve the increasing demand for quality in all aspects. The expansion of basic compulsory education from 6 to 9 years will be put into practice in the near future.

The politics of Thailand took a very significant turn on June 1932, changing from the absolute to the constitution based monarchy with a parliamentary form of government. The cabinet is responsible for the administration of fourteen ministries and the Office of the Prime Minister. Each ministry is headed by a politically appointed minister with one or more deputy ministers. The Prime Minister is assisted by Deputy Prime Ministers as well as ministers holding the portfolio of “Minister Attached to the Prime Minister's Office”.

The New Constitution has come into effect since November 1997. This New Constitution has been established by the participation of the nationwide opinions. Thailand's democratic system is now set on the right course of development in responding to the need and aspiration of the people.

Thailand's economic development record over the past three decades was impressive. Real GDP growth had been positive. The transformation during this time of economy from being heavily dependent on agricultural and natural resources to one that is a major exporter of manufactured products has provided a diversified base of economic activity and employment.

Inflation and external debt had been kept within manageable limits.

After the transition from the pegged Baht-US Dollar to the floating system of foreign currency in July 1997, however, Thai has disclosed the widespread other facets of economic difficulties, and eventually has been faced to accept the “conditionalities of IMF” in exchange for inviting the overseas loan for the reconstruction of the suffered economy, and is now under the way of establishing a solid base for the resumption of long-term growth.

The Eighth National Economic and Social Development Plan (1997-2001) is now confronted with the task of overcoming this hard reality, however, the dynamics of Thai people which had realized the past impressive decades will bring the successful recovery in due course of time. As the history tells, the Thai have absorbed various phenomena without

losing their identity. Similarly, a number of necessary reforms in response to the changes may successfully take place in the process of democratization, industrialization, and economic recovery.

This chapter of Thai socioeconomy is described implicitly being dependent on the firm belief for the potential economy as mentioned above, i.e. Thai shall certainly establish in due course a newly borne solid base for the resumption of long-term growth.

1.2 Administration

The country is usually divided into six (6) regions; namely, the Central, the Eastern, the Western, the Northeastern, the Northern and the Southern regions. The Central Region is again divided into Bangkok Metropolis, Bangkok Vicinity and the other areas in many cases, e.g., in statistic books. Administratively, however, Thailand is composed of, in the first stage, provinces (changwat), next, each province is constituted by districts (amphoe and khing amohoe), then a district comprising tambom, and finally each of tambon divided by villages (muban). The number of each administrative level is 76, 868, 7,404 and 66,604, as shown in Table 1.2.1.

The administration in region is decentralized into the provinces and districts as described above. Governors of provinces are appointed by the Minister of Interior and receive orders through the Ministry. The governor and head officer of a district (nai amphoe appointed by the provincial governor) are in charge of all civil servants in the province or district and also responsible for the efficient operation of all offices in his territory. The head of village (phuyaiban), who serves and acts as representative of the village, is elected by the village people. The head of tambon, called kamnan, elected by all phuyaibans is responsible to the officer of the district. The kamnan's main individual responsibilities are to see that justice prevails within the commune, to maintain records and statistics, to help preserve peace, to assist collecting taxes, and to act as intermediary between the district officer and all village headpersons in the tambon.

In parallel with this vertical administrative system, there coexist more self-governing system. In Bangkok Metropolis, for example, governor is selected by the general election.

Source : "Thailand in the 90s", Office of Prime Minister.

1.3 Demography

1.3.1 Population

(1) National Population

The population census of Thailand has been conducted every 10 years since 1960, and it showed the population of 26.26 million in 1960, 34.40 million in 1970, 44.83 million in 1980, and 54.55 million in 1990. The average annual rate of population growth for the periods of 1960's, 1970's and 1980's was 2.7, 2.7 and 2.0 %, respectively. In the population by region, it is noticed that the population in Bangkok Metropolis made a remarkable growth from 1960's to 1970's, and calmed down

afterward in 1980's, i.e., it rose from 2.14 million in 1960 to 3.08 million in 1970 at the growth rate of 3.7 % per annum, then to 4.70 million in 1980 at 4.3 %, and finally to 5.9 million in 1990 at 2.3 % . Such great growth in population was mainly due to the increased migration from rural areas and high birth rate, and the calmness after 1980 was attributed by the decreasing of birth (Table 1.3.1).

(2) Population covering the Study Area

The population of the provinces sharing the Study Area rose from 21.58 million in 1980 to 25.95 million in 1990, accounting for about 47.6 % of the total population of the country. In the Study Area, Metropolitan Bangkok and its vicinity, that is, Bangkok Metropolitan, Samut Prakan, Phatum Thani, Samut Sakon, Nakon Pathom, Nonthaburi showed high annual average increase rates, ranging from 1.8 to 4.7 % during 1980-1990. Other provinces with high average annual increase rates were, Khampheng Phet at 2.4, Uhthai Thani at 2.7 and Petchabun at 2.5 % in Northern region . Meanwhile, provinces with low increase rates were AngThong and Phichit at 0.2, Nakhon Nayok at 0.7 and Chachoengsao at 0.8 % . (Refer to Table 1.3.1)

(3) Population of Changwat Covering the Flood Prone Area

Table 1.3.2 shows the census population of changwat covering the flood prone area. The population gathers much in Lower Delta of Lower Central Plain which contains Bangkok Metropolitan and vicinity, followed by Upper Central Plain , Upper Delta of Lower Central Plain and Nahkon Sawan Area. Percentage against the whole kingdom are 17.4 %, 7.0 %, 7.0 % and 2.4 %, respectively, meanwhile average annual increase rates of the population during 1080-1990 are 2.5 %, 1.6 %, 1.4 % and 1.3 %, also respectively.

1.3.2 Households

According to the registration record in 1995, the whole kingdom had about 14.7 million households with the average of 4.0 persons per household, and in the Study Area the number of households amounted to about 7.1 million with the average of 3.6 persons per household.

In the study area, as for the larger family, Samut Songkhram had the average of 4.5 persons per household, Suhan Buri 4.4, and as for the smaller, Pathum Thani 2.4 and Nontaburi 2.7. (Table 1.3.3)

In the flood prone area, there were 5.58 million households with average of 3.6 persons per household. (Table 1.3.4)

1.3.3 Labour Force

Labor Force (active labor over 13 years old) in 1996 was 33.94 million which was 56.5 % of total population. This labour force of 33.94 million were divided into 33.25 million of the Employed (97.9 % of labour force) which composed of 17.97 million of agriculture sector (54.0 % of the Employed) and 15.28 million of non-agriculture sector (46.0 % of the Employed), and 0.69 million of the Unemployed (2.0 % of labour force). And this

Unemployed rate of 2 % was composed of 0.5 % of Open Unemployed (looking for work) and 1.5 % of Passive Unemployed (available but not looking for work). (Table 1.3.5).

1.4 Economic Indexes

1.4.1 General

The economic disturbance or economic depression took place in ASEAN countries mid-1997 and had prevailed over to the East Asian countries. This widespread phenomena might be acknowledged as one of the products of economic facets occurred in the process of establishing the new worldwide economic scheme after the collapse of the so-called Cold War . That is, the world economies, as well as domestic economies in many countries, have been required willy-nilly to grow out of the old economic regime, and to survive in the more global and deregulated economic schemes and systems.

Thai economy alike can not be an exception in this world profound stream, and the Government is confronting today's difficulties, adjusting or downsizing the target of the macro economy during the period of the Eighth National Economic and Social Development Plan (1997-2001).

Meanwhile, the proposed projects under the present study shall be carried out and be realized in the more stable social and economic situations. And as emphasized in the Section 2.2.1of this chapter, the Thai economy shall certainly recover in due course, even if it may confront with certain amount of difficulties, say, during the Eighth Plan period.

Therefore, hereunder, the trend of usual economic situations before the economic disturbance are implicitly described as the witness of the potential power of Thai economy, which could be certainly linked with the solid base for a long-term growth after the resumption of Thai economy.

1.4.2 Gross Domestic Products (GDP)

The GDP of Thailand at current prices was 4,188 billion baht in 1995, increasing at the average growth rate of 14.0 % from 2,831 billion baht in 1992. The per capita GNP also grew at the annual growth rate of 12.6 % during the same period and became 69,047 baht in 1995. Meanwhile, in terms of GDP at current price by industries, Manufacturing shared 1,180 billion baht (28.2 %), Whole Sale and Retail Trade 680 billion (16.2 %), Services 535 billion baht (12.8 %), Agriculture 464 billion baht (11.1%) in 1995. (Table 1.4.1).

The gross regional product (GRP) by provinces at current market price in the study area are shown in the Table of 1.4.2. GRP in the study area amounted to 2,541 billion baht in 1994, which was 70.6 % of the whole kingdom. As for the gross provincial product (GPP) in the study area, Bangkok Metropolis and its vicinity shared 51.5 % of the whole kingdom, of which Bangkok Metropolis itself shared 38.3 %. Or within the GRP of the study area, that of Bangkok Metropolis and its vicinity accounted for 73 %. The average annual growth rates during 1989-1994 showed also prominent figures in Bangkok Metropolis and its vicinity,

namely, Bangkok Metropolis was at 14.5 %, Samut Sakhon at 32.9 %, Nakhon Pathom 23.9 % and Phathom Thani at 22.9 %, respectively. Other comparative high rates were at 32.6 % of Lamphun, at 30.1 % of Phra Nakhon Si Ayuttaya, at 14.0 % of Saraburi, and so on.

Economic activities by industries is described in Table 1.4.3. The share of Manufacturing is high in Bangkok Metropolis and Vicinity ,and Central Region , while that of Agriculture is high in Western, Eastern, Northeastern and Northern Region.

Per Capita GRP in 1994 were also high in Bangkok Metropolis and its vicinity, namely, 203,650 baht for Bangkok Metropolis, 248,216 baht for Samut Sakhon, 245,555 baht for Phthun Thani, 173,006 baht for Samut Prakan. Meanwhile, the average of Nothern Region was 32,199 baht. The average annual growth rate during 1989-1994 was 12.7 % for Bangkok Metropolis, 29.4 % for Samut Sakhon, 19.1 % for Samut Pathom. Meanwhile, the average of Northern Region was 11.1 % .(refer to Table 1.4.4)

1.4.3 Industries

(1) Manufacturing

Major manufacturing products of Thai are wearing apparel and textiles, machinery, electrical machinery, transport equipment, food and beverage. The share of respective manufacturing products to total amount had been ranged approximately from 7 % to 11 % during the period of 1992 and 1995. Meanwhile, production of machinery, paper and paper products, rubber and plastic products, basic metal industries products, transport equipment, food and beverage showed considerably high increase rate of ranging from 23 % to 11per annum respectively during the period of 1992-1995. That is, Thai manufacturing industries had been growing favorably (Table 1.4.5)

(2) Agricultural Crops

Major agricultural products of Thai are paddy, rubber, fruits, vegetable, sugarcane, cassava and maize.

The share of respective agricultural crop to total amount in 1995 ; paddy was 27.6 %, rubber 21.8 %, fruits 12.1 %, vegetable 8.7 % sugarcane 6.3 % , cassava 5.7 %, maize 3.9 % , respectively. Meanwhile, coffee bean, rubber, sesame and sorghum showed considerably high increase rate of ranging from 60 % to 20 % per annum respectively during the period of 1992-1995, but paddy 3.4 %. Caster bean, tobacco and soybean showed high decrease rate of rang approximately from 60 % to 20 % per annum. That is, the production of Thai agricultural crops had been observed in the term of transformation. (Table 1.4.6)

1.4.4 External Trade

In 1996, the external trade of Thailand amounted to about 3,271 billion baht, which comprised 1,412 billion baht of exports and 1,859 billion baht of imports, and the trade

deficit amounted to 444 billion baht. The trade deficit had continued in recent years and the average growth rate of exports during 1991-1995 was at the fairly high rate of 18.0% per

annum, while that of imports was also high at 22.6%. These figures show that the trade activity of Thailand had continued to be very active both in exports and imports during those years (Table 1.4.7).

Among the exports, such products as parts and accessories for computers, automatic data processing machines and their parts, ICs, woven fabrics, footwear and its parts, etc., called non-agricultural products, had remarkably been expanding in amount. While, rice, tapioca product, sugar, rubber products, and canned sea products, so called agricultural and fishery products, still played an important role in the whole Thai export during those years. (Table 1.4.8)

Meanwhile, iron and steel, crude petroleum oils, plastic and chemicals, machines, passenger cars, part and accessories of motor vehicles, so called industrial goods, were major items for imports (Table 1.4.9).

1.4.5 Balance of International Payments

The international payment of Thailand had kept a favorable balance every year. Capital and financial account or capital movement had compensated each year's trade deficit. In 1996 for instance, the current account of the deficit of 372,159 million baht, which comprised the trade deficit of 417,647, net services and current transfer of plus 131,247 million baht, and deficit of net income 85,759, was compensated by the capital movement of 493,530 million baht. Consequently, the total balance of payment turned out to be 54,608 million baht. This pattern of the balance of payment had continued recently. (Table 1.4.10)

1.4.6 Price Index

The consumer price of Thailand has been comparatively stable in recent years. The average annual rise rate of all items during 1992-1996 in the whole kingdom was 4.9 %, while in Bangkok Metropolis was also 4.9 % per annum. Food and beverage, clothing, and recreation and education showed rather high increase, while housing and furnishing remained stationary (Refer to Table 1.4.11).

1.4.7 Household Income

The average annual monthly household income of the whole kingdom was 10,779 baht or 129,348 baht per year in 1996. That of Greater Bangkok had the highest average income of 21,947 baht per month or 263,364 baht per year. The percentages of every region's income against the whole kingdom were 204 % for Greater Bangkok, 101 for the Central Region, 76 % for Northern Region, 69% for the Northeastern Region, and 91% for the Southern Region. On the other hand, those against Greater Bangkok were 49 % for the whole kingdom, 50 % for the Central Region, 38% for the Northern Region, 34% for the Northeastern Region, and 45 % for the Southern Region (Refer to Table 1.4.12).

1.4.8 Government Budget

(1) Revenue and Expenditure

The budget expenditure of the Government of Thailand increased at the average annual rate of 13.5% during the period of 1990-1995, and in 1995 the revenue and expenditures amounted to 757,741 million baht and 715,000 million baht, respectively, that is, comparatively balanced. (Refer to Table 1.4.13).

The majority of revenue was accounted for by taxes and duties, for instance, in 1995 it amounted to 671,802 million baht, or 88.7 % of the total revenue (Refer to Table 1.4.14).

As for the expenditures, education payment showed the highest figure of 137,641 million baht or 19.2 % of total expenditure in 1995, followed by 99,732 million baht or 13.9 % for maintenance of internal peace and order, 87,910 million baht or 12.3 % for maintenance of national security, 111,324 million or 15.6 % for general services, etc. (Refer to Table 1.4.15).

(2) Budget of Expenditure by Ministries Concerned

Table 1.4.16 shows the budget expenditure by ministries concerned. Total budget of three ministries concerned, namely, Ministry of Agriculture and Cooperatives, Ministry of Transport and Communication and Ministry of Interior might amount to be 359 billion baht on 1997.

(3) External Government Debt

Table 1.4.17 and 1.4.18 shows the situation of external debt of Thailand. The debt service ratio during 1994-1996 had stayed comparatively stable raging around 11.0-12.0 %, but in 1997, it might get to be worse. Meanwhile, as for the government debts from overseas agencies, IBRD, ADB and OECF together have shared majority of them.

1.5 Infrastructure

1.5.1 Transportation

(1) Highway and Road

The transport of passengers and cargoes in Thailand depends mainly on road transportation, namely, 90% of passengers and 85% of cargoes were transported by roads.

Highways and roads in Thailand are classified into seven (7) categories in 1991; namely, special highways (193 km), national highways (19,905 km), provincial highways (32,546 km), rural roads (144,650 km), municipal roads and sanitary

roads (14,724 km), and express highways (47.5 km), totaling 211,872.5 km (Source: The Department of Highway, Ministry of Transport and Communications, 1997).

In general, the highway traffic in Thailand is in a favorable situation except the terribly heavy traffic condition in and around Bangkok Metropolis. The number of vehicle registration excluding motorcycles rose from 3.789 million in 1993 to 4.734 million in 1995 at the average annual growth rate of 12.5% in the whole kingdom. On the other hand, Bangkok Metropolis alone had 3.241 million of vehicle registration excluding motorcycles. This number corresponded to 68.5% of the total number of vehicles registered in the whole Kingdom. This fact indicates one of the reasons of the traffic congestion in Bangkok City (Refer to Table 1.5.1).

(2) Railway

All railways in Thailand belong to the state-owned organization and there are no private railways. Railway transportation started in 1890, during the regime of Rama V, as the scheme of the Royal Railway, and afterward had been reformed into a state-influenced organization in accordance with the State Railway Act of 1951 which has remained unchanged.

The State Railways extend spikewise from Bangkok Station to various destinations, namely, north bound to Chiang Mai, northeastern bound to Nong Khai and Udon Rachathani, and additionally east bound and south bound , making the total length of lines 3,870 km. The rails consist of the single tracks of 3,780 km (97.7%) and the double track of 90 km (2.3%). The railway tracks use the metric gauge system of 1,000 mm which is the same as in the neighboring countries of Malaysia and Cambodia.

As in other countries, management of the railways stands for the severe position in Thailand due to the favorable extension of land vehicle and airway transportation. The volume of passengers had steadily increased from 74,798 thousand in 1992 to 75,766 thousand in 1994, however, decreased to 68,761 thousand in 1996. While, freight service increased steadily from 7,600 thousand ton in 1992 to 8,763 thousand ton in 1996. The revenues also increased from 3,547 million baht in 1992 to 4,053 million baht in 1996 for passenger, from 1,311 million baht in 1992 to 1,626 million baht in 1996, respectively (Table 1.5.2).

(3) Port

Thailand has five deep sea ports, namely, Bangkok Port, Leon Chabang Port, Map Ta Phut Port, Songkhla Port, Phuket Port and Sattahip Port.

Bangkok Port is located at 26 to 29 km from the mouth of the Chao Phraya River to the sea and is the most important trading port. Water depth at the port is 8.5 meters under the mean sea level and 6.3 meters at lowest sea level. Vessels of 8.2 m draft, 12,000D/W, 700 TEU and 170 meters long are able to enter the port. The Bangkok Port had dealt with 16.80 million tons of general cargo and 1.34 million TEU of container cargo in 1993/94.

Leam Chabang Port is located at 110 km southeast of Bangkok, and commenced operation in 1992. It has been designed to provide services to large container ships and bulk carriers which cannot be accommodated at the Bangkok Port. It has developed as a commercial port and dealt with 3.8 million tons of general cargo and 0.33 million TEU of container cargo in 1993/94. This port also plays active functions for export-oriented enterprises in its more than 550 ha of industrial hinterland.

The Port of Map Ta Phut is located at 200 km southeast of Bangkok and started to operate in 1992. This port can be called an industrial port, with a petro-chemical and steel and copper industrial area in the hinterland. It has three terminal facilities, comprising one general cargo terminal and two liquid bulk cargo terminals.

Other deep sea ports in southern Thailand are the Songkhla Port in the Gulf of Thailand and Phuket Port on Andaman Sea. Songkhla Port facilities include two multipurpose berths and one container berth for vessels of 20,000 DWT. Phuket Port has two berths for 20,000 DWT. Those two deepsea ports are designed to serve the need of shippers in the southern part of Thailand and to promote the export of products of the region (Table 1.5.3).

1.5.2 Telecommunication

The telecommunication business in Thailand is being operated by two state agencies, namely, the Telephone Organization of Thailand (TOT) and the Communications Authority of Thailand (CAT), under the control of the Post and Telegraph Department (PTD). TOT engages in all the domestic telephone services and CAT provides all other communication services such as telegram, telex, postal and international telephone services. TOT and CAT are using the most modern technology in response to private and commercial requirements. These include the introduction of IDD, SPC, satellite communication, radio paging services, cellular telephone, microwave network, etc. In December 1993, Thailand launched its first domestic satellite.

Further, corresponding to the rapid development of technology and diverse needs, the government has a plan to liberalize some telecommunication services by amending the Telegraph and Telephone Act of 1934 to allow greater participation by the private sector in the provision of telecommunication in Thailand.

Table 1.5.4 shows the rapid expansion and growth of telephone services in both BMTA and provinces.

1.5.3 Electric Power Supply

Most electricity in Thailand is generated by the facilities of the Electricity Generating Authority of Thailand (EGAT). EGAT, which was established in 1969, has conducted construction, operation and maintenance of the power plants and transmission work to Metropolitan Electricity Authority (MEA) and Provincial Electricity Authority (PEA). The share in 1992 were 45% for MEA and 55% for PEA. MEA once had the share of more than 50%, however, its share is declining. This means that provinces have come to demand more electricity supply due to electrification and industrialization.

Total electricity generated in 1996 was 87,867 Gwh, comprising 53.2 % of Steam, 35.1 % of combined cycle, 8.4 % of Hydro and others. On the other hand, consumption of electric power in the whole country amounted to 76,751 Gwh, comprising 45.1 % of industrial use, 33.1 % of commercial use, 20.9 % of residential use and others (Table 1.5.5).

1.6 National Development Policy

1.6.1 Economic and Social Development over the Past Three Decades

The Kingdom of Thailand has been undertaking the National Economic and Social Development Plan since 1961 and has been successful in economic development as witnessed by the high economic growth rate of 8 % per year on average. Per capita income had increased from 2,100 baht in 1961 to 68,000 baht in 1995, or 32 times by comparison. Poverty rate was reduced to 13.7 percent in 1995, compared to the target of 20 percent in the Seventh National Economic and Development Plan. Owing to the strong financial and fiscal stance, Thailand was given creditworthiness by international standard. Furthermore, continuing public investment in basic infrastructure and social infrastructure services has resulted in sustained improvement in income, standard of living and quality of life of Thai people.

Although the target of economic growth had been achieved, economic activities and prosperity are still concentrated in the Bangkok Metropolitan Administration (BMA). Per capita income in BMA is much higher than people in other regions. For example, it is 12 times those of the Northeastern Region, the poorest region in Thailand. The income gap and unequal opportunity to benefit from economic growth has affected the majority of Thai people and long-term development of the country.

The past development has given the majority of people satisfactory basic infrastructures and social infrastructure services. By 1994, 97.9 percent of rural households had access to electricity, 75 and 32 percent of households in regional cities and villages, respectively, had access to clean potable water. There were 210,025 kilometers of road networks connecting provinces, districts and sub-districts, of which 123,400 kilometers were in villages. Rural people had received higher education, 97.7 percent obtained compulsory education. The success of the health development extended the average life span of Thai people to 67.7 years in 1994, compared to 63 years in 1990.

Source: Summary of Eighth National Economic and Social Development Plan over the Past Three Decades, NESDB.

1.6.2 The Eighth National Economic and Social Development Plan (1997-2001)

Recognizing the unbalanced development which resulted in "economic success on one hand and social problems and threats to sustainable growth on the other," and fulfilling the long term vision of a desirable society, the Eighth National Economic and Social Development Plan (1997-2001) have aimed at the following objectives (which was set forth before the economic disturbance occurred in mid-1997) :

- (a) To foster and develop the potential of all Thais, in terms of health, physical well-being, intellect, vocational skills and ability to adapt to changes in social and economic conditions.
- (b) To develop a stable society, strengthen family and community, support human development, improve the quality of life and promote increased community participation in national development.
- (c) To promote stable and sustainable economic growth, and to empower the people to play a greater role in the development process and receive a fair share of the benefits of growth.
- (d) To utilize, preserve and rehabilitate the environment and natural resources in such a way that can play a major role in economic and social development and contribute to better quality of life for the Thai people.
- (e) To reform the system of public administration so as to allow greater participation of non-governmental organizations, the private sector, communities and the general public in the process of national development.

At the same time, in order to attain the above objectives, the Eighth Plan have set the following targets and strategies in the aspects of economy (which was set forth before the economic disturbance occurred in mid-1997):

- (a) To upgrade the skills and basic knowledge of industrial workers, particularly in the 25-45 age group.
- (b) To lower the current account deficit to 3.4 percent of GDP by the last year of the Plan, while keeping the rate of inflation at not more than 4.5 percent per year, in order to safeguard economic stability.
- (c) To increase domestic saving 10 percent of GDP by the last year of the Plan.
- (d) To upgrade and expand infrastructure provision in the regions and rural areas.
- (e) To preserve and rehabilitate forest areas to cover no less than 25 percent of the country.

Meanwhile, as for the nature and application of the Eighth Plan, the Plan serves as a guidance for national development during the next decade, and more specially for the five year period 1997-2001. The development strategies proposed in the Eighth Plan indicate only the directions of national development to achieve the major long-term goals. They do not set out a detailed development approach by economic and social sectors and short term measures currently undertaken by various implementing agencies.

2. SOCIOECONOMIC FRAMEWORK IN FUTURE

2.1 Population Projection

2.1.1 General

A projection of population was published by Human Resources Planning Division, NESDB in 1995. This projection is made every year, ranging the period from 1990 to 2020 for the national population and the period from 1990 to 2005 for the population of changwats.

The population projection in the Study Area focuses on the years of 2018, taking into consideration that the construction works of the Projects are scheduled to finish in 2018 and the target year of the Projects is set in 2018. In addition, a projection of the population in the flood prone area also would be made on the same years herein, for the purpose of making the basic data for carrying out the economic analysis of the Projects.

2.1.2 Projection of National Population

Table 2.1.1 shows the expected future population of whole kingdom in the years 2000, 2005, 2010, 2015 and 2018 given by NESDB. According to this projection, population of Thailand is expected to reach 62.405 million in 2000, 67.230 in 2010, and 69.878 in 2018. That is, the 2018 population would be expected to reach 1.28 times of the 1990 census population of 54.549 million.

Above mentioned average annual growth rate of the national population would become 0.83 % from 2000 to 2005, 0.67 % from 2005 to 2010, 0.54 % from 2010 to 2015 and 0.39 % from 2015 to 2018. This may be said that the annual average growth rate in the national population will be on the slow rate generally in the future.

2.1.3 Population Projection of the Study Area

The population projection by NESDB gives the estimated population of Metropolitan Bangkok and changwats until 2005 covering the study area (Table 2.1.2). Therefore, in the present study, the 2018 populations in the Metropolitan Bangkok and respective changwat (hereinafter in this section referred to 'Provinces') have been estimated as follows :

First an average annual growth rate for the period 2005-2010 is estimated using the equation ; $r_{p2} = r_{n2} (r_{p1}/r_{n1})$, where r_{p2} and r_{p1} are the population growth rates of Provinces for the periods 2005-2010 and 2000-2005, and , r_{n2} and r_{n1} are the growth rates of the national population for 2005-2010 and 2000-2005. Next, an average annual growth rate for the period 2010-2015 is estimated in the same way. Then, the years population projection of the provinces from 2010 to 2018 are calculated by using the population growth rates mentioned above and the 2005 population projection by NESDB.

Table 2.1.3 shows the expected future population covering the study area, which will reach 32.596 million in 2018. That is, the 2018 population covering the study area would be 1.43 times of the 1990 census population of 22.79.

An average annual growth rate of the study area would become 0.75 % from 2005 to 2010, 0.62 % from 2010 to 2015 and 0.45 % from 2015 to 2018. The growth rates are comparatively high in Bangkok Metropolitan and Bangkok Vicinity, ranging 1.80 % to 0.85 %, however, those of other areas, especially of Northern Area are very low ranging from 0.04 % to 0.01 %. This means that the population of rural areas are on the very slow way in the future.

2.1.4 Population Projection of Changwat Covering Flood Prone Area

Table 2.1.4 shows the population projection of 1998 and 2018 in the changwats covering the flood prone area. The population growth is higher in the down stream than in upper stream, namely, the growth of population in 2018 against 1998 are 1.33 times in Lower Delta of Lower Central Plain, followed by 1.05 times in Upper Delta of Lower Central Plain, 1.01 times in Nakhon Sawan Area and 1.01 times in Upper Central Plain.

2.2 Projection of Gross Domestic and Gross Regional Products

2.2.1 Projection of Gross Domestic Products

(1) General

The past trend of the Thailand GDP could be said to have been very brilliant as described in the former section 2.2.6 'National Development Policy'. The average annual growth rate at current market prices from 1989 to 1994 was 14.2 % and the one at constant 1988 prices during the same period was 8.9 %. (refer to Table 2.2.1 and 2.2.2)

Meanwhile, Thai economy have changed much especially after being induced to take the measure of the floating foreign exchange system in July 1997 and afterward receiving the IMF recommendation in order to resume the Thai Economy. The macro economy targets of the Eighth National and Economic and Social Development Plan (1997-2001) was first revised September, 1997 by the resolution of the cabinet. And afterward also, it has been revised several times taking the moving current economic conditions into consideration. Eventually, Thai Government, in consultation with IMF, anticipating for bottoming out to the stage for the modest growth in the near future, has been making efforts for rebuilding confidence and paving the way for sustainable and strong economic recovery. Therefore, the GDP projection would have to be carried out taking those various conditions into account.

(2) Trend of Gross Domestic Product

Table 2.2.3 shows the past trend of the GDP and Per Capita GDP of the Seventh National Economic and Social Development Plan and of the actual and assumed figures of the Eighth Plan . According to those figures, the average of annual growth

rate of actual GDP and Per Capita during the Seventh Plan were 8.0 % and 6.8 % respectively, and those during the Eighth Plan will be 0.5 % and -0.4 % on average respectively. Where, in the Eighth Plan, it might be assumed in this report that the depression of the economy will continue for 1997 and 1998, and then be shifted to recover itself for the figures according to the initially planned ones of September 1997.

(3) Future Trend of GDP

The future trend of GDP shall be estimated taking the given trend of the figures at constant price into consideration and start calculating on the figures at current prices of fixed year. As for the GDP of the fixed year of 1998, it is calculated as 4,888 billion baht at current prices using the given figure of 3,601 billion baht in 1994 and the given nominal annual growth rate from 1995 to 1998. (refer to Table 2.2.1 and 2.2.3)

Then, taking the Seventh and the Eighth Development Plan's trend into consideration, it might be presumed for the estimates of GDP in 2018 of the target year that Scenario of A (High), Scenario of B (Medium) and Scenario of C (Low) shall be set (Projection I).

That is, Scenario of B (Medium) are assumed to be 3.8 % during 1999-2001, 6.5 % during 2002-2010, and 6.0 % during 2011-2018 respectively as the average annual growth rate of real GDP. Meanwhile, Scenario A (High) is set to be 1 (one) % higher than Scenario B, and Scenario C (Low) to be 1 (one) % lower during 1999-2018. As the result, the GDP of 2018, using those average annual growth rates together with 4,888 billion baht at 1998 current prices, are estimated as follows (refer to Table 2.2.4) ;

ESTIMATE OF REAL GDP IN 2018 (Projection I)

Scenario	A (High)	B (Medium)	C (Low)
GDP (billion baht)	18,534	15,357	12,703

Those figures present that GDP shall increase 3.8 times for High, 3.1 times for Medium and 2.6 times for Low Scenario during the period 1998-2018, respectively.

This result (Projection I) is compared with the another projection of GDP (Projection II), which is estimated from the product of Per Capita GDP and population.

Taking the Seventh and the Eighth Development Plan's trend and the slow growth of population into consideration, Scenario of B (Medium) are assumed to be 2.9 % during 1999-2001, 6.0 % during 2002-2010, and 5.5 % during 2011-2018, respectively as the annual growth rate of Real Per Capita GDP. Meanwhile, Scenario A (High) is set to be 1 (one) % higher than Scenario B, and Scenario C (Low) to be 1 (one) % lower during 1999-2018. As the result, the Per Capita GDP of 2018, using

those average annual growth rates together with the per capita income of 79,868 baht at 1998 current prices, are estimated as follows (refer to Table 2.2.5) ;

ESTIMATE OF PER CAPITA GDP IN 2018

Scenario	A (High)	B (Medium)	C (Low)
GDP (baht)	272,565	225,627	186,436

According to the population projection already listed in Table 2.1.1, the 2018 population of Thailand is estimated to reach 69.878 million . A product of this population and Par Capita GDP above would give another projection of the GDP in 2018 as shown below. (refer to Table 2.2.5)

ESTIMATE OF REAL GDP IN 2018 (Projection II)

Scenario	A (High)	B (Medium)	C (Low)
GDP (billion baht)	19,046	15,766	13,028

The above mentioned GDP (Projection II), which is estimated indirectly, is close to the foregoing direct estimate of GDP (Projection I).

2.2.2 Projection of Gross Regional Products for Study Area and Flood Prone Area

Gross Regional Products of 1994 at current prices by Changwat were provided by NESDB. Using those figures, the share of the Gross Regional Products of each Changwat against that of Whole Kingdom could be calculated. Then, basing upon these shares, Gross Regional Products at 1998 constant prices by Changwat of Study Area were obtained. And then the total of 10,836 billion baht and the amount of individual Changwat for the Study Area in 2018 shall be estimated. (Table 2.2.6 as of Medium Scenario adopted)

Meanwhile, Gross Regional Products at 1998 constant prices of the changwats covering flood prone area would be estimated to be 448 billion baht for Upper Central Plain, 185 billion baht for Nakon Sawan Area, 860 billion baht for Upper Delta of Lower Central Plain and 2,028 billion baht for Lower Delta of Lower Central Plain, totaling 3,520 billion baht in 2018. (Table 2.2.7)



Tables

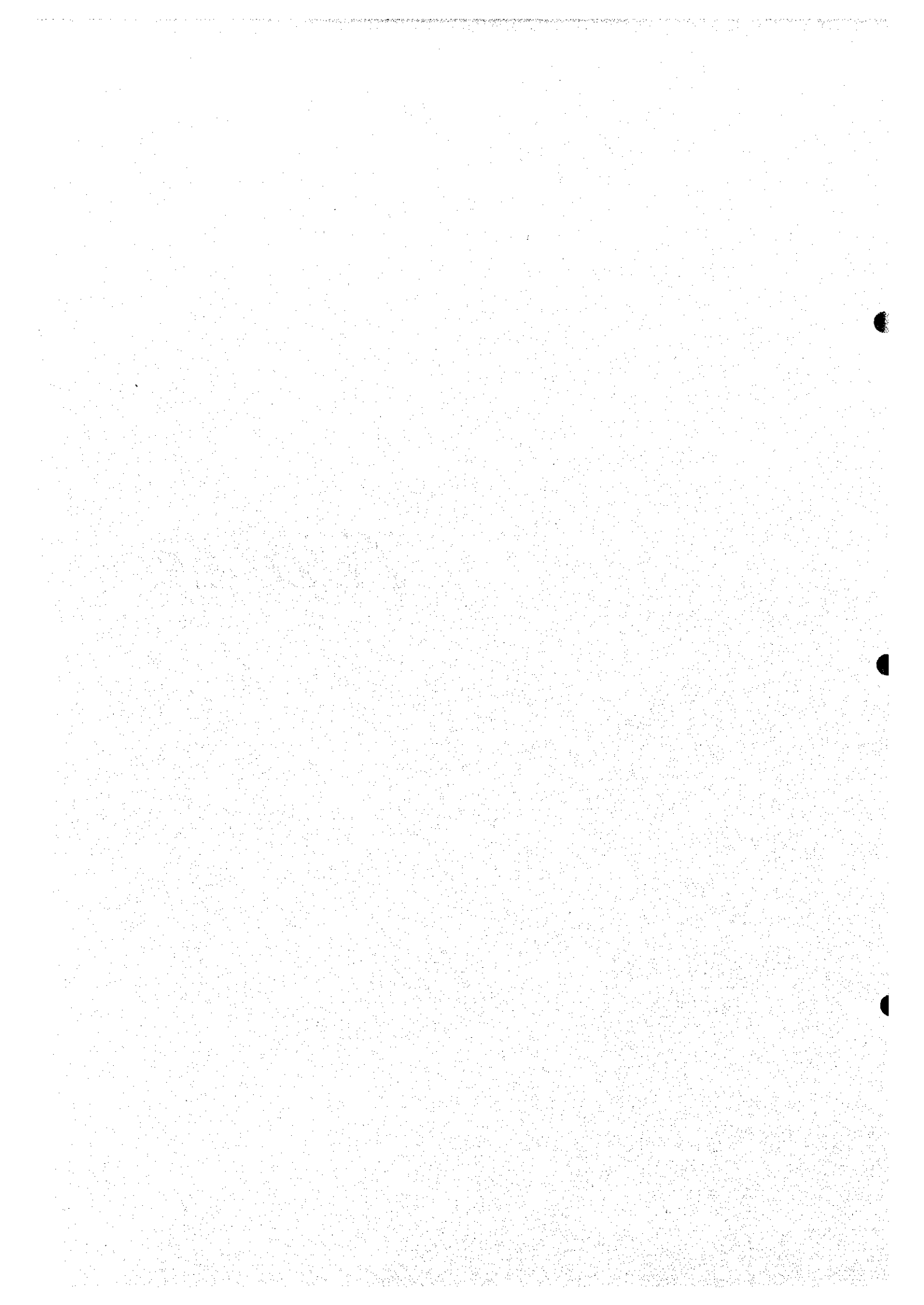


Table 1.2.1 AREA AND ADMINISTRATIVE DIVISIONS BY REGIONS : 1996

Region	Area in sq.km	Changwat	Amphoe	King Amphoe	Tambon	Village
Whole Kingdom	513,115.2	76	787	81	7,404	66,604
Bangkok Metropolis	1,565.2	1	38	-	151	727
Bankok Vicinity	7,758.2	6	65	2	459	3,328
Central Region	16,593.4	6	56	2	613	4,822
Eastern Region	36,502.5	8	55	8	521	4,379
Western Region	43,047.1	6	48	3	488	3,973
Nothern Region	169,644.3	17	169	14	1,562	13,962
Northeastern Region	168,854.3	19	258	41	2,675	28,257
Southern Region	70,715.2	14	136	11	1,086	7,883

Source : Royal Thai Survey Department, Ministry of Defense

Statistical Handbook 1996, National Statistical Office, Office of Prime Minister

Table 1.3.1 POPULATION CENSUS BY CHANGWAT COVERING FLOOD PRONE AREA

Region, Chanwat	1960	1970	1980	1990	Share in 1990(%)	Annual Avg. Increase Rate (%)		
						1960-1970	1970-1980	1980-1990
Upper Central Plain								
Uttaradit	259,109	323,112	401,165	440,342	0.8	2.2	2.2	0.9
Phitsanulok	351,642	491,886	632,218	757,397	1.4	3.4	2.5	1.8
Kamphaeng Phet	173,346	339,862	507,532	643,796	1.2	7.0	4.1	2.4
Sukhothai	315,948	402,342	500,140	560,375	1.0	2.4	2.2	1.1
Phichit	389,122	440,460	537,774	550,608	1.0	1.2	2.0	0.2
Phetchabun	319,611	524,791	680,315	870,822	1.6	5.1	2.6	2.5
Sub Total	1,808,778	2,522,453	3,259,144	3,823,340	7.0	3.4	2.6	1.6
Nakhon Sawan Area								
Nakhon Sawan	647,602	758,891	942,068	1,040,054	1.9	1.6	2.2	1.0
Uthai Thani	145,504	177,644	225,632	295,050	0.5	2.0	2.4	2.7
Sub Total	793,106	936,535	1,167,700	1,335,104	2.4	1.7	2.2	1.3
Upper Delta of Lower Central Plain								
Saraburi	303,505	353,436	432,875	507,792	0.9	1.5	2.0	1.6
Sing Buri	154,604	165,371	198,574	230,351	0.4	0.7	1.8	1.5
Chai Nat	245,317	261,513	318,068	357,129	0.7	0.6	2.0	1.2
Ang Thong	197,865	217,014	256,706	260,985	0.5	0.9	1.7	0.2
Lop Buri	335,661	463,933	571,713	721,023	1.3	3.3	2.1	2.3
P.N.Si Ayutthaya	478,738	501,737	602,021	700,649	1.3	0.5	1.8	1.5
Suphan Buri	491,252	562,008	709,432	797,514	1.5	1.4	2.4	1.2
Nakhon Nayok	153,683	163,036	206,687	222,706	0.4	0.6	2.4	0.7
Sub Total	2,360,625	2,688,048	3,296,076	3,798,149	7.0	1.3	2.1	1.4
Lower Delta of Lower Central Plain								
Bangkok Metropolis	2,136,435	3,077,375	4,697,071	5,882,411	10.8	3.7	4.3	2.3
Samut Prakan	234,701	329,404	484,829	769,822	1.4	3.4	3.9	4.7
Pathum Thani	189,801	233,861	319,674	412,407	0.8	2.1	3.2	2.6
Samut Sakhon	165,712	200,450	247,168	320,959	0.6	1.9	2.1	2.6
Nakhon Pathom	370,481	419,319	525,906	629,573	1.2	1.2	2.3	1.8
Nonthaburi	196,196	269,078	369,777	574,702	1.1	3.2	3.2	4.5
Rachaburi	410,573	482,696	635,289	734,991	1.3	1.6	2.8	1.5
Samut Sogngkhran	161,899	162,526	168,404	191,125	0.4	0.0	0.4	1.3
Sub Total	3,865,798	5,174,709	7,448,118	9,515,990	17.4	3.0	3.7	2.5
Flood Prone Area Total	8,828,307	11,321,745	15,171,038	18,472,583	33.9	2.5	3.0	2.0
Study Area Total	13,467,620	17,175,583	21,579,801	25,946,743	47.6	2.5	2.3	1.9
Other than Study Area	12,790,296	17,221,790	23,245,039	28,601,792	52.4	3.0	3.0	2.1
Whole Kingdom	26,257,916	34,397,373	44,824,840	54,548,535	100	2.7	2.7	2.0

Source : 1960 Thailand Population Census, and 1970, 1980, 1990 Population and Housing Census,
National Statistical Office
Statistical Yearbook Thailand, 1995.
Statistical Handbook of Thailand, 1996.

Table 1.3.2 POPULATION CENSUS OF NATION AND CHANGWAT COVERING THE STUDY AREA

Region, Chanwat	1960	1970	1980	1990	Share in 1990(%)	Annual Avg. Increase Rate (%)		
						1960-1970	1970-1980	1980-1990
(1) Study Area								
Bangkok Metropolis	2,136,435	3,077,375	4,697,071	5,882,411	10.8	3.7	4.3	2.3
Bangkok Vicinity								
Samut Prakan	234,701	329,404	484,829	769,822	1.4	3.4	3.9	4.7
Pathum Thani	189,801	233,861	319,674	412,407	0.8	2.1	3.2	2.6
Samut Sakhon	165,712	200,450	247,168	320,959	0.6	1.9	2.1	2.6
Nakhon Pathom	370,481	419,319	525,906	629,573	1.2	1.2	2.3	1.8
Nonthaburi	196,196	269,078	369,777	574,702	1.1	3.2	3.2	4.5
Sub Total	1,156,891	1,452,112	1,947,354	2,707,463	5.0	2.3	3.0	3.4
Central Region								
Saraburi	303,505	353,436	432,875	507,792	0.9	1.5	2.0	1.6
Sing Buri	154,604	165,371	198,574	230,351	0.4	0.7	1.8	1.5
Chai Nat	245,317	261,513	318,068	357,129	0.7	0.6	2.0	1.2
Ang Thong	197,865	217,014	256,706	260,985	0.5	0.9	1.7	0.2
Lop Buri	335,661	463,933	571,713	721,023	1.3	3.3	2.1	2.3
P.N.Si Ayutthaya	478,738	501,737	602,021	700,649	1.3	0.5	1.8	1.5
Sub Total	1,715,690	1,963,004	2,379,957	2,777,929	5.1	1.4	1.9	1.6
Western Region								
Kanchanaburi	233,341	329,054	481,771	641,041	1.2	3.5	3.9	2.9
Rachaburi	410,573	482,696	635,289	734,991	1.3	1.6	2.8	1.5
Samut Sogngkhran	161,899	162,526	168,404	191,125	0.4	0.0	0.4	1.3
Suphan Buri	491,252	562,008	709,432	797,514	1.5	1.4	2.4	1.2
Sub Total	1,297,065	1,536,284	1,994,896	2,364,671	4.3	1.7	2.6	1.7
Eastern Region								
Chachaensao	447,656	477,768	512,343	552,108	1.0	0.7	0.7	0.8
Nakhon Nayok	153,683	163,036	206,687	222,706	0.4	0.6	2.4	0.7
Sub Total	601,339	640,804	719,030	774,814	1.4	0.6	1.2	0.7
Northeastern								
Loei	210,535	324,684	441,322	535,842	1.0	4.4	3.1	2.0
Northern Region								
Chiang Mai	798,483	1,026,450	1,154,850	1,367,183	2.5	2.5	1.2	1.7
Chiang Rai	811,771	1,111,607	902,969	1,052,234	1.9	3.2	-2.1	1.5
Lampang	471,699	583,378	649,006	728,843	1.3	2.1	1.1	1.2
Uttaradit	259,109	323,112	401,165	440,342	0.8	2.2	2.2	0.9
Mae Hong Son	127,654	138,776	144,630	158,385	0.3	0.8	0.4	0.9
Phrae	299,369	365,509	420,546	483,270	0.9	2.0	1.4	1.4
Lamphun	471,699	583,378	649,006	728,843	1.3	2.1	1.1	1.2
Nan	240,471	310,734	361,609	416,686	0.8	2.6	1.5	1.4
Phayao	358,643	385,479	418,228	474,524	0.9	0.7	0.8	1.3
Nakhon Sawan	647,602	758,891	942,068	1,040,054	1.9	1.6	2.2	1.0
Phitsanulok	351,642	491,886	632,218	757,397	1.4	3.4	2.5	1.8
Kamphaeng Phet	173,346	339,862	507,532	643,796	1.2	7.0	4.1	2.4
Uthai Thani	145,504	177,644	225,632	295,050	0.5	2.0	2.4	2.7
Sukhothai	315,948	402,342	500,140	560,375	1.0	2.4	2.2	1.1
Tak	167,992	217,021	272,483	335,201	0.6	2.6	2.3	2.1
Phichit	389,122	440,460	537,774	550,608	1.0	1.2	2.0	0.2
Phetchabun	319,611	524,791	680,315	870,822	1.6	5.1	2.6	2.5
Sub Total	6,349,665	8,181,320	9,400,171	10,903,613	20.0	2.6	1.4	1.5
Study Area Total	13,467,620	17,175,583	21,579,801	25,946,743	47.6	2.5	2.3	1.9
(2) Other than Study Area	12,790,296	17,221,790	23,245,039	28,601,792	52.4	3.0	3.0	2.1
Whole Kingdom	26,257,916	34,397,373	44,824,840	54,548,535	100	2.7	2.7	2.0

Source: 1960 Thailand Population Census, and 1970, 1980, 1990 Population and Housing Census,
National Statistical Office
Statistical Yearbook Thailand, 1995.
Statistical Handbook of Thailand, 1996.

Table I.3.3 1995 REGISTRATION POPULATION COVERING STUDY AREA

Region,Changwat	Registration Population in 1995				Number of Household		Person per House Hold	
	Urban	%	Rural	%	Total	%	1995	1995
(1) Study Area								
Bangkok Metropolis	5,570,743	100	0	0.0	5,570,743	100	1,661,311	3.4
Bangkok Vivinity								
Samut Prakan	154,681	16.7	771,429	83.3	926,110	100	308,545	3.0
Pathum Thani	70,471	13.4	453,780	86.6	524,251	100	217,223	2.4
Samut Sakhon	104,970	26.9	285,729	73.1	390,699	100	132,055	3.0
Nakhon Pathom	92,013	12.6	638,063	87.4	730,076	100	188,980	3.9
Nonthaburi	454,502	60.2	300,125	39.8	754,627	100	284,207	2.7
Sub Total	876,637	26.4	2,449,126	73.6	3,325,763	100	1,131,010	2.9
Central Region								
Saraburi	127,061	22.3	443,622	77.7	570,683	100	151,749	3.8
Sing Buri	21,475	9.6	201,265	90.4	222,740	100	54,719	4.1
Chai Nat	20,153	5.8	330,165	94.2	350,318	100	86,031	4.1
Ang Thong	23,071	8.1	263,318	91.9	286,389	100	66,416	4.3
Lop Buri	44,487	6.0	696,339	94.0	740,826	100	194,314	3.8
P. N. Si Ayutthaya	71,362	10.1	635,140	89.9	706,502	100	176,041	4.0
Sub Total	307,609	10.7	2,569,849	89.3	2,877,458	100	729,270	3.9
Western Region								
Kanchanaburi	54,410	7.3	690,525	92.7	744,935	100	195,862	3.8
Rachaburi	84,638	10.6	713,438	89.4	798,076	100	186,764	4.3
Samut Songkhram	42,313	20.4	164,666	79.6	206,979	100	46,477	4.5
Suphan Buri	41,830	5.0	798,682	95.0	840,512	100	192,650	4.4
Sub Total	223,191	8.6	2,367,311	91.4	2,590,502	100	621,753	4.2
Eastern Region								
Chachoengsao	51,798	8.5	557,443	91.5	609,241	100	153,956	4.0
Nakhon Nayok	17,841	7.5	219,304	92.5	237,145	100	56,854	4.2
Sub Total	69,639	8.2	776,747	91.8	846,386	100	210,810	4.0
North Eastern Region								
Loei	23,629	3.8	597,915	96.2	621,544	100	139,915	4.4
Nothern Region								
Chiang Mai	167,945	10.8	1,384,821	89.2	1,552,766	100	484,674	3.2
Chiang Rai	45,477	3.6	1,203,851	96.4	1,249,328	100	349,008	3.6
Lampang	69,261	8.6	733,930	91.4	803,191	100	218,100	3.7
Uttaradit	43,084	9.0	433,913	91.0	476,997	100	117,435	4.1
Mae Hong Son	843	0.4	212,085	99.6	212,928	100	55,350	3.8
Phrae	21,062	4.3	472,443	95.7	493,505	100	134,355	3.7
Lamphun	14,160	3.5	390,806	96.5	404,966	100	122,113	3.3
Nan	22,821	4.8	450,294	95.2	473,115	100	115,979	4.1
Phayao	21,828	4.2	495,429	95.8	517,257	100	144,332	3.6
Nakhon Sawan	143,613	12.9	973,190	87.1	1,116,803	100	286,041	3.9
Phitsanulok	88,442	10.4	758,188	89.6	846,630	100	217,113	3.9
Kamphaeng Phet	28,263	3.8	714,120	96.2	742,383	100	183,361	4.0
Uthai Thani	19,527	6.0	305,203	94.0	324,730	100	84,967	3.8
Sukhothai	38,798	6.3	574,519	93.7	613,317	100	154,514	4.0
Tak	47,923	10.6	402,230	89.4	450,153	100	116,608	3.9
Phichit	57,935	9.8	534,190	90.2	592,125	100	136,327	4.3
Phetchabun	42,716	4.2	983,421	95.8	1,026,137	100	244,428	4.2
Sub Total	873,698	7.3	11,022,633	92.7	11,896,331	100	3,164,705	3.8
Study Area Total	7,740,156	30.5	17,617,037	69.5	25,357,193	100	7,089,756	3.6
(2) Other than Study Area	3,117,945	9.1	30,985,244	90.9	34,103,189	100	7,607,329	4.5
Whole Kingdom	10,858,101	18.3	48,602,281	81.7	59,460,382	100	14,697,085	4.0

Source : Thailand Population Census, 1980, 1990 Population and Housing Census, National Statistical Office.
Statistical Handbook of Thailand, 1996, National Statistical Office.

Table 1.3.4 REGISTRATION POPULATION OF CHANGWAT COVERING FLOOD PRONE AREA

Region,Changwat	Registration Population in 1995				Total	%	Number of Household 1995	Person per House Hold 1995
	Urban	%	Rural	%				
Upper Central Plain								
Uttaradit	43,084	9.0	433,913	91.0	476,997	100	117,435	4.1
Phitsanulok	88,442	10.4	758,188	89.6	846,630	100	217,113	3.9
Kamphaeng Phet	28,263	3.8	714,120	96.2	742,383	100	183,361	4.0
Sukhothai	38,798	6.3	574,519	93.7	613,317	100	154,514	4.0
Phichit	57,935	9.8	534,190	90.2	592,125	100	136,327	4.3
Phetchabun	42,716	4.2	983,421	95.8	1,026,137	100	244,428	4.2
Sub-total	299,238	7.0	3,998,351	93.0	4,297,589	100	1,053,178	4.1
Nakhon Sawan Area								
Nakhon Sawan	143,613	12.9	973,190	87.1	1,116,803	100	286,041	3.9
Uthai Thani	19,527	6.0	305,203	94.0	324,730	100	84,967	3.8
Sub-total	163,140	11.3	1,278,393	88.7	1,441,533	100	371,008	3.9
Upper Delta of Lower Central Plain								
Saraburi	127,061	22.3	443,622	77.7	570,683	100	151,749	3.8
Sing Buri	21,475	9.6	201,265	90.4	222,740	100	54,719	4.1
Chai Nat	20,153	5.8	330,165	94.2	350,318	100	86,031	4.1
Ang Thong	23,071	8.1	263,318	91.9	286,389	100	66,416	4.3
Lop Buri	44,487	6.0	696,339	94.0	740,826	100	194,314	3.8
P. N. Si Ayutthaya	71,362	10.1	635,140	89.9	706,502	100	176,041	4.0
Suphan Buri	41,830	5.0	798,682	95.0	840,512	100	192,650	4.4
Nakhon Nayok	17,841	7.5	219,304	92.5	237,145	100	56,854	4.2
Sub-total	367,280	9.3	3,587,835	90.7	3,955,115	100	978,774	4.0
Lower Delta of Lower Central Plain								
Banngkok Metropolis	5,570,743	100.0	0	0.0	5,570,743	100	1,661,311	3.4
Samut Prakan	154,681	16.7	771,429	83.3	926,110	100	308,545	3.0
Pathum Thani	70,471	13.4	453,780	86.6	524,251	100	217,223	2.4
Samut Sakhon	104,970	26.9	285,729	73.1	390,699	100	132,055	3.0
Nakhon Pathom	92,013	12.6	638,063	87.4	730,076	100	188,980	3.9
Nonthaburi	454,502	60.2	300,125	39.8	754,627	100	284,207	2.7
Rachaburi	84,638	10.6	713,438	89.4	798,076	100	186,764	4.3
Samut Songkhram	42,313	20.4	164,666	79.6	206,979	100	46,477	4.5
Chachoengsao	51,798	8.5	557,443	91.5	609,241	100	153,956	4.0
Sub-total	6,626,129	63.0	3,884,673	37.0	10,510,802	100	3,179,518	3.3
Total of Flood Prone Area	7,455,787	36.9	12,749,252	63.1	20,205,039	100	5,582,478	3.6
Total of Study Area	7,740,156	30.5	17,617,037	69.5	25,357,193	100	7,089,756	3.6
Other than Study Area	3,117,945	9.1	30,985,244	90.9	34,103,189	100	7,607,329	4.5
Whole Kingdom	10,858,101	18.3	48,602,281	81.7	59,460,382	100	14,697,085	4.0

Source: Thailand Population Census, 1980, 1990 Population and Housing Census, National Statistical Office.
 Statistical Handbook of Thailand, 1996, National Statistical Office.

Table 1.3.5 STRUCTURE OF LABOUR FORCE

	Unit : million (or as stated)					Comparison (1996) %
	1993	1994	1995	1996	1997(E)	
(1) Population	58.34	59.1	59.46	60.1	60.8	-
(2) Labour Force	32.9	33.23	33.43	33.94	34.41	(2)/(1)x100 56.5
(3) Employed	32.03	32.36	32.86	33.25	33.68	(3)/(2)x100 97.9
(4) Agriculture	18.84	18.54	18.25	17.97	17.59	(4)/(3)x100 54.0
(5) Non-Agriculture	13.20	13.82	14.61	15.28	16.09	(5)/(3)x100 46.0
(6) Unemployed	0.87	0.87	0.57	0.69	0.73	
(7) Unemployed Rate (%)	2.6	2.6	1.7	2.0	2.1	(7)/(2)x100 2.0
(8) Open Unemployed (%)	0.6	0.6	0.5	0.5	0.5	0.5
(9) Passive Unemployed (%)	2.0	2.0	1.2	1.5	1.6	1.5

Source : Key Economic Indicators, 1997, Economic Research Department, NESDB.

Note : Labour Force (active labour over 13 years old).

Unemployment Rate(as % of labour force), Open Unemployed (looking for work),
Passive Unemployed (available but not looking for work).

Table 1.4.1 GROSS DOMESTIC PRODUCT AT CURRENT MARKET PRICES BY INDUSTRIAL ORIGIN

Industrial Origin	GNP by Activities (million baht)										Average Annual Growth Rate (%) (1992-1995)
	1992	1993	1994	1995	1996(p)	1992	1993	1994	1995	1996(p)	
Agriculture	348,127	329,878	390,233	464,171	507,339	12.3	10.4	10.7	11.1	11.0	10.1
Crops	197,058	166,564	206,264	258,432	289,570	7.0	5.3	5.7	6.2	6.3	9.5
Livestocks	35,001	32,275	35,802	42,599	44,457	1.2	1.0	1.0	1.0	1.0	6.8
Fishery	55,764	67,410	76,138	83,097	87,800	2.0	2.1	2.1	2.0	1.9	14.2
Forestry	6,705	6,443	6,145	6,098	6,291	0.2	0.2	0.2	0.1	0.1	-3.1
Agricultural Services	11,525	11,149	12,477	12,779	13,529	0.4	0.4	0.3	0.3	0.3	3.5
Simple Agricultural Processing Products	42,074	46,037	53,407	61,166	65,702	1.5	1.5	1.5	1.5	1.4	13.3
Mining and Quarrying	42,306	44,259	48,654	50,468	62,290	1.5	1.4	1.3	1.2	1.4	6.1
Manufacturing	778,987	892,369	1,017,062	1,180,047	1,305,772	27.5	28.1	28.0	28.2	28.4	14.8
Construction	190,529	220,771	267,191	304,178	340,959	6.7	7.0	7.4	7.3	7.4	16.9
Electricity and Water Supply	65,506	75,739	85,510	99,248	106,550	2.3	2.4	2.4	2.4	2.3	14.9
Transportation and Communication	205,216	237,757	269,307	304,833	337,333	7.2	7.5	7.4	7.3	7.3	14.1
Wholesale and Retail Trade	477,030	590,904	598,673	680,402	714,498	16.9	18.6	16.5	16.2	15.5	12.6
Banking, Insurance and Real Estate	182,180	232,191	282,216	316,203	348,276	6.4	7.3	7.8	7.5	7.6	20.2
Ownership of Dwellings	75,435	81,247	88,795	99,338	106,279	2.7	2.6	2.4	2.4	2.3	9.6
Public Administration and Defense Services	105,392	117,682	127,526	154,654	167,857	3.7	3.7	3.5	3.7	3.7	13.6
Gross Domestic Products(GDP)	2,830,914	3,170,258	3,630,805	4,188,929	4,598,288	100.0	100.0	100.0	100.0	100.0	14.0
Plus: Net income from abroad	-62,961	-61,336	-72,085	-87,433	-122,958						
Gross National Products(GNP)	2,767,953	3,108,922	3,558,720	4,101,476	4,475,330						
Less: Indirect taxes	339,565	379,801	463,815	498,878	558,971						
Capital consumption allowance:	282,696	335,857	397,021	471,623	556,659						
National Income (NNP)	2,145,692	2,393,264	2,724,884	3,130,980	3,559,700						
Per capita GNP(Baht)	48,331	53,593	60,612	69,047	74,585						12.6
Population(1,000)	57,294	58,610	58,713	59,401	60,003						1.2

Source: Statistical Yearbook Thailand 1997.
National Statistical Office, Office of the Prime Minister

Table 1.4.2 GROSS REGIONAL PRODUCTS OF CHANGWAT AT CURRENT MARKET PRICES COVERING THE STUDY AREA

Region and Chagwat	Unit: million Baht						Share in 1994(%)	Annual Average Growth rate(%)
	Current Market Prices							
	1989	1990	1991	1992	1993	1994		
(1) Study Area								
Bangkok Metropolis	700,072	867,563	966,280	1,088,234	1,242,917	1,380,343	38.3	14.5
Bangkok Vicinity								
Samut Prakan	105,623	131,605	135,208	138,190	148,587	155,706	4.3	8.1
Pathum Thani	42,927	51,380	68,652	88,141	100,828	120,322	3.3	22.9
Samut Sakhon	22,614	27,337	41,361	60,703	77,997	93,825	2.6	32.9
Nakhon Pathom	20,575	22,972	30,177	39,832	47,028	60,167	1.7	23.9
Nonthaburi	32,963	37,395	40,100	41,029	43,978	45,531	1.3	6.7
Sub Total	224,702	270,689	315,498	367,895	418,418	475,551	13.2	16.2
Central Region								
Saraburi	28,135	33,685	41,131	40,377	46,964	54,260	1.5	14.0
Sing Buri	5,086	4,924	5,720	6,362	7,008	7,947	0.2	9.3
Chai Nat	8,642	8,307	9,774	10,599	10,227	12,195	0.3	7.1
Ang Thong	5,832	5,975	7,008	7,324	7,976	8,993	0.2	9.0
Lop Buri	14,791	15,391	18,147	20,303	21,126	25,486	0.7	11.5
Phra Nakhon Si Ayutthaya	14,544	17,743	25,548	33,714	41,058	54,173	1.5	30.1
Sub Total	77,030	86,025	107,328	118,679	134,359	163,054	4.5	16.2
Western Region								
Kanchanaburi	25,561	25,571	27,805	28,952	28,919	32,558	0.9	5.0
Rachaburi	19,645	22,109	27,637	32,713	34,613	41,624	1.2	16.2
Samut Songkhram	4,012	4,496	4,917	5,674	6,103	7,030	0.2	11.9
Suphan Buri	18,179	16,972	21,534	25,193	26,308	29,570	0.8	10.2
Sub Total	67,397	69,148	81,893	92,532	95,943	110,782	3.1	10.5
Eastern Region								
Chachoengsao	24,667	26,071	29,364	32,556	38,165	45,427	1.3	13.0
Nakhon Nayok	4,986	5,443	6,987	7,386	7,845	9,017	0.3	12.6
Sub-Total	29,653	31,514	36,351	39,942	46,010	54,444	1.5	12.9
Northeastern Region								
Loei	8,378	8,746	10,023	11,039	10,553	13,116	0.4	9.4
Northern Region								
Chiang Mai	34,239	42,957	48,828	51,104	58,288	65,084	1.8	13.7
Chiang Rai	15,689	18,344	20,717	22,318	25,369	27,701	0.8	12.0
Lampang	16,152	18,973	21,578	24,170	25,010	27,849	0.8	11.5
Uttaradit	8,927	9,512	10,865	11,248	11,256	13,229	0.4	8.2
Mae Hong Son	2,640	2,912	3,017	3,801	3,741	4,341	0.1	10.5
Phrae	6,520	7,196	8,180	9,328	9,685	11,080	0.3	11.2
Lamphun	6,367	7,972	10,600	16,459	21,639	26,103	0.7	32.6
Nan	5,940	6,462	7,151	7,854	8,613	9,578	0.3	10.0
Phayao	6,354	7,222	7,961	8,743	10,403	11,754	0.3	13.1
Nakhon Sawan	21,332	21,802	25,334	28,866	30,351	34,118	0.9	9.8
Phitsanulok	14,175	14,475	16,608	19,713	20,766	23,005	0.6	10.2
Kamphaeng Phet	14,653	15,738	17,744	19,698	17,994	20,226	0.6	6.7
Uthai Thani	5,369	5,647	6,907	7,566	7,841	9,199	0.3	11.4
Sukhothai	10,119	10,529	11,369	12,870	13,442	14,744	0.4	7.8
Tak	7,264	7,620	8,768	10,105	10,206	11,676	0.3	10.0
Phichit	8,666	9,004	10,421	11,603	11,504	13,015	0.4	8.5
Phetchabun	13,916	13,833	15,308	17,669	18,075	20,783	0.6	8.4
Sub Total	198,322	220,198	251,356	283,115	304,183	343,485	9.5	11.6
Total of Study Area	1,305,554	1,553,883	1,768,729	2,001,436	2,252,383	2,540,775	70.6	14.2
(2) Other than Study Area	551,439	632,142	738,299	825,722	911,531	1,060,131	29.4	14.0
Whole Kingdom	1,856,993	2,186,025	2,507,028	2,827,158	3,163,914	3,600,906	100.0	14.2

Source: Gross Domestic Products & Gross Regional Products, NESDB.

Table 1.4.3 GROSS REGIONAL PRODUCT OF CHANGWAT AT CURRENT PRICES BY INDUSTRIES COVERING STUDY AREA

1994 Gross Provincial Products At Current Market Prices														
Region and Chagwat								Share in Total (%)						
	(A)Agr.	(B)Mfg	(C)Trade	(D)Banking	(E)Services	(F)Others	(G)Total	(A)	(B)	(C)	(D)	(E)	(F)	(G)
(1) Study Area														
Bangkok Metropolis	7,930	388,927	288,202	188,782	173,679	332,823	1,380,343	0.6	28.2	20.9	13.7	12.6	24.1	100
Bangkok Vicinity														
Samut Prakan	11,363	99,067	10,294	6,068	7,465	21,449	155,706	7.3	63.6	6.6	3.9	4.8	13.8	100
Pathum Thani	2,574	87,645	5,198	3,212	3,516	18,177	120,322	2.1	72.8	4.3	2.7	2.9	15.1	100
Samut Sakhon	11,869	65,179	3,462	2,023	1,631	9,661	93,825	12.7	69.5	3.7	2.2	1.7	10.3	100
Nakhon Pathom	5,479	32,946	5,421	3,149	3,414	9,758	60,167	9.1	54.8	9.0	5.2	5.7	16.2	100
Nonthaburi	1,684	13,349	7,020	3,800	5,831	13,847	45,531	3.7	29.3	15.4	8.3	12.8	30.4	100
Sub Total	32,969	298,186	31,395	18,252	21,857	72,892	475,551	6.9	62.7	6.6	3.8	4.6	15.3	100
Central Region														
Saraburi	2,636	25,312	4,143	1,665	2,696	17,808	54,260	4.9	46.6	7.6	3.1	5.0	32.8	100
Sing Buri	1,067	1,403	1,810	441	1,034	2,192	7,947	13.4	17.7	22.8	5.5	13.0	27.6	100
Chai Nat	2,637	714	2,481	1,071	1,762	3,531	12,196	21.6	5.9	20.3	8.8	14.4	29.0	100
Ang Thong	990	1,347	2,224	594	1,344	2,493	8,992	11.0	15.0	24.7	6.6	14.9	27.7	100
Lop Buri	4,359	2,548	5,520	1,230	2,634	9,195	25,486	17.1	10.0	21.7	4.8	10.3	36.1	100
P. N. Si Ayutthaya	2,737	32,952	5,693	1,571	4,014	7,006	53,973	5.1	61.1	10.5	2.9	7.4	13.0	100
Sub Total	14,426	64,276	21,871	6,572	13,484	42,225	162,854	8.9	39.5	13.4	4.0	8.3	25.9	100
Western Region														
Kanchanaburi	5,788	5,306	6,609	1,067	2,519	11,269	32,558	17.8	16.3	20.3	3.3	7.7	34.6	100
Rachaburi	5,183	17,455	5,565	1,872	3,842	7,707	41,624	12.5	41.9	13.4	4.5	9.2	18.5	100
Samut Songkhram	1,141	952	1,564	571	966	1,836	7,030	16.2	13.5	22.2	8.1	13.7	26.1	100
Suphan Buri	6,001	6,529	5,894	1,575	2,541	7,030	29,570	20.3	22.1	19.9	5.3	8.6	23.8	100
Sub Total	18,113	30,242	19,632	5,085	9,868	27,842	110,782	16.4	27.3	17.7	4.6	8.9	25.1	100
Eastern Region														
Chachoengsao	5,818	23,536	3,816	1,568	3,742	7,158	45,638	12.7	51.6	8.4	3.4	8.2	15.7	100
Nakhon Nayok	1,760	565	1,796	655	1,608	2,633	9,017	19.5	6.3	19.9	7.3	17.8	29.2	100
Sub Total	7,578	24,101	5,612	2,223	5,350	9,791	54,655	13.9	44.1	10.3	4.1	9.8	17.9	100
Northeastern Region														
Loei	3,468	581	2,331	392	1,994	4,350	13,116	26.4	4.4	17.8	3.0	15.2	33.2	100
Nothern Region														
Chiang Mai	6,543	11,844	7,975	4,918	15,177	18,627	65,084	10.1	18.2	12.3	7.6	23.3	28.6	100
Chiang Rai	4,647	1,128	5,421	1,777	4,000	10,727	27,700	16.8	4.1	19.6	6.4	14.4	38.7	100
Lampang	2,366	993	4,523	1,856	3,807	14,304	27,849	8.5	3.6	16.2	6.7	13.7	51.4	100
Uttaradit	2,960	2,269	2,248	475	1,813	3,464	13,229	22.4	17.2	17.0	3.6	13.7	26.2	100
Mac Hong Son	835	159	850	148	880	1,468	4,340	19.2	3.7	19.6	3.4	20.3	33.8	100
Phrae	1,613	299	2,421	719	2,433	3,595	11,080	14.6	2.7	21.9	6.5	22.0	32.4	100
Lamphun	3,359	14,122	2,084	633	1,491	4,414	26,103	12.9	54.1	8.0	2.4	5.7	16.9	100
Nan	2,090	165	2,179	356	1,575	3,213	9,578	21.8	1.7	22.8	3.7	16.4	33.5	100
Phayao	2,609	1,405	2,201	493	1,816	3,230	11,754	22.2	12.0	18.7	4.2	15.5	27.5	100
Nakhon Sawan	6,700	7,286	5,861	1,703	4,360	8,208	34,118	19.6	21.4	17.2	5.0	12.8	24.1	100
Phitsanulok	4,462	1,744	4,094	1,310	3,270	8,125	23,005	19.4	7.6	17.8	5.7	14.2	35.3	100
Kamphaeng Phet	5,719	1,056	3,248	615	1,886	7,702	20,226	28.3	5.2	16.1	3.0	9.3	38.1	100
Uthai Thani	2,213	405	1,533	324	2,587	2,128	9,190	24.1	4.4	16.7	3.5	28.2	23.2	100
Sukhothai	3,732	1,498	3,041	768	1,990	3,715	14,744	25.3	10.2	20.6	5.2	13.5	25.2	100
Tak	2,296	932	1,948	476	1,666	4,357	11,675	19.7	8.0	16.7	4.1	14.3	37.3	100
Phichit	3,199	1,015	2,793	590	1,839	3,579	13,015	24.6	7.8	21.5	4.5	14.1	27.5	100
Phetchabun	6,697	795	4,555	741	2,498	5,497	20,783	32.2	3.8	21.9	3.6	12.0	26.4	100
Sub Total	62,040	47,115	56,975	17,902	53,088	106,353	343,473	18.1	13.7	16.6	5.2	15.5	31.0	100
Total of Study Area	130,944	829,134	409,949	235,306	269,999	571,114	2,446,446	5.4	33.9	16.8	9.6	11.0	23.3	100
(2) Other than Study Area	238,109	185,817	182,067	50,694	184,202	313,571	1,154,460	20.6	16.1	15.8	4.4	16.0	27.2	100
Whole Kingdom	369,053	1,014,951	592,016	286,000	454,201	884,685	3,600,906	10.2	28.2	16.4	7.9	12.6	24.6	100

Source: Gross Domestic Products & Gross Regional Products, NESDB.

Note: (1) (A) Agriculture, (B) Manufacturing, (C) Wholesale and Retail, (D) Banking, Insurance and Real estate.

(2) Some discrepancy in number of "total of study area" with other tables due to different statistical sources.

Table I.4.4 PER CAPITA GROSS REGIONAL PRODUCTS OF CHANGWAT AT CURRENT MARKET PRICES COVERING THE STUDY AREA

Region and Chagwat	Current Market Prices						Ratio vs. Whole Kingdom	Annual Average Growth rate(%)
	1989	1990	1991	1992	1993	1994		
(1) Study Area								
Bangkok Metropolis	111,906	139,978	152,194	167,549	187,312	203,650	3.3	12.7
Bangkok Vicinity								
Samut Prakan	134,896	162,275	162,510	161,815	169,426	173,006	2.8	5.1
Pathum Thani	102,792	118,389	153,584	191,196	211,824	245,555	4.0	19.0
Samut Sakhon	68,528	80,878	119,196	170,037	211,947	248,216	4.0	29.4
Nakhon Pathom	33,729	34,648	44,248	56,741	65,045	80,978	1.3	19.1
Nonthaburi	55,681	61,810	64,366	63,908	66,532	66,958	1.1	3.8
Average	79,125	91,600	108,781	128,739	144,955	162,943	2.7	15.5
Central Region								
Saraburi	55,676	66,046	80,021	77,947	89,969	103,550	1.7	13.2
Sing Buri	22,704	21,317	24,679	27,189	29,825	33,675	0.5	8.2
Chai Nat	25,049	23,138	27,075	29,201	28,022	33,322	0.5	5.9
Ang Thong	21,680	22,807	26,544	27,535	29,874	33,556	0.5	9.1
Lop Buri	20,543	21,229	24,859	27,623	28,588	34,301	0.6	10.8
P.N.Si Ayutthaya	22,070	25,204	36,085	47,286	57,344	75,067	1.2	27.7
Average	27,954	29,957	36,544	39,464	43,937	52,245	0.9	13.3
Western Region								
Kanchanaburi	38,037	39,831	42,843	44,201	43,751	48,740	0.8	5.1
Rachaburi	28,065	30,039	37,146	43,502	45,603	41,622	0.7	8.2
Samut Songkhram	19,766	23,540	25,346	29,100	30,979	35,325	0.6	12.3
Suphan Buri	22,361	21,268	226,684	30,912	32,004	35,584	0.6	9.7
Average	27,057	28,670	83,005	36,929	38,084	40,318	0.7	8.3
Eastern Region								
Chachoengsao	45,850	45,818	51,880	57,066	65,689	77,784	1.3	11.2
Nakhon Nayok	23,406	23,873	30,245	31,567	33,101	37,573	0.6	9.9
Average	34,628	34,846	41,063	44,317	49,395	57,679	0.9	10.7
Northeastern								
Loei	15,808	16,166	18,823	19,961	18,879	23,256	0.4	8.0
Nothern Region								
Chiang Mai	25,644	30,860	34,328	36,193	41,019	45,514	0.7	12.2
Chaian Rai	15,611	17,128	19,200	20,550	23,211	25,206	0.4	10.1
Lampang	21,564	25,526	28,848	32,098	33,259	36,500	0.6	11.1
Uttaradit	19,883	21,231	24,290	24,829	24,694	28,948	0.5	7.8
Mae Hong Son	15,901	17,977	18,395	23,036	22,401	25,686	0.4	10.1
Phrac	13,472	14,628	16,524	18,730	19,292	21,985	0.4	10.3
Lamphun	15,685	19,118	25,238	38,910	50,915	60,988	1.0	31.2
Nan	13,719	15,241	16,768	18,267	19,892	22,019	0.4	9.9
Phayao	12,919	14,953	16,348	17,842	21,101	23,698	0.4	12.9
Nakhon Sawan	20,068	20,587	23,743	26,877	28,077	31,359	0.5	9.3
Phitsanulok	18,578	18,774	21,375	25,209	26,386	29,046	0.5	9.3
Kamphaeng Phet	22,753	23,991	26,884	29,666	26,898	30,078	0.5	5.7
Uthai Thani	18,138	18,822	22,871	24,970	25,794	30,031	0.5	10.6
Sukhothai	17,447	18,472	19,807	22,267	13,136	25,247	0.4	7.7
Tak	21,555	22,347	25,685	29,204	29,326	33,359	0.5	9.1
Phichit	15,959	16,078	18,478	20,464	20,182	22,675	0.4	7.3
Phetchabun	15,023	15,595	17,142	19,654	19,973	22,839	0.4	8.7
Average	18,995	20,708	23,495	26,798	27,847	32,199	0.5	11.1
Average of Study Area	32,569	36,377	47,896	48,142	52,535	59,636	1.0	12.9
Whole Kingdom	33,633	39,149	44,313	49,435	54,544	61,335	1.0	12.8

Source: Gross Domestic Products & Gross Regional Products, NESDB.

Table 1.4.5 GROSS DOMESTIC PRODUCTS AT CURRENT MARKET PRICES BY MANUFACTURING

Manufacturing	GNP by Activities (million baht)					Share in GDP (%)					Average Annual Growth Rate (%) (1992-1995)
	1992	1993	1994	1995	1996(p)	1992	1993	1994	1995	1996(p)	
Food	66,136	72,313	83,683	91,769	104,540	8.5	8.1	8.2	7.8	8.0	11.5
Beverage	50,794	55,781	63,417	76,081	82,991	6.5	6.3	6.2	6.4	6.4	14.4
Tobacco	19,016	19,281	24,285	24,771	27,819	2.4	2.2	2.4	2.1	2.1	9.2
Textiles	75,120	76,644	80,958	91,453	87,245	9.6	8.6	8.0	7.7	6.7	6.8
Wearing Apparel Except Foot Wear	88,466	99,526	117,121	134,954	152,718	11.4	11.2	11.5	11.4	11.7	15.1
Leather, Leather Products and Foot We	31,703	36,254	41,701	44,136	40,733	4.1	4.1	4.1	3.7	3.1	11.7
Wood and Wood Products	8,843	7,402	10,109	8,820	9,036	1.1	0.8	1.0	0.7	0.7	-0.1
Furniture and Fixtures	24,421	27,373	30,736	33,548	34,043	3.1	3.1	3.0	2.8	2.6	11.2
Paper and paper products	9,862	11,518	14,154	18,207	23,101	1.3	1.3	1.4	1.5	1.8	22.7
Printing, Publishing and Allied Industri	7,964	9,206	10,044	13,611	19,122	1.0	1.0	1.0	1.2	1.5	19.6
Chemicals and Chemical Products	18,191	19,844	22,134	27,292	29,247	2.3	2.2	2.2	2.3	2.2	14.5
Petroleum Refineries and Petroleum Pro	44,672	56,293	63,559	76,190	99,468	5.7	6.3	6.2	6.5	7.6	19.5
Rubber and Plastic Products	19,942	21,510	27,775	36,996	33,984	2.6	2.4	2.7	3.1	2.6	22.9
Non-metallic Mineral Products	46,378	51,996	57,610	62,560	71,103	6.0	5.8	5.7	5.3	5.4	10.5
Basic metal Industries	11,798	14,365	17,811	21,097	23,356	1.5	1.6	1.8	1.8	1.8	21.4
Fabricated Metal Products	20,149	22,647	25,743	30,224	35,770	2.6	2.5	2.5	2.6	2.7	14.5
Machinery	45,404	53,880	66,595	85,862	109,311	5.8	6.0	6.5	7.3	8.4	23.7
Electrical Machinery and Supplies	62,668	75,778	89,499	96,036	102,289	8.0	8.5	8.8	8.1	7.8	15.3
Transport Equipment	60,547	83,431	79,288	101,740	113,059	7.8	9.3	7.8	8.6	8.7	18.9
Other Manufacturing Industries	66,913	77,327	90,840	104,697	106,837	8.6	8.7	8.9	8.9	8.2	16.1
Total	778,987	892,369	1,017,062	1,180,047	1,305,772	100.0	100.0	100.0	100.0	100.0	14.8

Source: Statistical Yearbook Thailand 1997.

National Statistical Office, Office of the Prime Minister

Table 1.4.6 GROSS DOMESTIC PRODUCTS AT CURRENT MARKET PRICES BY AGRICULTURE

Agriculture	GNP by Activities (million baht)					Share in GDP (%)					Average Annual Growth Rate (%) (1992-1995)
	1992	1993	1994	1995	1996(p)	1992	1993	1994	1995	1996(p)	
Paddy	64,560	48,598	61,337	71,348	89,027	32.8	29.2	29.7	27.6	30.7	3.4
Cassava	12,160	8,168	9,787	14,678	10,945	6.2	4.9	4.7	5.7	3.8	6.5
Cotton	589	385	776	1,045	730	0.3	0.2	0.4	0.4	0.3	21.1
Kenaf	579	489	472	690	742	0.3	0.3	0.2	0.3	0.3	6.0
Jute	80	54	67	74	79	0.0	0.0	0.0	0.0	0.0	-2.6
Kapok	286	320	444	475	311	0.1	0.2	0.2	0.2	0.1	18.4
Tobacco(Virginia)	775	925	541	514	568	0.4	0.6	0.3	0.2	0.2	-12.8
Tobacco(Berley)	978	767	427	425	608	0.5	0.5	0.2	0.2	0.2	-24.3
Tobacco(Turkish)	332	386	215	194	365	0.2	0.2	0.1	0.1	0.1	-16.4
Tobacco(Native)	45	41	54	54	55	0.0	0.0	0.0	0.0	0.0	6.3
Sugarcane	13,286	9,411	13,621	16,318	18,830	6.7	5.7	6.6	6.3	6.5	7.1
Maize	7,337	4,520	5,384	10,019	10,596	3.7	2.7	2.6	3.9	3.7	10.9
Sorghum	176	152	126	305	296	0.1	0.1	0.1	0.1	0.1	20.1
Mungbean	883	522	638	709	789	0.4	0.3	0.3	0.3	0.3	-7.1
Soybean	2,687	2,265	2,793	1,494	1,536	1.4	1.4	1.4	0.6	0.5	-17.8
Caster Bean	165	136	36	34	34	0.1	0.1	0.0	0.0	0.0	-40.9
Sesame	195	179	228	411	468	0.1	0.1	0.1	0.2	0.2	28.2
Groundnut	506	695	657	583	1,013	0.3	0.4	0.3	0.2	0.3	4.8
Garlic	1,453	730	1,028	1,476	2,748	0.7	0.4	0.5	0.6	0.9	0.5
Chilli	1,615	1,099	1,247	1,507	1,922	0.8	0.7	0.6	0.6	0.7	-2.3
Bird Pepper	2,063	1,238	2,265	2,448	2,759	1.0	0.7	1.1	0.9	1.0	5.9
Shallot	759	1,204	1,235	1,233	2,286	0.4	0.7	0.6	0.5	0.8	17.6
Black Pepper	240	256	272	276	292	0.1	0.2	0.1	0.1	0.1	4.8
Vegetables	20,369	20,638	22,552	22,552	27,527	10.3	12.4	10.9	8.7	9.5	3.5
Fruits	21,126	23,746	31,169	31,169	37,166	10.7	14.3	15.1	12.1	12.8	13.8
Pineapple	2,951	1,035	2,548	2,548	3,581	1.5	0.6	1.2	1.0	1.2	-4.8
Water Melon	1,708	1,495	1,477	1,477	1,596	0.9	0.9	0.7	0.6	0.6	-4.7
Coconut	2,699	2,914	2,454	2,454	3,550	1.4	1.7	1.2	0.9	1.2	-3.1
Palm Bean	3,893	3,685	4,536	6,882	7,638	2.0	2.2	2.2	2.7	2.6	20.9
Cocoa Bean	41	26	37	41	41	0.0	0.0	0.0	0.0	0.0	0.0
Coffee Bean	1,146	1,124	1,948	4,649	2,818	0.6	0.7	0.9	1.8	1.0	59.5
Tea Leaf	27	24	28	26	26	0.0	0.0	0.0	0.0	0.0	-1.3
Rubber	25,885	24,162	38,348	56,245	53,643	13.1	14.5	18.6	21.8	18.5	29.5
Orchid	539	564	607	571	504	0.3	0.3	0.3	0.2	0.2	1.9
Flowers	308	323	347	376	406	0.2	0.2	0.2	0.1	0.1	6.9
Others	4,620	4,297	2,676	3,132	4,045	2.3	2.6	1.3	1.2	1.4	-12.2
Total	197,058	166,564	206,246	258,432	289,570	100.0	100.0	100.0	100.0	100.0	9.5

Source: Statistical Yearbook Thailand 1997.

National Statistical Office, Office of the Prime Minister

Table 1.4.7 TOTAL VALUE OF TRADE : 1991-1996

Unit: 1,000 baht

Year	Total (Exp./Imp.)	Import	Export and re-export	Export	Re-Export	Trade Balance
1991	1,684,856,812	959,408,025	725,448,787	723,111,859	2,336,928	-233,959,238
1992	1,868,084,843	1,033,246,213	834,838,630	883,413,910	1,424,720	-198,407,583
1993	2,122,208,056	1,170,848,132	951,359,924	949,608,018	1,751,906	-219,488,208
1994	2,522,645,800	1,370,634,667	1,152,011,133	1,149,923,240	2,087,893	-218,623,534
1995	3,174,138,083	1,766,141,933	1,407,996,150	1,405,633,490	2,262,660	-358,145,783
1996	3,271,389,281	1,859,278,813	1,412,110,468	1,409,520,141	2,590,507	-444,168,165

Source: The Customs Department, Ministry of Finance
 Statistical Handbook of Thailand 1997, National Statistical Office.

Table 1.4.8 VALUE OF EXPORT BY PRINCIPAL COMMODITIES: 1994-1996

Commodity	Unit: Millions Baht			Share in 1996 (%)
	1994	1995	1996	
Canned sea animal	37,447	39,629	40,833	6.0
Precious, pearl and jewelry	47,027	52,398	54,159	8.0
Parts and accessories of computer	38,845	56,995	75,344	11.2
Rice	39,187	48,627	50,735	7.5
Tuna, canned	15,620	13,629	12,383	1.8
Shrimps, fresh, chilled or frozen	49,156	50,302	43,402	6.4
Natural rubber	41,821	61,261	63,379	9.4
Footwear and parts	39,256	53,751	33,507	5.0
Tapioca products	18,773	18,253	20,651	3.1
Woven fabrics	18,854	22,998	21,678	3.2
Sugar	57,203	28,752	32,081	4.8
Parts of I.C.	8,686	9,849	7,728	1.1
Furniture and parts	56,885	17,379	17,401	2.6
Automatic data processing machines and parts	53,214	71,437	89,897	13.3
Synthetic filament yarn	7,951	8,029	8,706	1.3
I.C.	36,621	48,300	50,754	7.5
Cuttle fish, squids and octopus, fresh, chilled or frozen	7,056	7,176	6,958	1.0
Fish, fresh, chilled or frozen	3,013	3,442	4,011	0.6
Pineapple, canned	6,608	5,763	6,510	1.0
Rubber products	12,995	20,622	18,991	2.8
Coffee, not roasted	2,147	4,610	2,445	0.4
Tobacco leaves	2,207	5,402	2,277	0.3
Gloves leather	974	1,022	1,201	0.2
Artificial flowers, foliage or fruit	2,517	2,199	1,668	0.2
Fruit	3,030	3,651	5,911	0.9
Molasses	1,108	1,713	1,977	0.3
Jute products	959	640	423	0.1
Mung bean	649	387	225	0.0
Total	609,809	658,216	675,235	100.0

Source: The Customs Department, Ministry of Finance
Statistical Yearbook Thailand 1997, National Statistical Office.

Table 1.4.9 VALUE OF IMPORT BY PRINCIPAL COMMODITY : 1994-1996

Commodity	1994	1995	Unit: Millions Baht	
			1996	Share in 1996 (%)
Plate-rolled products of iron or steel	43,787	72,651	59,938	7.7
Petroleum oils, crude	54,060	71,791	112,996	14.6
Plastic and articles	50,300	60,220	58,543	7.6
Diesel oil	16,296	20,207	21,383	2.8
Organic chemicals	44,741	66,109	55,044	7.1
Fish, frozen	13,721	11,654	12,311	1.6
machines	40,159	49,866	55,860	7.2
Passenger cars	38,708	38,549	28,256	3.7
Parts of I.C.	31,924	46,851	51,595	6.7
Diamond	18,561	22,374	22,838	3.0
Pulp	5,406	9,123	6,836	0.9
Cotton, not carded or combed	13,800	16,468	17,230	2.2
Parts and accessories of motor vehicles	27,915	42,271	49,861	6.4
Chassies	21,804	32,838	27,453	3.5
Woven fabrics	16,562	17,217	15,790	2.0
I.C.	35,900	46,603	50,008	6.5
Bar and rods of iron or non-alloy steel	14,460	14,761	12,280	1.6
Fertilizer	13,550	15,812	18,242	2.4
Cement	153	780	351	0.0
Wood, sawn or chipped	16,219	16,746	16,813	2.2
Dyes, pigments and colouring	10,563	12,448	11,675	1.5
Heavy fuel oil	7,735	9,474	7,786	1.0
Wood in rough	7,408	10,027	6,310	0.8
steel	14,556	22,604	25,818	3.3
Automatic data processing machines	12,826	15,722	16,310	2.1
Gold	9,931	11,771	12,290	1.6
Total	581,045	754,937	773,817	100.0

Source : The Customs Department, Ministry of Finance
Statistical Yearbook Thailand 1997, National Statistical Office.

Table 1.4.10 BALANCE OF INTERNATIONAL PAYMENT : 1993-1996

Unit : Millions Baht				
Item	1993	1994	1995	1996
Balance of Payment	98,971	104,827	179,530	54,608
Current Account	-161,129	-203,153	-337,641	-372,159
Trade Balance	-221,675	-226,782	-373,796	-417,647
Export	921,433	1,118,049	1,381,660	1,378,902
Import	-1,143,108	-1,344,831	-1,755,456	-1,796,549
Net services	77,142	38,712	76,643	111,998
Services receipts	280,072	292,737	370,014	431,008
Services payment	-202,930	-254,025	-293,371	-319,010
Net income	-35,572	-43,496	-52,569	-85,759
Income receipts	54,180	64,409	94,718	100,602
Income Payments	-89,752	-107,905	-147,287	-186,361
Current transfers	18,976	28,413	12,081	19,249
Capital and Financial Account	265,895	305,851	545,121	493,530
Financial account	265,895	305,851	545,121	493,530
Net Errors and Omissions		2,129	-27,950	-66,763
Reserve Assets	-98,791	-104,827	-179,530	-54,608

Source : Bank of Thailand
 Statistical Yearbook Thailand 1997, National Statistical Office.
 Monthly Economy, 1997, Bank of Thailand.

Table 1.4.11 CONSUMER PRICE INDEX BY COMODDITY GROUP AND INFRATION RATE : 1992-1996

(1990 = 100)

Commodity group	Whole Kingdom					Bangkok Metropolis					Annual Average Increase Rate(%) 1992-96	
	1992	1993	1994	1995	1996	1992-96	1992	1993	1994	1995		1996
All items	110.0	113.7	119.5	126.4	133.8	5.0	109.2	113.3	119.8	126.6	134.0	5.2
Food and beverage	111.8	114.2	122.1	132.0	143.7	6.5	110.2	114.1	123.2	132.9	144.9	7.1
Clothing	111.2	117.7	124.4	130.3	135.2	5.0	108.6	115.6	123.2	128.3	131.4	4.9
Housing and furnishings	105.3	107.8	111.4	116.8	120.6	3.4	104.4	105.9	109.6	115.2	119.0	3.3
Health and personal care	110.5	116.9	123.6	128.1	130.8	4.3	108.6	114.3	121.3	124.9	127.3	4.1
Transportation	111.6	118.3	119.4	120.9	122.8	2.4	114.3	123.2	124.6	125.6	126.9	2.6
Recreation and education	113.4	120.2	124.3	132.5	143.4	6.0	112.9	119.0	123.0	131.5	143.1	6.1
Tobacco and alcoholic beverages	106.3	106.7	117.4	123.8	130.2	5.2	106.4	107.0	118.0	124.1	130.3	5.2
Non-food and beverages	108.8	113.4	117.7	122.7	127.2	4.0	108.4	112.7	117.2	122.1	126.3	3.9
Inflation rate	4.1	3.4	5.1	5.8	5.9	4.9	3.6	3.8	5.7	5.7	5.8	4.9

Source : Department of Business Economics, Ministry of Commerce, Statistical Handbook of Thailand 1997

Table 1.4.12 AVERAGE MONTHLY INCOME AND EXPENDITURE BY REGION (1996)

Region	Average household size		Average monthly income		Average monthly expenditure	
	Per household	Per person	Per household	Per person	Per household	Per person
Whole Kingdom	3.7	2,933	10,779	2,933	9,190	2,501
Greater Bangkok (1)	3.2	6,894	21,947	6,894	17,418	5,473
Central Region	3.6	3,000	10,907	3,000	9,510	2,616
Northern Region	3.4	2,423	8,331	2,423	7,043	2,048
Northeastern Region	4.0	1,351	7,388	1,351	6,661	1,669
Southern Region	3.9	2,553	9,846	2,553	8,793	2,262

(1) Include Nonthaburi, Pathum Thani and Samut Prakan.

Source : Preliminary Report of 1995 Household Socio-Economic Survey, National Statistical Office, Statistical Yearbook Thailand 1997.

Table 1.4.13 GOVERNMENT ACTUAL REVENUE, EXPENDITURE AND DEBT

Fiscal year	Actual Revenue		Budget expenditure		Direct Government debt	
	Total	Per capita	Total	Per capita	Total	Per capita
1990	394,508,770	7,065	336,507,570	6,026	379,485,615	6,796
1991	464,900,381	8,218	387,500,000	6,849	337,706,416	5,969
1992	499,003,827	8,710	460,400,000	8,036	310,322,864	5,416
1993	557,772,817	9,615	560,000,000	9,654	270,060,302	4,655
1994	655,992,227	11,173	625,000,000	10,645	212,530,515	3,620
1995	757,741,207	12,756	715,000,000	12,037	175,413,264	2,953
1996(p)	849,838,813	14,163	843,200,000	14,053	175,307,671	2,922

Source: The Comptroller-General's Department, Ministry of Finance and The Bureau of Budget, Office of The Prime Minister

Statistical Yearbook Thailand 1997, National Statistical Office

Note: 1996 figure is 'p' (projection).

Table I.4.14 GOVERNMENT REVENUE BY PRINCIPAL SOURCE
: FISCAL YEARS 1994-1996

Unit: Millions Baht

Item	1994	1995	1996(p)	Share in 1995(%)
Total	655,992	757,741	849,839	100.0
Taxes and duties	573,662	671,802	761,681	88.7
Direct taxes	199,236	240,434	277,780	31.7
Genral sales tax	119,166	147,035	185,621	19.4
Specific sales tax	138,039	156,360	169,125	20.6
Import-export duties	114,229	125,801	126,708	16.6
Fees and permits	2,993	2,180	2,446	0.3
Sales of goods and services	22,746	23,780	22,673	3.1
State enterprises	43,272	45,525	49,109	6.0
Others	16,312	16,628	16,375	2.2

Source : The Comptroller-General's Department, Ministry of Finance
Statistical Handbook of Thailand 1997

Note : Fiture of 1996 is 'p' (projection)

Table 1.4.15 BUDGET EXPENDITURE APPROPRIATION BY PROGRAMME STRUCTURE

Unit : Millions Bhat

Programme structure	1994	1995	1996	1994	1995	1996
Total	625,000	715,000	843,200	100	100	100
Agricultural	59,019	68,248	76,662	9.4	9.5	9.1
Industry and mining	2,091	2,222	2,531	0.3	0.3	0.3
Transportation and communication	52,265	62,934	86,091	8.4	8.8	10.2
Commerce and tourism	4,655	5,336	6,737	0.7	0.7	0.8
Science, technology, energy and environment	9,816	10,375	14,769	1.6	1.5	1.7
Education	124,460	137,641	169,561	20.0	19.3	20.1
Public health	44,335	52,373	63,452	7.1	7.3	7.5
Social services	74,611	87,910	120,350	11.9	12.3	14.3
Maintenance of national security	95,046	99,732	107,897	15.2	13.9	12.8
Maintenance of internal peace and order	30,018	32,154	40,407	4.8	4.5	4.8
General services	70,173	111,345	106,751	11.2	15.6	12.7
Debt services	58,513	44,731	47,992	9.4	6.3	5.7

Source : The Bureau of the Budget, Office of the Prime Minister.

Statistical Yearbook Thailand 1997

Table I.4.16 BUDGET EXPENDITURE BY MINISTRIES AND MAJOR DEPARTMENTS CONCERNED

	Unit : Million Baht				Share(%)
	1994	1995	1996	1997(p)	in 1996
Grand Total of All Ministries	625,000	715,000	843,200	944,000	100.0
(1) Ministry of Agriculture and Cooperative					
Office of Permanent Secretary	3,497	3,153	3,736	2,315	0.2
The Royal Irrigation Department	24,535	29,089	36,180	42,456	4.5
Dept. of Cooperative Auditing	259	308	429	677	0.1
Dept. of Fisheries	2,719	2,973	3,413	3,873	0.4
Dept. of Livestock Development	2,963	3,340	3,800	3,698	0.4
The Royal Forestry Dept.	6,959	9,307	9,148	10,026	1.1
Land Development Dept.	1,850	2,042	2,455	2,815	0.3
Dept. of Agriculture	2,469	2,519	3,105	3,302	0.3
Dept. of Agriculture Extention	4,683	5,420	6,408	6,756	0.7
The Cooperative Development Dept.	1,988	2,855	3,153	3,249	0.3
Agricultural Land Reform Office	2,628	2,644	2,166	2,246	0.2
Office of Agricultural Economics	245	277	359	393	0.0
Sub Total	54,795	63,927	74,352	81,825	8.7
(2) Ministry of Transport and Communication					
Dept. of Land Transport	1,530	1,362	2,490	3,164	0.3
Harbor Dept.	940	996	1,452	3,067	0.3
Dept. of Highway	38,883	48,901	60,578	88,954	9.4
Others	1,975	2,883	3,634	6,923	0.7
Sub Total	43,328	54,142	68,154	102,108	10.8
(3) Ministry of Interior					
Community Development Dept.	3,013	3,900	5,300	4,978	0.5
Public Work Dept.	13,015	17,296	28,112	37,538	4.0
Office of Accelerated rural Development	17,681	21,235	28,141	34,610	3.7
Bangkok Metropolitan Administration	4,929	5,271	10,576	10,668	1.1
Others	54,646	59,173	80,513	87,238	9.2
Sub Total	93,284	106,875	152,642	175,032	18.5
(4) Total of (1)+(2)+(3)	191,407	224,944	295,148	358,965	38.0

Source : Statistical Year Book Thailand 1997, National Statistical Office, Office of The Prime Minister.

Table 1.4.17 EXTERNAL DEBT OF THAILAND

	Unit : Million US \$			
	1994	1995	1996	1997(p)
Debt Outstanding				
Public sector	15,714	16,402	16,805	17,166
Private sector	39,287	66,166	73,731	69,093
Total	55,001	82,568	90,536	93,416
Debt Service Payments				
Public sector	1,943	2,029	1,845	1,959
Private sector	4,574	6,224	7,179	9,671
Total	6,517	8,258	90,536	11,630
Export of Goods and Services	57,673	72,287	73,497	74,731
Debt Service Ratio (%)	11.3	11.4	12.3	15.6
Public sector	3.4	2.8	2.5	2.6
Private sector	7.9	8.6	9.8	13.0

Source : Quarterly Bulletin , Bank of Thailand, June 1998

Note : External debt is the sum of the long-term and short-term debt.

Table 1.4.18 EXTERNAL GOVERNMENT DEBT

Source of Fund	Original Currency	Unit : million											
		1994		1995		1996(P)		1997(P)		1995 Share		1996 Share	
		US \$	Baht	US \$	Baht	US \$	Baht	US \$	Baht	in US\$ (%)	in US\$ (%)	in US\$ (%)	in US\$ (%)
IBRD	US Dollar	499	12,488	494	12,420	484	12,339	476	17,451	12.3	17,451	12.3	9.9
ADB	US Dollar	287	7,176	274	6,889	304	7,730	352	12,873	6.8	12,873	6.8	6.2
IDA	US Dollar	103	2,583	102	2,549	100	2,542	98	3,591	2.5	3,591	2.5	2.0
IFAD	US Dollar	4	111	5	87	3	63	2	55	0.1	55	0.1	0.1
OPEC	US Dollar	28	689	27	683	15	371	12	422	0.7	422	0.7	0.3
AID	US Dollar	93	2,323	90	2,252	88	2,231	85	3,105	2.2	3,105	2.2	1.8
Others in US Dollars	US Dollar	840	21,024	764	19,192	1,555	39,594	2,366	86,643	19.0	86,643	19.0	31.6
Sub Total		1,854	46,394	1,756	44,072	2,549	64,870	3,391	124,140	43.7	124,140	43.7	51.9
OECD	J. Yen	1,390	34,785	1,404	35,266	1,719	43,777	1,755	64,286	35.0	64,286	35.0	35.0
Others in J. Yen	J. Yen	637	15,938	622	15,636	486	12,387	348	12,739	15.5	12,739	15.5	9.9
Sub Total		2,027	50,723	2,026	50,902	2,205	56,164	2,103	77,025	50.5	77,025	50.5	44.9
	Deutsche Mark	52	1,291	53	1,329	50	1,273	53	1,927	1.3	1,927	1.3	1.0
	Canadian Dollar	23	581	23	579	21	528	20	734	0.6	734	0.6	0.4
	Pound Sterling	24	596	20	513	9	233	8	286	0.5	286	0.5	0.2
	Danish Kroner	29	718	35	869	30	753	23	740	0.9	740	0.9	0.6
	Swiss Franc	275	6,882	33	833	0.2	6	0.1	2	0.8	2	0.8	0.0
	Saudi Riyal	24	594	24	596	15	369	11	416	0.6	416	0.6	0.3
	Australian Dollar					19	492	17	608	0.0	608	0.0	0.4
	Others	43	1,071	44	1,112	15	383	13	481	1.1	481	1.1	0.3
Sub Total		470	11,733	232	5,831	159	4,037	145	5,194	5.8	5,194	5.8	3.2
Total		4,351	108,850	4,014	100,805	4,913	125,071	5,639	206,359	100	206,359	100	100

Source : Statistical Yearbook Thailand, 1997.

Note : IBRD (International Bank for Reconstruction and Development), ADB (Asian Development Bank), IDA (International Development Association), IFAD (International Fund for Agricultural Development), OPEC (The OPEC Special Fund), AID (Agency for International Development), OECD (The Overseas Economic Cooperation Fund).

Table 1.5.1 NUMBER OF VEHICLE REGISTRATION FOR THE WHOLE KINGDOM AND BANGKOK METROPOLIS

Type	Whole Kingdom			Bangkok Metropolis		
	1993	1994	1995	1993	1994	1995
Total (Excluding motorcycles)	11,101,789 (3,789,277)	12,579,903 (4,276,941)	14,097,719 (4,734,311)	2,656,107 (1,542,964)	2,963,043 (1,721,263)	3,241,081 (1,859,585)
Moter Vehicle Act B.E.2522(1979)	10,529,400	11,974,342	13,448,359	2,540,453	2,854,423	3,124,056
Sedan	1,041,246	1,265,030	1,383,613	727,054	886,446	940,573
Microbus and passenger pick up	536,991	533,797	529,562	364,782	328,481	321,496
Van and pick up	1,381,048	1,625,041	1,921,722	272,190	323,902	402,680
Motorcycle	2,918	3,619	2,239	923	871	918
Interprovincial taxi	444	357	357	319	292	292
Urban taxi	38,934	48,846	51,760	35,967	45,969	49,112
Fixed route taxi	9,260	9,158	9,226	8,496	8,497	8,484
Motorcycle taxi	48,929	51,040	46,329	7,406	7,406	7,406
Hotel taxi	968	927	957	756	704	708
Tour taxi	724	694	706	709	665	677
Car for hire	477	465	450	477	465	447
Motorcycle	7,260,665	8,248,303	9,314,840	1,105,084	1,233,505	1,373,072
Tractor	77,300	86,064	92,576	13,265	13,860	14,457
Road roller	12,400	4,575	5,052	2,199	2,515	2,846
Farm Vehicle	81,646	93,283	85,548	69	69	69
Trailer	15,450	3,153	3,422	757	778	822
Land Transport Act B.E.2522(1979)	533,056	561,545	611,468	114,423	107,389	115,791
Fixed route bus	62,104	64,028	65,060	14,062	13,888	14,140
Non-fixed route bus	14,250	15,033	15,796	5,620	5,760	6,045
Private bus	6,690	7,134	6,927	4,392	4,491	4,179
Small rural bus	24,367	24,670	24,355	-	-	-
Non-fixed route truck	50,658	49,433	56,219	26,230	22,254	25,559
Private truck	374,987	401,247	443,111	64,119	60,996	65,868
Non-Motorized Vehicle Act B.E.2478(1935)	39,302	44,016	37,892	1,231	1,231	1,231

Source : The Department of Land Transport, Ministry of Transport and Communications.
Statistical Handbook of Thailand 1997

Table 1.5.2 RAILWAY-PASSENGERS,FREIGHT SERVICES AND REVENUE
: FISCAL YEAR 1991-1996

Year	Passenger service			Freight Revenue		
	Carried (1,000)	Kilometre (million)	Rvenue (1,000 Baht)	Carried (1,000 Ton)	Kilometre (1,000)	Revenue (1,000 Bhat)
1991	68,793	12,214	3,153,041	7,990	3,365,432	1,344,214
1992	74,798	13,669	3,547,262	7,600	3,074,786	1,311,758
1993	75,054	13,702	3,761,997	7,498	3,059,043	1,364,525
1994	75,766	13,814	3,819,473	7,580	3,072,426	1,417,297
1995	71,521	12,975	3,824,235	8,142	3,242,153	1,525,365
1996	68,761	12,205	4,053,216	8,765	3,286,148	1,625,933

Source : The State Railway of Thailand.

Statistical Handbook of Thailand 1996,1997, National Statistical Office, Office of The Prime Minister.

Table 1.5.3 HANDDLING VOLUME OF CONTAINERS IN MAJOR PORTS

Unit : TEU

Year	Bangkok Port	Laem Chabang Port	Sattahip Port	Private Ports
1990/91	1,123,843	1,360	41,665	88,249
1991/92	1,285,008	9,296	51,479	138,766
1992/93	1,285,779	169,062	-	155,315
1993/94	1,337,009	333,238	-	170,552

Source : Economy of Thailand (Japanese),1994/95 , Japanese Chamber of Commerce, Bangkok.

Table 1.5.4 STATISTICS OF TELEPHONE SERVICES : FISCAL YEAR 1992-1996

Item	1992	1993	1994	1995	1996	Average annual growth rate(%)
Number of telephone exchange (million)						
Whole Kingdom	876	1,098	1,156	1,158	1,159	7.2
BMTA	156	204	251	251	252	12.7
Provinces	720	894	905	907	907	5.9
Number of line capacity (Thousand)						
Whole Kingdom	2,166	2,546	2,584	2,594	2,611	4.8
BMTA	1,354	1,589	1,600	1,598	1,598	4.2
Provinces	812	957	984	996	1,013	5.7
Number of main telephone station (thousand)						
Whole Kingdom	1,789	2,184	2,442	2,480	2,487	8.6
BMTA	1,159	1,383	1,512	1,531	1,528	7.2
Provinces	630	801	930	949	959	11.1

Note : BMTA(Bangkok Metropolitan Telephone Area) means Bangkok Metroplis, Nonthaburi, Pathum Thani and Samut Prakan

Source : The Telephone Organization of Thailand.

Statistical Handbook of Thailand 1996,1997

Table 1.5.5 ELECTRICITY GENERATED AND SALES : 1190-1996

	Electricity generated						Others
	Total	Hydro	Steam	Gas turbine	Diesel	Combined cycle	
1990	44,175	4,976	32,186	1,983	33	4,997	1
1991	50,186	4,587	32,265	8,304	19	5,010	1
1992	57,098	4,239	36,832	999	21	15,007	1
1993	63,405	3,700	38,827	1,111	22	19,743	1
1994	71,172	4,514	39,434	1,108	22	26,099	1
1995	80,060	6,713	43,220	2,062	43	28,020	1
1996	87,467	7,341	46,494	2,890	52	30,689	2
1996	100.0	8.4	53.2	3.3	0.1	35.1	0.0

	Electricity sale					Others
	Total	Residencial	Commercial	Industrial	Agriculture	
1990	38,142	8,082	11,789	17,928	114	623
1991	43,177	9,147	13,761	19,813	111	923
1992	49,058	10,253	17,812	20,406	140	1,096
1993	56,007	11,926	21,712	21,844	166	1,055
1994	62,197	12,888	19,811	28,920	110	1,238
1995	70,869	14,615	22,678	32,859	103	645
1996	76,751	16,041	25,387	34,645	124	754
1996	100.0	20.9	33.1	45.1	0.2	1.0

Source : Department of Energy Affairs, Ministry of Science, Technology and Environment.
Statistical Yearbook Thailand 1996, 1997

Table 2.1.1 POPULATION PROJECTION OF WHOLE KINGDOM

		Population Projection		
		2010	2015	2018
2000				
	62,405,000	65,034,000	67,230,000	69,076,000
				69,878,000
		Annual Average Growth Rate(%)		
		2005-2010	2010-2015	2015-2018
2000-2005				
	0.83	0.67	0.54	0.39

Source: Population Projection for Thailand 1990-2020, Human Resources Planning Division, NESDB

Table 2.1.2 POPULATION PROJECTION BY REGION AND CHANWAT COVERING THE STUDY AREA (1)

Areas	Population Projection		Annual Average Growth Rate(%)	Population Share (%) vs. Whole Kingdom	
	2000	2005		2000	2005
Bangkok Metropolis	7,637,000	8,375,000	1.86	12.2	12.9
Bangkok Vicinity					
Samut Prakan	1,037,857	1,160,740	2.26	1.7	1.8
Pathum Thani	574,355	642,360	2.26	0.9	1.0
Samut Sakhon	442,670	495,083	2.26	0.7	0.8
Nakhon Pathom	866,741	969,364	2.26	1.4	1.5
Nonthaburi	798,294	892,813	2.26	1.3	1.4
Sub Total	3,719,917	4,160,360	2.26	6.0	6.4
Central Region				0.0	0.0
Saraburi	537,937	541,596	0.14	0.9	0.8
Sing Buri	241,225	242,866	0.14	0.4	0.4
Chai Nat	372,884	375,421	0.14	0.6	0.6
Ang Thong	274,225	276,091	0.14	0.4	0.4
Lop Buri	760,604	765,778	0.14	1.2	1.2
P.Nakhon Si Ayutthaya	733,379	738,368	0.14	1.2	1.1
Sub Total	2,920,254	2,940,120	0.14	4.7	4.5
Western Region				0.0	0.0
Kanchanaburi	701,544	721,015	0.55	1.1	1.1
Rachaburi	805,940	831,755	0.63	1.3	1.3
Samut Songkhram	209,355	216,016	0.63	0.3	0.3
Suphan Buri	872,524	900,471	0.63	1.4	1.4
Sub Total	2,589,363	2,669,257	0.61	4.1	4.1
Eastern Region				0.0	0.0
Chachoengsao	634,656	667,928	1.03	1.0	1.0
Nakhon Nayok	257,131	270,612	1.03	0.4	0.4
Sub Total	891,787	938,540	1.03	1.4	1.4
Northeastern Region				0.0	0.0
Loci	589,906	608,127	0.61	0.9	0.9
Northern Region				0.0	0.0
Chiang Mai	1,458,052	1,464,327	0.09	2.3	2.3
Chiang rai	1,117,378	1,120,474	0.06	1.8	1.7
Lampang	778,363	779,593	0.03	1.2	1.2
Uttaradit	460,895	461,273	0.02	0.7	0.7
Mae Hong Son	174,420	176,449	0.23	0.3	0.3
Phrac	513,133	514,620	0.06	0.8	0.8
Lamphun	435,535	436,903	0.06	0.7	0.7
Nan	442,873	444,263	0.06	0.7	0.7
Phayao	504,858	506,443	0.06	0.8	0.8
Nakhon Sawan	1,109,538	1,114,364	0.09	1.8	1.7
Phitsanulok	806,835	810,722	0.10	1.3	1.2
Kamphaeng Phet	683,709	685,520	0.05	1.1	1.1
Uthai Thani	309,455	309,750	0.02	0.5	0.5
Sukhothai	593,029	593,536	0.02	1.0	0.9
Tak	357,084	358,442	0.08	0.6	0.6
Phichit	582,649	583,925	0.04	0.9	0.9
Phetchabun	924,990	927,895	0.06	1.5	1.4
Sub Total	11,252,796	11,288,499	0.06	18.0	17.4
Total of Study Area	28,709,236	30,041,363	0.91	46.0	46.2
Others than Study Area	33,695,764	34,992,637	0.76	54.0	53.8
(A)Whole Kingdom	62,405,000	65,034,000	0.83	100.0	100.0

Note: Projection of 1995 and 2000 for all areas and Projection of 2005,2010,2015 and 2018 are adopted from "Population Projections For Thailand 1990-2020, Human Resources Division, NESDB.

Table 2.1.3. POPULATION PROJECTION BY REGION AND CHANWAT COVERING THE STUDY AREA (2)

Areas	Annual Average Growth Rate(%)					Population Projection			
	2000-2005	2005-2010	2010-2015	2015-2018	2018-2020	2010	2015	2018	
Bangkok Metropolitan	1.86	1.48	1.20	0.85		7,348,000	9,014,403	9,567,695	9,812,562
Bangkok Vicinity									
Samut Prakan	2.26	1.80	1.46	1.03		992,167	1,269,331	1,364,824	1,407,334
Pathum Thani	2.26	1.80	1.46	1.03		546,561	702,456	755,303	778,939
Samut Sakhon	2.26	1.80	1.46	1.03		421,097	541,400	582,131	600,348
Nakhon Pathom	2.26	1.80	1.46	1.03		825,865	1,060,052	1,139,801	1,175,469
Nonthaburi	2.26	1.80	1.46	1.03		758,802	976,339	1,049,790	1,082,642
Sub Total	2.26	1.80	1.46	1.03		3,544,492	4,549,578	4,891,849	5,044,933
Central Region	0.14	0.09	0.07	0.04		534,691	544,172	546,014	546,726
Saraburi	0.14	0.09	0.07	0.04		239,986	244,021	244,848	245,167
Sing Buri	0.14	0.09	0.07	0.04		371,401	375,421	378,485	378,978
Chai Nat	0.14	0.09	0.07	0.04		272,738	276,091	278,344	278,707
Ang Thong	0.14	0.09	0.07	0.04		758,551	765,778	772,026	773,032
Loei Buri	0.14	0.09	0.07	0.04		730,349	741,880	744,393	745,362
P.Nakhon Si Ayutthaya	0.14	0.09	0.07	0.04		2,905,716	2,954,104	2,964,110	2,967,971
Sub Total	0.14	0.09	0.07	0.04		689,981	721,015	749,093	754,399
Western Region	0.55	0.43	0.34	0.24		831,755	852,514	869,404	876,580
Kanchanaburi	0.63	0.49	0.39	0.27		205,869	221,370	225,725	227,575
Ratchaburi	0.63	0.49	0.39	0.27		900,471	922,945	948,998	948,998
Samut Songkhram	0.63	0.49	0.39	0.27		2,546,300	2,733,368	2,785,434	2,807,529
Suphan Buri	0.61	0.48	0.38	0.26		667,928	695,469	718,425	728,338
Sub Total	1.03	0.81	0.65	0.46		231,229	281,771	291,072	295,089
Eastern Region	1.03	0.81	0.65	0.46		870,083	977,240	1,009,498	1,023,427
Chachoengsao	1.03	0.81	0.65	0.46		608,127	622,749	634,625	639,665
Nakhon Nayok	1.03	0.81	0.65	0.46		1,464,327	1,468,355	1,470,930	1,471,825
Sub Total	1.03	0.81	0.65	0.46		1,112,428	1,122,177	1,123,225	1,123,225
Northeastern Region	0.61	0.48	0.38	0.26		774,141	780,033	780,012	779,895
Loei	0.09	0.05	0.04	0.02		461,273	461,252	461,010	460,843
Northern Region	0.06	0.03	0.00	0.00		172,706	177,972	179,136	179,609
Chiang Mai	0.06	0.03	0.00	0.00		510,735	514,620	515,885	515,997
Chiang Rai	0.03	0.01	0.00	-0.01		433,500	437,697	438,132	438,257
Lampang	0.02	0.00	0.00	0.01		440,803	445,070	445,638	445,638
Uttaradit	0.23	0.17	0.13	0.09		506,443	507,363	507,866	508,011
Mae Hong Son	0.06	0.04	0.02	0.01		1,117,470	1,119,464	1,120,159	1,120,159
Phrae	0.06	0.04	0.02	0.01		810,722	813,286	814,986	815,598
Lamphun	0.06	0.04	0.02	0.01		686,495	686,956	686,956	687,058
Nan	0.09	0.06	0.04	0.03		309,769	309,533	309,533	309,533
Phayao	0.10	0.06	0.04	0.03		593,536	593,525	593,227	593,019
Nakhon Sawan	0.02	0.00	-0.01	-0.01		358,442	359,284	359,796	359,965
Phitsanulok	0.02	0.00	-0.01	-0.01		584,540	584,758	584,758	584,769
Kamphaeng Phet	0.02	0.00	0.00	0.00		927,895	929,581	930,504	930,769
Ubon Thani	0.08	0.05	0.03	0.02		11,200,163	11,200,776	11,324,102	11,324,102
Sukhothai	0.04	0.02	0.01	0.00		28,996,265	31,183,507	32,164,489	32,596,762
Tak	0.04	0.02	0.01	0.00		36,911,511	36,911,511	37,281,238	37,281,238
Phichit	0.06	0.04	0.02	0.01		61,201,000	67,230,000	69,076,000	69,878,000
Phetchabun	0.06	0.04	0.02	0.01		67,230,000	67,230,000	67,230,000	67,230,000
Sub Total	0.91	0.75	0.62	0.45		36,911,511	36,911,511	37,281,238	37,281,238
Total of Study Area	0.76	0.60	0.48	0.33		67,230,000	67,230,000	67,230,000	67,230,000
Others than Study Area	0.83	0.67	0.54	0.39		67,230,000	67,230,000	67,230,000	67,230,000
(A)Whole Kingdom									

Source : Population Projections For Thailand 1990-2020, Human Resources Division, NESDB.

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Table 2.1.4 POPULATION PROJECTION BY CHANGWAT COVERING FLOOD PRONE AREA

Areas	Average Annual Growth Rate (%)	2018 vs. 1998 (Ratio)	1998	2018	Ratio vs. Whole Kingdom in 2018 (%)
Upper Central Plain	0.04	1.01	4,035,862	4,072,057	5.8
Uttaradit	0.01	1.00	460,152	460,843	0.7
Phitsanulok	0.08	1.02	802,616	815,598	1.2
Kamphaeng Phet	0.05	1.01	680,708	687,058	1.0
Sukhothai	0.02	1.00	590,891	593,019	0.8
Phichit	0.04	1.01	580,374	584,769	0.8
Phetchabun	0.05	1.01	921,121	930,769	1.3
Nakhon Sawan Area	0.06	1.01	1,411,913	1,429,692	2.0
Nakhon Sawan	0.08	1.02	1,103,456	1,120,159	1.6
Uthai Thani	0.02	1.00	308,457	309,533	0.4
Upper Delta of Lower Central Basin	0.24	1.05	4,015,054	4,212,058	6.0
Saraburi	0.11	1.02	534,691	546,726	0.8
Sing Buri	0.11	1.02	239,986	245,167	0.4
Chai Nat	0.10	1.02	371,401	378,978	0.5
Ang Thong	0.11	1.02	272,738	278,707	0.4
Lop Buri	0.11	1.02	756,551	773,032	1.1
P.Nakhon Si Ayutthaya	0.10	1.02	730,349	745,362	1.1
Suphan Buri	0.50	1.11	858,109	948,998	1.4
Nakhon Nayok	0.81	1.17	251,229	295,089	0.4
Lower Delta of Lower Central Basin	1.45	1.33	12,508,559	16,689,989	23.9
Bangkok Metropolis	1.46	1.34	7,348,000	9,812,562	14.0
Samut Prakan	1.76	1.42	992,167	1,407,534	2.0
Pathum Thani	1.79	1.43	546,561	778,939	1.1
Samut Sakhon	1.79	1.43	421,097	600,348	0.9
Nakhon Pathom	1.78	1.42	825,868	1,175,469	1.7
Nonthaburi	1.79	1.43	758,802	1,082,642	1.5
Rachaburi	0.51	1.11	791,341	876,580	1.3
Samut Songkhram	0.50	1.11	205,869	227,575	0.3
Chachoengsao	0.82	1.18	618,854	728,338	1.0
(A)Flood Area	0.92	1.20	21,971,388	26,403,796	37.8
(B)Whole Kingdom	0.67	1.14	61,201,000	69,878,000	100.0

Source : Population Projections For Thailand 1990-2020, Human Resources Division, NESDB.
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Table 2.2.1 GROSS REGIONAL PRODUCTS OF CHAGWAT AT CURRENT MARKET PRICES COVERING THE STUDY AREA

Region and Chagwat	Unit: million Baht						Share in 1994(%)	Annual Average Growth rate(%)
	Current Market Prices							
	1989	1990	1991	1992	1993	1994		
(1) Study Area								
Bangkok Metropolis	700,072	867,563	966,280	1,088,234	1,242,917	1,380,343	38.3	14.5
Bangkok Vicinity								
Samut Prakan	105,623	131,605	135,208	138,190	148,587	155,706	4.3	8.1
Pathum Thani	42,927	51,380	68,652	88,141	100,828	120,322	3.3	22.9
Samut Sakhon	22,614	27,337	41,361	60,703	77,997	93,825	2.6	32.9
Nakhon Pathom	20,575	22,972	30,177	39,832	47,028	60,167	1.7	23.9
Nonthaburi	32,963	37,395	40,100	41,029	43,978	45,531	1.3	6.7
Sub Total	224,702	270,689	315,498	367,895	418,418	475,551	13.2	16.2
Central Region								
Saraburi	28,135	33,685	41,131	40,377	46,964	54,260	1.5	14.0
Sing Buri	5,086	4,924	5,720	6,362	7,008	7,947	0.2	9.3
Chai Nat	8,642	8,307	9,774	10,599	10,227	12,195	0.3	7.1
Ang Thong	5,832	5,975	7,008	7,324	7,976	8,993	0.2	9.0
Lop Buri	14,791	15,391	18,147	20,303	21,126	25,486	0.7	11.5
Phra Nakhon Si Ayutthaya	14,544	17,743	25,548	33,714	41,058	54,173	1.5	30.1
Sub Total	77,030	86,025	107,328	118,679	134,359	163,054	4.5	16.2
Western Region								
Kanchanaburi	25,561	25,571	27,805	28,932	28,919	32,558	0.9	5.0
Rachaburi	19,645	22,109	27,637	32,713	34,613	41,624	1.2	16.2
Samut Songkhram	4,012	4,496	4,917	5,674	6,103	7,030	0.2	11.9
Suphan Buri	18,179	16,972	21,534	25,193	26,308	29,570	0.8	10.2
Sub Total	67,397	69,148	81,893	92,532	95,943	110,782	3.1	10.5
Eastern Region								
Chachoengsao	24,667	26,071	29,364	32,556	38,165	45,427	1.3	13.0
Nakhon Nayok	4,986	5,443	6,987	7,386	7,845	9,017	0.3	12.6
Sub-Total	29,653	31,514	36,351	39,942	46,010	54,444	1.5	12.9
Northeastern Region								
Loei	8,378	8,746	10,023	11,039	10,553	13,116	0.4	9.4
Northern Region								
Chiang Mai	34,239	42,957	48,828	51,104	58,288	65,084	1.8	13.7
Chiang Rai	15,689	18,344	20,717	22,318	25,369	27,701	0.8	12.0
Lampang	16,152	18,973	21,578	24,170	25,010	27,849	0.8	11.5
Uttaradit	8,927	9,512	10,865	11,248	11,256	13,229	0.4	8.2
Mae Hong Son	2,640	2,912	3,017	3,801	3,741	4,341	0.1	10.5
Phrae	6,520	7,196	8,180	9,328	9,685	11,080	0.3	11.2
Laungthui	6,367	7,972	10,600	16,459	21,639	26,103	0.7	32.6
Nan	5,940	6,462	7,151	7,854	8,613	9,578	0.3	10.0
Phayao	6,354	7,222	7,961	8,743	10,403	11,754	0.3	13.1
Nakhon Sawan	21,332	21,802	25,334	28,866	30,351	34,118	0.9	9.8
Phitsanulok	14,175	14,475	16,608	19,713	20,766	23,005	0.6	10.2
Kamphaeng Phet	14,653	15,738	17,744	19,698	17,994	20,226	0.6	6.7
Uthai Thani	5,369	5,647	6,907	7,566	7,841	9,199	0.3	11.4
Sukhothai	10,119	10,529	11,369	12,870	13,442	14,744	0.4	7.8
Tak	7,264	7,620	8,768	10,105	10,206	11,676	0.3	10.0
Phichit	8,666	9,004	10,421	11,603	11,504	13,015	0.4	8.5
Phetchabun	13,916	13,833	15,308	17,669	18,075	20,783	0.6	8.4
Sub Total	198,322	220,198	251,356	283,115	304,183	343,485	9.5	11.6
Total of Study Area	1,305,554	1,553,883	1,768,729	2,001,436	2,252,383	2,540,775	70.6	14.2
(2) Other than Study Area	551,439	632,142	738,299	825,722	911,531	1,060,131	29.4	14.0
Whole Kingdom	1,856,993	2,186,025	2,507,028	2,827,158	3,163,914	3,600,906	100.0	14.2

Source: Gross Domestic Products & Gross Regional Products, NESDI.

Table 2.2.2 GROSS REGIONAL PRODUCTS OF CHANGWAT AT CONSTANT 1988 PRICES
COVERING THE STUDY AREA

Region and Chagwat	Unit: million Baht						Share in 1994(%)	Annual Average Growth rate(%)
	At Constant 1988 Prices							
	1989	1990	1991	1992	1993	1994		
(1) Study Area								
Bangkok Metropolis	667,136	765,223	814,149	880,002	962,810	1,029,140	38.3	9.1
Bangkok Vicinity								
Samut Prakan	97,312	116,728	119,476	120,906	124,983	124,440	4.6	5.0
Pathum Thani	40,542	46,583	57,974	72,236	81,645	93,834	3.5	18.3
Samut Sakhon	21,204	24,596	34,166	48,267	59,747	70,060	2.6	27.0
Nakhon Pathom	18,918	20,446	24,730	31,447	36,475	44,456	1.7	18.6
Nonthaburi	30,768	33,295	33,215	31,934	32,724	32,697	1.2	1.2
Sub Total	208,744	241,648	269,561	304,790	335,574	365,487	13.6	11.9
Central Region								
Saraburi	26,059	28,788	32,477	34,090	39,257	45,783	1.7	11.9
Sing Buri	4,720	4,364	4,810	5,168	5,514	5,825	0.2	4.3
Chai Nat	8,050	7,323	7,974	8,288	7,956	8,895	0.3	2.0
Ang Thong	5,412	5,283	5,753	5,723	6,036	6,461	0.2	3.6
Lop Buri	13,758	13,643	15,070	16,087	16,119	18,337	0.7	5.9
Phra Nakhon Si Ayutthaya	13,530	15,980	21,764	27,194	32,256	40,373	1.5	24.4
Sub Total	71,529	75,381	87,848	96,550	107,138	123,674	4.7	11.9
Western Region								
Kanchanaburi	20,006	22,261	23,247	23,979	23,107	24,201	0.9	3.9
Rachaburi	18,119	19,265	22,570	27,028	27,918	31,370	1.2	11.6
Samut Songkhram	3,809	3,965	4,091	4,412	4,520	5,042	0.2	5.8
Suphan Buri	16,977	14,859	17,768	20,595	21,103	21,879	0.8	5.2
Sub Total	58,911	60,350	67,676	76,014	76,648	82,492	3.1	7.0
Eastern Region								
Chachoengsao	23,007	23,324	25,009	26,968	33,547	35,508	1.3	9.1
Nakhon Nayok	4,578	4,552	5,496	5,578	5,742	6,178	0.2	6.2
Sub Total	27,585	27,876	30,505	32,546	39,289	41,686	1.6	8.6
Northeastern Region								
Loei	7,758	7,691	8,307	8,740	8,183	9,558	0.4	4.3
Northern Region								
Chiang Mai	31,585	31,632	39,085	38,948	43,391	45,920	1.7	7.8
Chiang Rai	14,631	16,090	16,936	16,874	18,895	19,606	0.7	6.0
Lampang	15,154	17,048	18,686	19,828	19,901	21,220	0.8	7.0
Uttaradit	8,242	8,494	9,090	9,004	8,688	9,697	0.4	3.3
Mae Hong Son	2,340	2,550	2,480	2,904	2,821	3,008	0.1	5.2
Phrae	6,151	6,396	6,894	7,194	7,233	7,815	0.3	4.9
Lamphun	5,959	7,097	8,683	12,917	16,281	18,703	0.7	25.7
Nan	5,544	5,686	5,909	6,025	6,441	6,832	0.3	4.3
Phayao	5,944	6,400	6,612	6,854	8,095	8,702	0.3	7.9
Nakhon Sawan	20,051	19,727	21,573	23,563	24,542	25,850	1.0	5.2
Phitsanulok	13,403	13,019	13,971	15,571	16,063	16,799	0.6	4.6
Kamphaeng Phet	13,772	12,697	15,165	16,185	14,457	16,053	0.6	3.1
Uthai Thani	5,012	5,018	5,752	5,866	5,861	6,468	0.2	5.2
Sukhothai	9,571	9,614	9,798	10,460	10,740	11,128	0.4	3.1
Tak	6,585	6,685	7,386	7,878	7,828	8,452	0.3	5.1
Phichit	8,215	8,217	8,931	9,494	9,247	9,783	0.4	3.6
Phetchabun	13,106	12,769	13,266	14,349	14,121	15,587	0.6	3.5
Sub Total	185,265	189,139	210,217	223,914	234,605	251,623	9.4	6.3
Total of Study Area	1,168,929	1,307,907	1,422,179	1,553,200	1,689,365	1,820,359	67.8	9.3
(2) Other than Study Area	581,023	638,285	687,843	728,039	780,803	865,586	32.2	8.3
Whole Kingdom	1,749,952	1,946,192	2,110,022	2,281,239	2,470,168	2,685,945	100.0	8.9

Source: Gross Domestic Products & Gross Regional Products, NESDB.

Table 2.2.3 GROWTH OF NATIONAL ECONOMY

Unit : %

	The Seventh Plan							The Eighth Plan				Average of the 8th Plan	
	1991	1992	1993	1994	1995	1996	Average of the 7th Plan	1997	1998	1999	2000		2001
Nominal GDP Growth Rate		12.3	11.8	14	14.6	11.6	12.9	5.6	0.5	9.5	11.5	10.1	7.4
Real GDP Growth Rate		8.2	8.5	8.9	8.8	5.7	8.0	-0.4	-8.5	2.5	3.5	5.5	0.5
Inflation Rate		4.1	3.3	5.1	5.8	5.9	4.8	6.0	9.0	7.0	8.0	4.6	6.9
Per Capita Growth Rate		6.9	7.3	7.7	7.6	4.7	6.8	-1.4	-9.5	1.5	2.5	4.7	-0.4
W.K. Population (1,000)	56,574	57,297	58,010	58,713	59,401	60,003	58,685	60,602	61,201	61,806	62,405	62,914	61,786
Growth Rate of Population		1.3	1.2	1.2	1.2	1.0	1.2	1.0	1.0	1.0	1.0	0.8	1.0

Estimation

	2002-2010	2010-2018
Nominal GDP Growth Rate	11	10.0
Real GDP Growth Rate	6.5	6.0
Inflation Rate	4.5	4.0
Per Capita Growth Rate	6.0	5.5
W.K. Population (1,000)	67,230	69,878
Annual Avg. Growth Rate	0.8	0.5

Source : "NESDB GDP Estimate", September, 1997.
 Bank of Thailand, October, 1998.
 "Letter of Intent to IMF" until December, 1998.
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Table 2.2.4 PROJECTION OF GROSS DOMESTIC PRODUCT AT 1998 CONSTANT PRICES

		Unit : billion baht			
High	Average Annual Growth Rate (%)		1998		2018
	1999-2001	2002-2010	2001	2010	
4.8	7.5	7.0	4,888	5,626	18,534
Medium					
Low	Average Annual Growth Rate (%)		1998		2018
	1999-2001	2002-2010	2001	2010	
3.8	6.5	6.0	4,888	5,467	15,357
Low					
Low	Average Annual Growth Rate (%)		1998		2018
	1999-2001	2002-2010	2001	2010	
2.8	5.5	5.0	4,888	5,310	12,703

Table 2.2.5 GDP PROJECTION BY PER CAPITA GDP AT 1998 CONSTANT PRICES

Unit : 1000 baht

High		Annual Average Growth Rate of Per Capita GDP (%)		Per Capita GDP projection		
		2002-2010	2011-2018	2001	2010	2018
3.9	7	6.5		79,868	164,692	272,565
				4,888,000	11,072,264	19,046,301
				61,201	67,230	69,878
				Per Capita GDP (1000 baht)		
				GDP (1,000 baht)		
				Population (1,000)		
Medium		Annual Average Growth Rate of Per Capita GDP (%)		Per Capita GDP projection		
		2002-2010	2011-2018	2001	2010	2018
2.9	6.0	5.5		79,868	147,018	225,627
				4,888,000	9,884,045	15,766,371
				61,201	67,230	69,878
				Per Capita GDP (1000 baht)		
				GDP (1,000 baht)		
				Population (1,000)		
Low		Annual Average Growth Rate of Per Capita GDP (%)		Per Capita GDP projection		
		2002-2010	2011-2018	2001	2010	2018
1.9	5	4.5		79,868	131,099	186,436
				4,888,000	8,813,777	13,027,759
				61,201	67,230	69,878
				Per Capita GDP (1000 baht)		
				GDP (1,000 baht)		
				Population (1,000)		

Table 2.2.6 PROJECTION OF GROSS REGIONAL PRODUCTS OF CHANGWAT AT 1998 PRICES
COVERING THE STUDY AREA

Unit: million Baht							
Region and Chagwat	1994	Share in 1994 (%)	Whole Kingdom (1998)	Province (1998)	Province (2001)	Province (2010)	Province (2018)
(1) Study Area							
Bangkok Metropolis	1,380,343	38.3		1,873,727	2,095,552	3,693,558	5,886,971
Bangkok Vicinity							
Samut Prakan	155,706	4.3		211,361	236,383	416,642	664,064
Pathum Thani	120,322	3.3		163,329	182,665	321,961	513,157
Samut Sakhon	93,825	2.6		127,361	142,439	251,059	400,151
Nakhon Pathom	60,167	1.7		81,673	91,342	160,996	256,604
Nonthaburi	45,531	1.3		61,805	69,122	121,833	194,183
Sub Total	475,551	13.2		645,530	721,952	1,272,492	2,028,159
Central Region							
Saraburi	54,260	1.5		73,654	82,374	145,190	231,411
Sing Buri	7,947	0.2		10,788	12,065	21,265	33,893
Chai Nat	12,195	0.3		16,554	18,514	32,632	52,010
Ang Thong	8,993	0.2		12,207	13,653	24,064	38,354
Lop Buri	25,486	0.7		34,596	38,691	68,196	108,694
Phra Nakhon Si Ayutthaya	54,173	1.5		73,536	82,242	144,958	231,040
Sub Total	163,054	4.5		221,335	247,539	436,304	695,403
Western Region							
Kanchanaburi	32,558	0.9		44,195	49,428	87,120	138,855
Rachaburi	41,624	1.2		56,502	63,191	111,379	177,521
Samut Songkhram	7,030	0.2		9,543	10,673	18,811	29,982
Suphan Buri	29,570	0.8		40,139	44,891	79,124	126,112
Sub Total	110,782	3.1		150,379	168,182	296,433	472,470
Eastern Region							
Chachoengsao	45,427	1.3		61,664	68,964	121,555	193,740
Nakhon Nayok	9,017	0.3		12,240	13,689	24,128	38,456
Sub-Total	54,444	1.5		73,904	82,654	145,683	232,196
Northeastern Region							
Loei	13,116	0.4		17,804	19,912	35,096	55,938
Nothern Region							
Chiang Mai	65,084	1.8		88,347	98,807	174,153	277,574
Chiang Rai	27,701	0.8		37,602	42,054	74,123	118,141
Lampang	27,849	0.8		37,803	42,279	74,519	118,772
Uttaradit	13,229	0.4		17,958	20,083	35,399	56,420
Mac Hong Son	4,341	0.1		5,893	6,590	11,616	18,514
Phrae	11,080	0.3		15,040	16,821	29,648	47,255
Lamphun	26,103	0.7		35,433	39,628	69,847	111,326
Nan	9,578	0.3		13,002	14,541	25,629	40,849
Phayao	11,754	0.3		15,955	17,844	31,452	50,129
Nakhon Sawan	34,118	0.9		46,313	51,796	91,294	145,509
Phitsanulok	23,005	0.6		31,228	34,925	61,557	98,113
Kamphaeng Phet	20,226	0.6		27,456	30,706	54,121	86,261
Uthai Thani	9,199	0.3		12,487	13,965	24,615	39,232
Sukhothai	14,744	0.4		20,014	22,383	39,452	62,881
Tak	11,676	0.3		15,849	17,726	31,243	49,797
Phichit	13,015	0.4		17,667	19,759	34,826	55,507
Phetchabun	20,783	0.6		28,212	31,551	55,612	88,637
Sub Total	343,485	9.5		466,259	521,458	919,106	1,464,916
Total of Study Area	2,540,775	70.6		3,448,940	3,857,249	6,798,673	10,836,052
(2) Other than Study Area	1,060,131	29.4		1,439,060	1,609,426	2,836,727	4,521,311
Whole Kingdom	3,600,906	100.0	4,888,000	4,888,000	5,466,675	9,635,400	15,357,363

Source: Gross Domestic Products & Gross Regional Products, NESDB.

Note: Average Annual GDP Growth Rate at 1997 Constant Prices

1999-2001 3.8 %, 2002-2015 6.5 %, 2006-2008 6.0 % (Medium Scenario)

Table 2.2.7 PROJECTION OF GROSS REGIONAL PRODUCTS OF CHAGWAT AT 1998 PRICES
COVERING FLOOD PRONE AREA

Unit: million Baht								
Region and Chagwat	1994	Share in 1994 (%)	Whole Kingdom (1998)	Province (1998)	Province (2001)	Province (2010)	Province (2018)	against Flood Area in 2018 (%)
Upper Central Plain								
Uttaradit	13,229	0.4		17,958	20,083	35,399	56,420	1.6
Phitsanulok	23,005	0.6		31,228	34,925	61,557	98,113	2.8
Kamphaeng Phet	20,226	0.6		27,456	30,706	54,121	86,261	2.5
Sukhothai	14,744	0.4		20,014	22,383	39,452	62,881	1.8
Phichit	13,015	0.4		17,667	19,759	34,826	55,507	1.6
Phetchabun	20,783	0.6		28,212	31,551	55,612	88,637	2.5
Sub-total	105,002	2.9		142,534	159,408	280,967	447,819	12.7
Nakon Sawan Area								
Nakhon Sawan	34,118	0.9		46,313	51,796	91,294	145,509	4.1
Uthai Thani	9,199	0.3		12,487	13,965	24,615	39,232	1.1
Sub-total	43,317	1.2		58,800	65,761	115,909	184,741	5.2
Upper Delta of Lower Central Plain								
Saraburi	54,260	1.5		73,654	82,374	145,190	231,411	6.6
Sing Buri	7,947	0.2		10,788	12,065	21,265	33,893	1.0
Chai Nat	12,195	0.3		16,554	18,514	32,632	52,010	1.5
Ang Thong	8,993	0.2		12,207	13,653	24,064	38,354	1.1
Lop Buri	25,486	0.7		34,596	38,691	68,196	108,694	3.1
Phra Nakhon Si Ayutthaya	54,173	1.5		73,536	82,242	144,958	231,040	6.6
Suphan Buri	29,570	0.8		40,139	44,891	79,124	126,112	3.6
Nakhon Nayok	9,017	0.3		12,240	13,689	24,128	38,456	1.1
Sub-total	201,641	5.6		273,715	306,119	539,556	859,971	24.4
Lower Delta of Lower Central Basin								
Bangkok Metropolis								
Samut Prakan	155,706	4.3		211,361	236,383	416,642	664,064	18.9
Pathum Thani	120,322	3.3		163,329	182,665	321,961	513,157	14.6
Samut Sakhon	93,825	2.6		127,361	142,439	251,059	400,151	11.4
Nakhon Pathom	60,167	1.7		81,673	91,342	160,996	256,604	7.3
Nonthaburi	45,531	1.3		61,805	69,122	121,833	194,183	5.5
Sub-total	475,551	13.2		645,530	721,952	1,272,492	2,028,159	57.6
Flood Area	825,511	22.9		1,120,578	1,253,240	2,208,924	3,520,690	100.0
Whole Kingdom	3,600,906	100.0	4,888,000	4,888,000	5,466,675	9,635,400	15,357,363	

Source: Gross Domestic Products & Gross Regional Products, NESDB.

Note: Average Annual GDP Growth Rate at 1997 Constant Prices

1999-2001 3.8 %, 2002-2015 6.5 %, 2006-2008 6.0 % (Medium Scenario)