

FIGURES

FOR

APPENDIX VIII



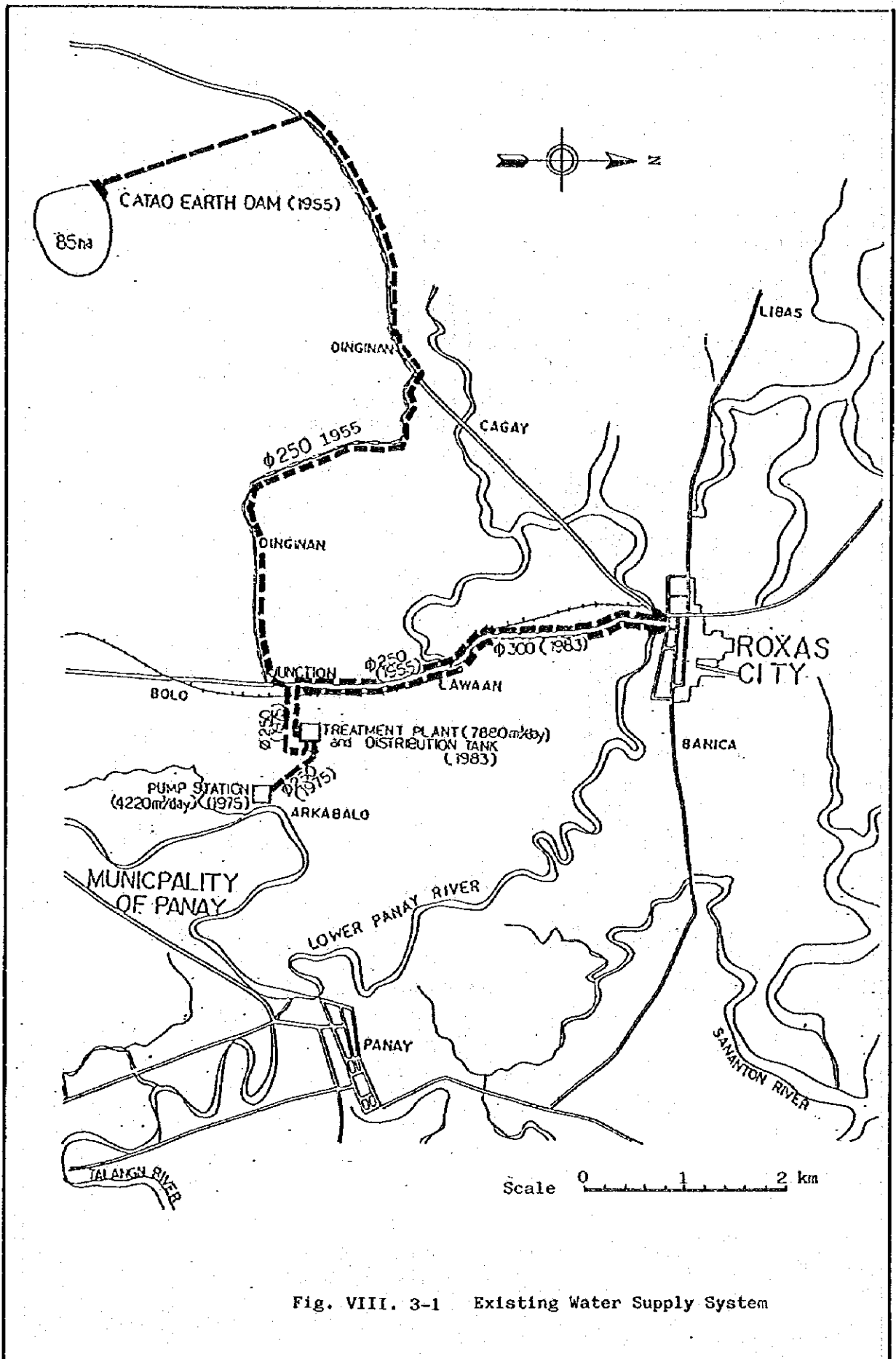


Fig. VIII. 3-1 Existing Water Supply System

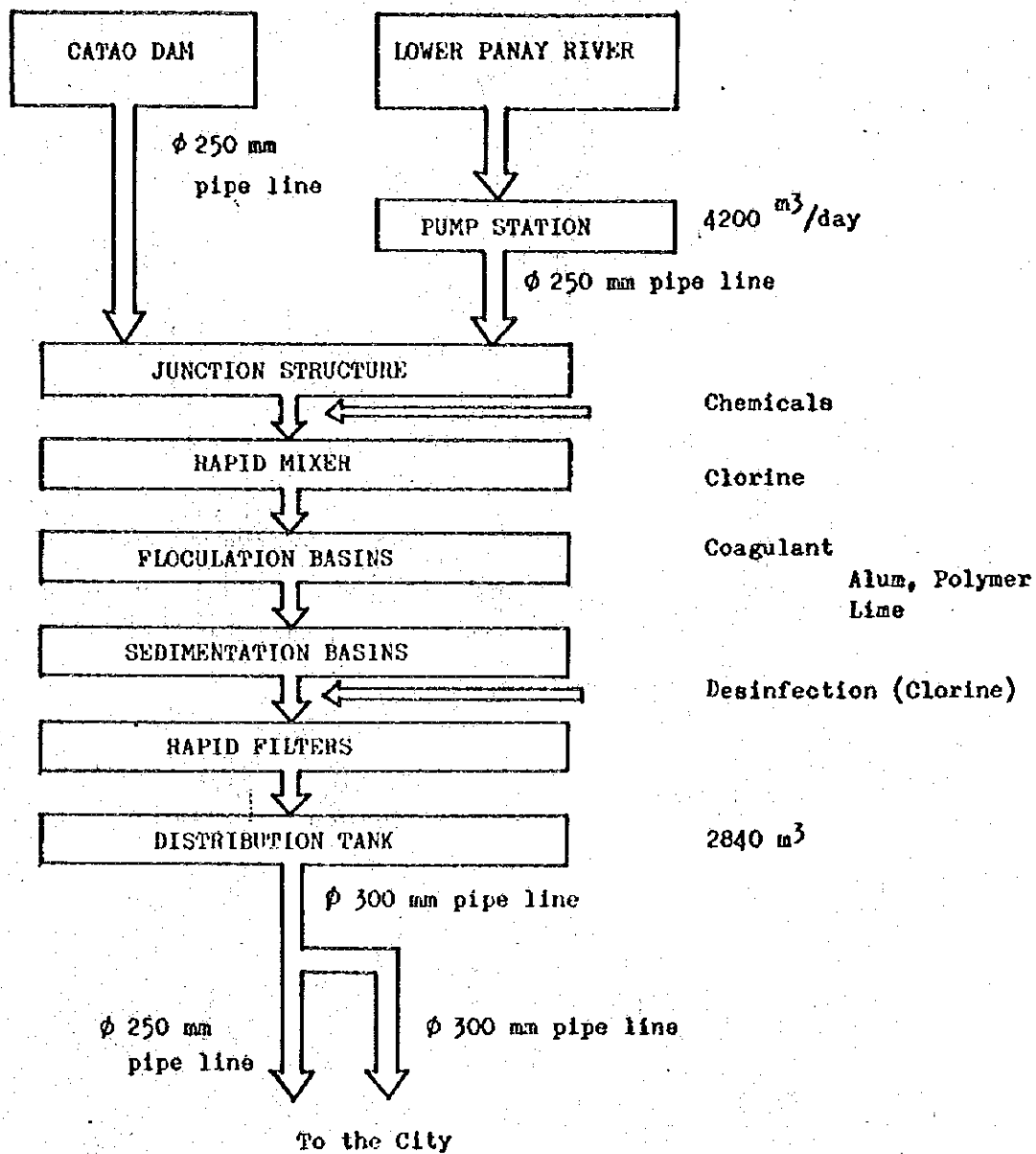


Fig. VIII.3-2 System Flow of Water Supply

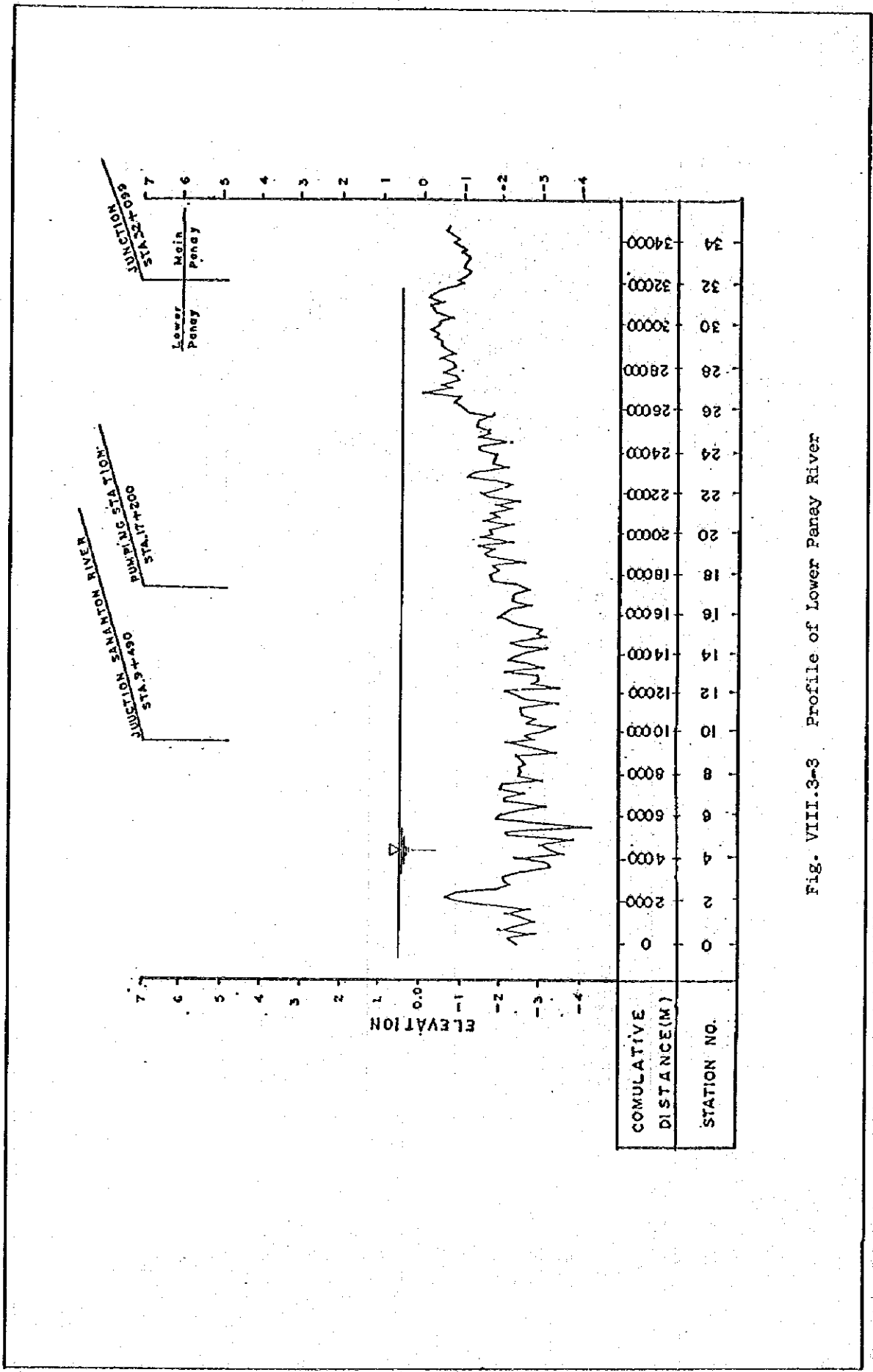
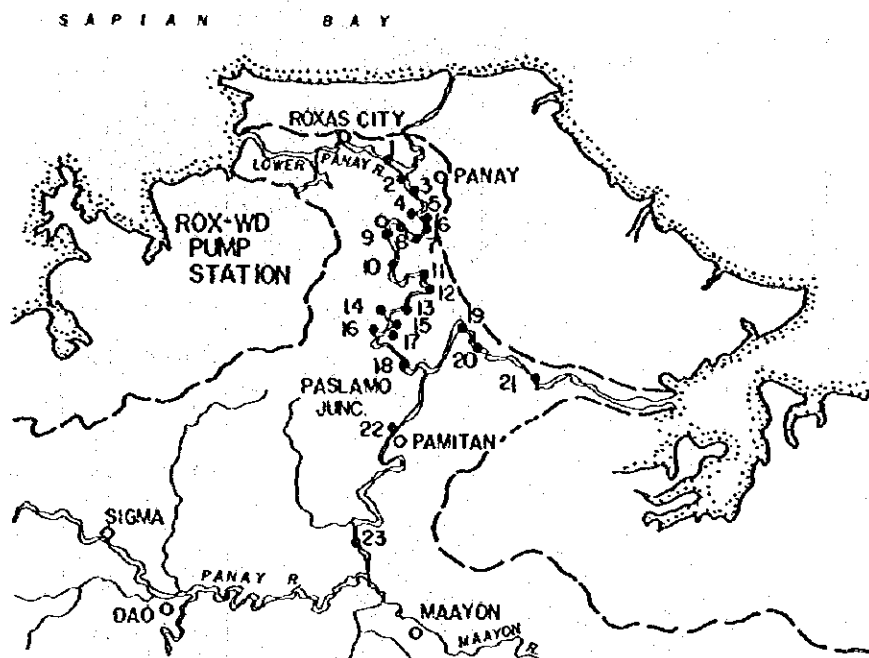


Fig. VIII.3-3 Profile of Lower Panay River



CODE NO	INTAKE WATER (L/SEC)	FACILITY	PURPOSE	AGENCY
1	45.0 L/SEC	PUMP	IRRIGATION	F.S.D.C.
2	250 "	"	"	"
3	150 "	"	"	"
4	750 "	"	"	"
5	900 "	"	"	"
6	1000 "	"	"	"
7	55 "	"	"	PRIVATE
8	75.0 "	"	"	F.S.D.C.
9	75.0 "	"	"	"
10	30.0 "	"	"	"
11	800 "	"	"	"
12	900 "	"	"	"
13	1260 "	"	"	"
14	650 "	"	"	"
15	210 "	"	"	"
16	1700 "	"	"	"
17	450 "	"	"	"
18	2330 "	"	"	"
19	1040 "	"	"	"
20	1260 "	"	"	"
21	53.0 "	"	"	"
22	730 "	"	"	"
23	57.0 "	"	"	"

SCALE :  
0 2 4 6 8 10 20 KM  
land - land - land

Fig. VIII.3-4 Location of Irrigation Water Utilization of Lower Panay River



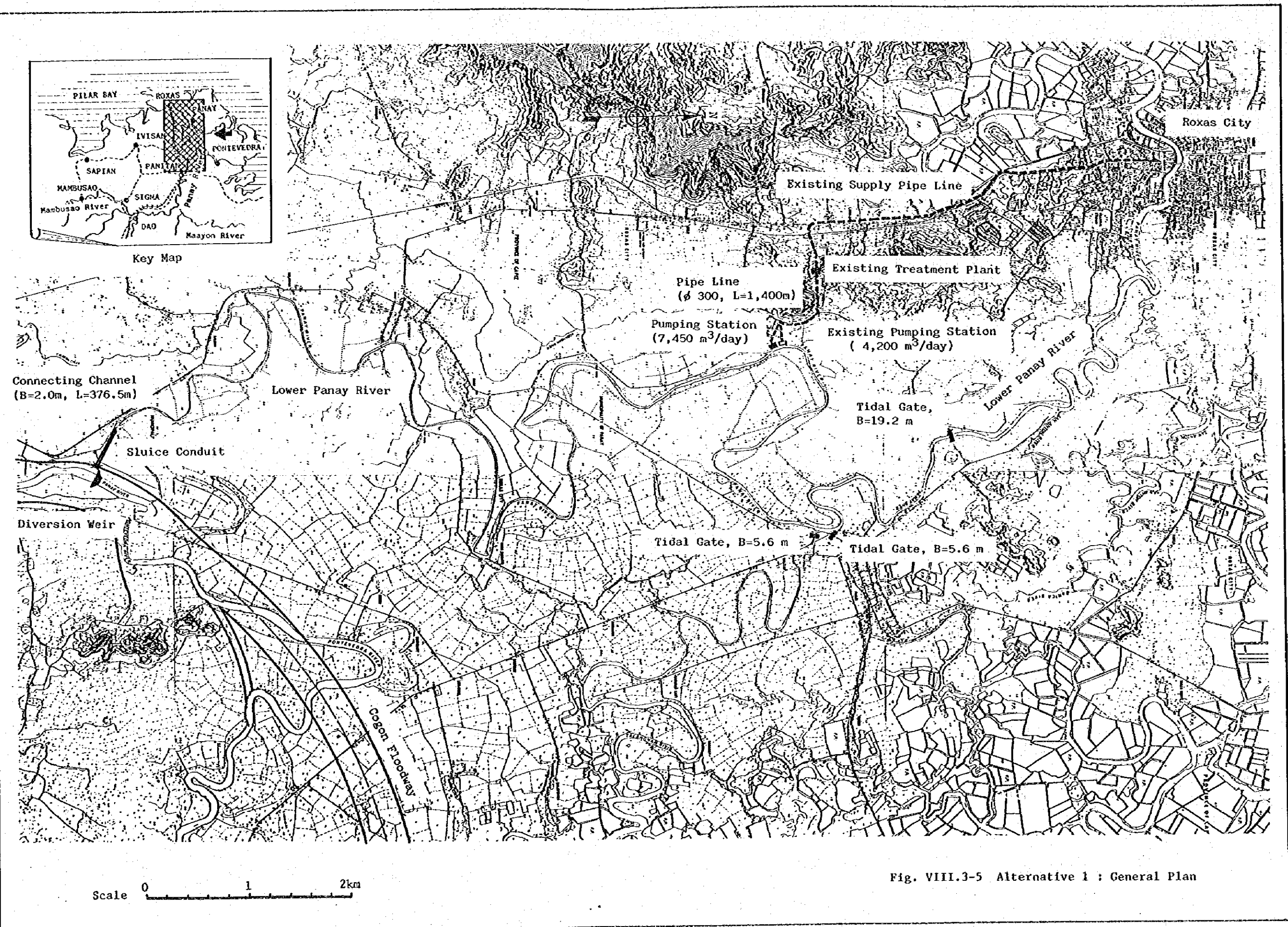
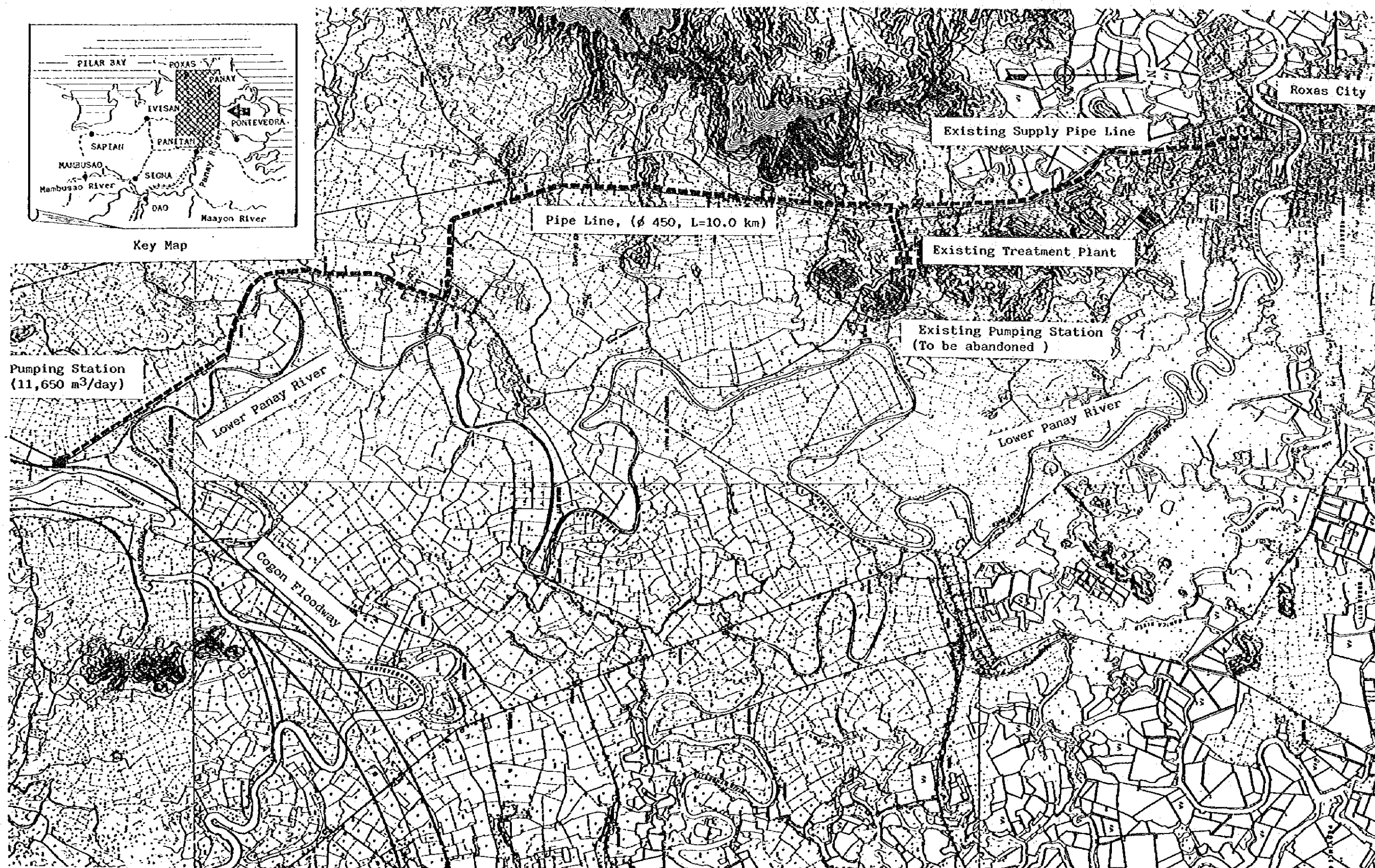
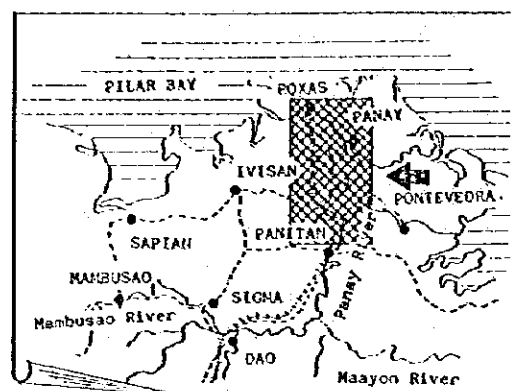


Fig. VIII.3-5 Alternative 1 : General Plan





Scale 0 1 2km

Fig. VIII.3-6 Alternative 2 : General Plan

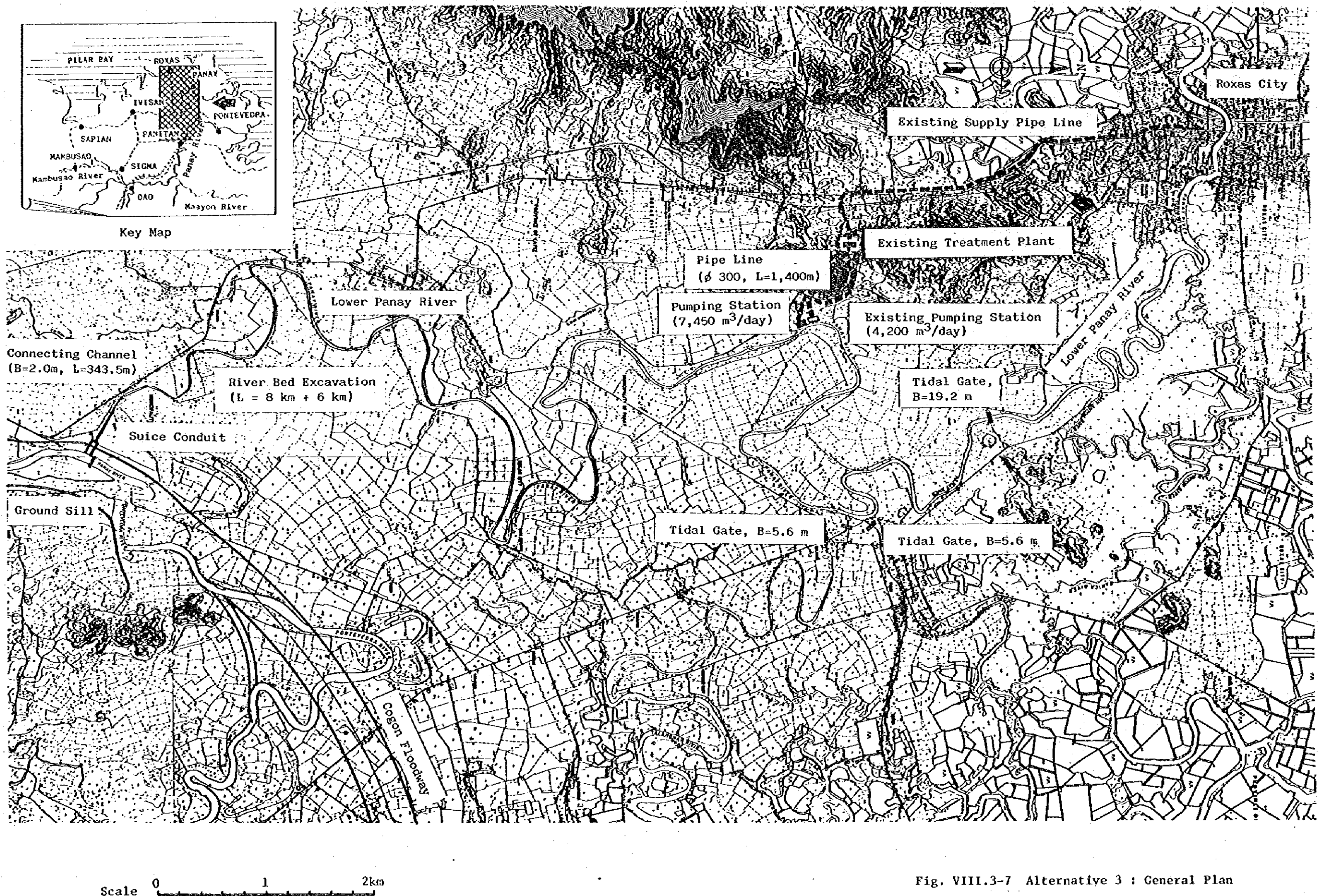
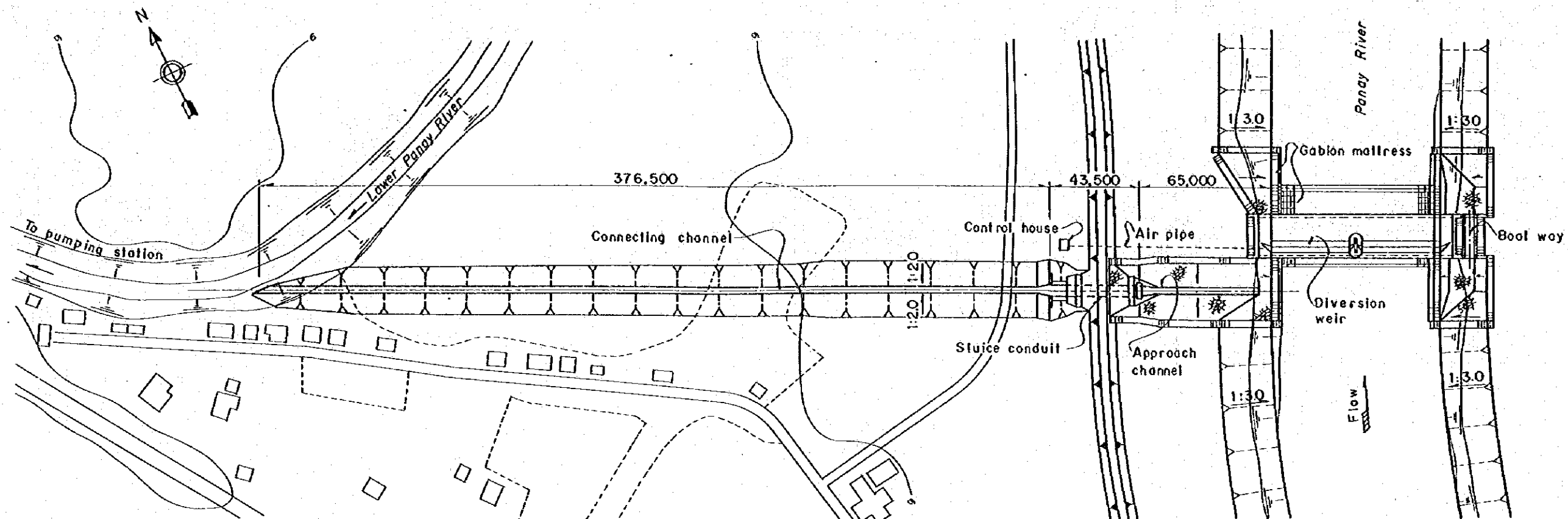
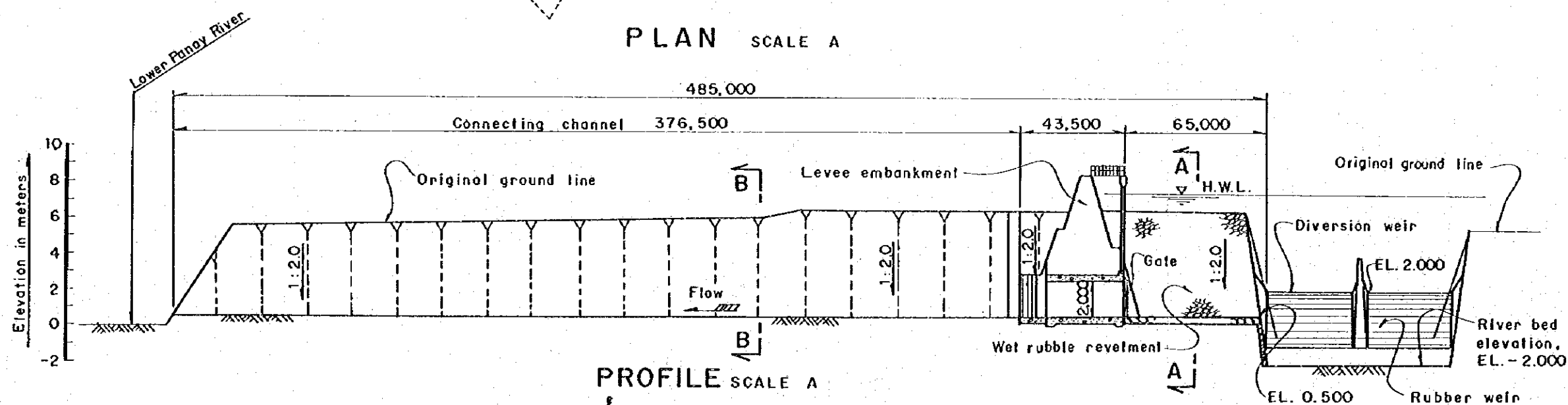


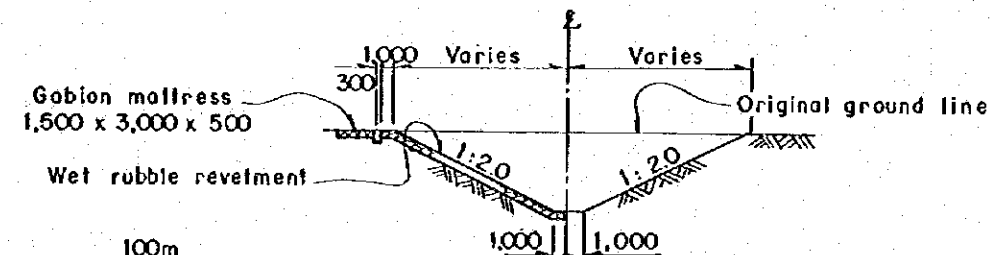
Fig. VIII.3-7 Alternative 3 : General Plan



PLAN SCALE A



PROFILE SCALE A



SECTION A-A  
SCALE B

SECTION B-B  
SCALE B

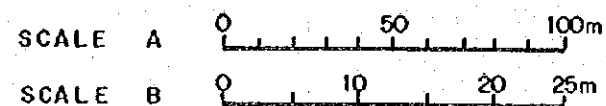
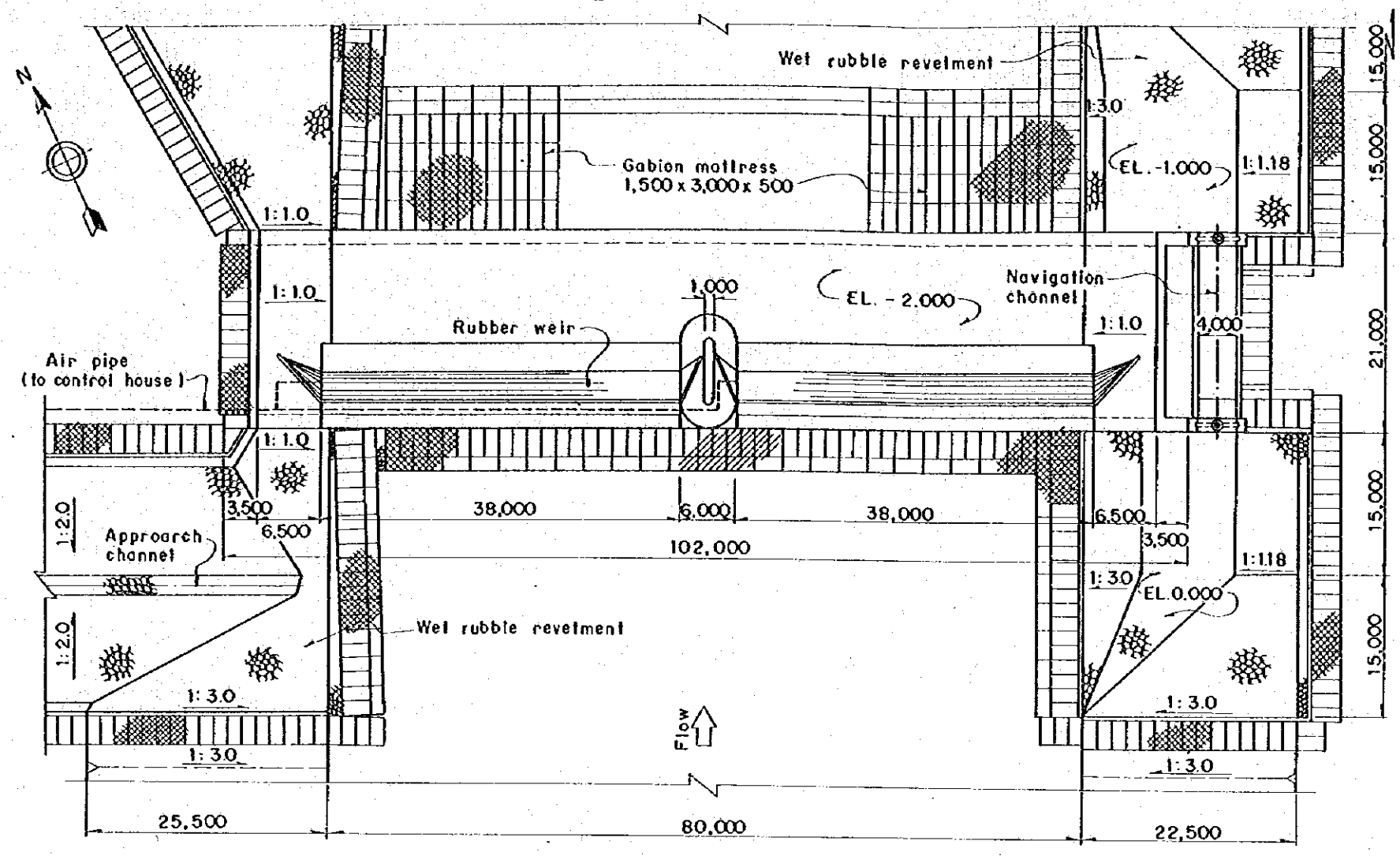
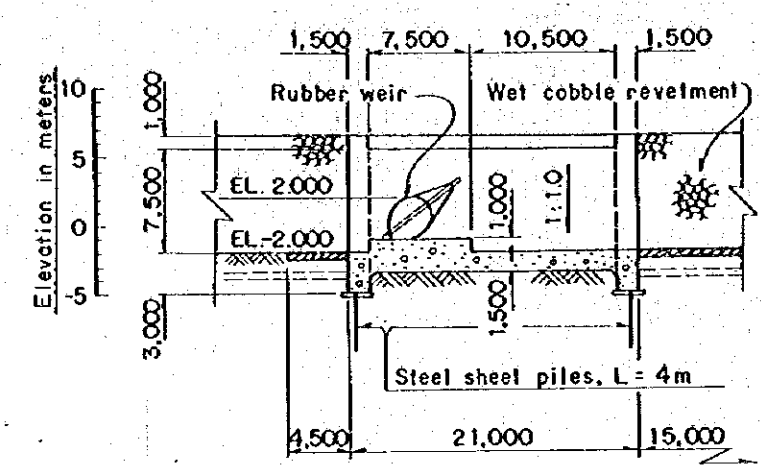


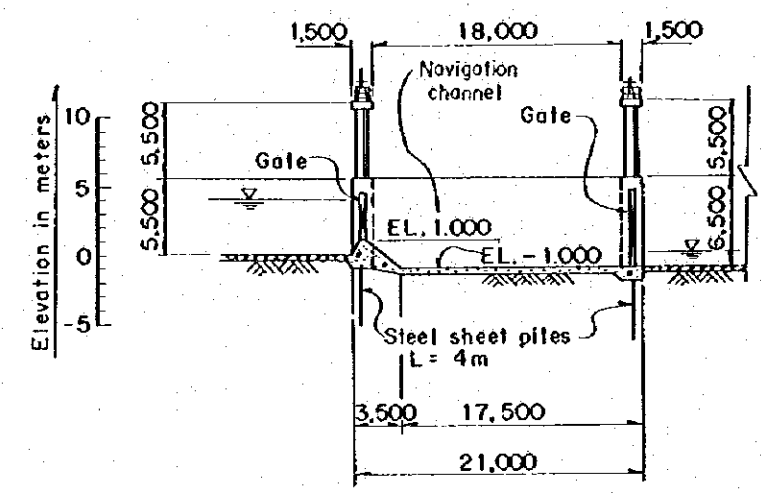
Fig. VIII.3-8 Alternative I : General Layout of Intake Weir and Connecting Channel



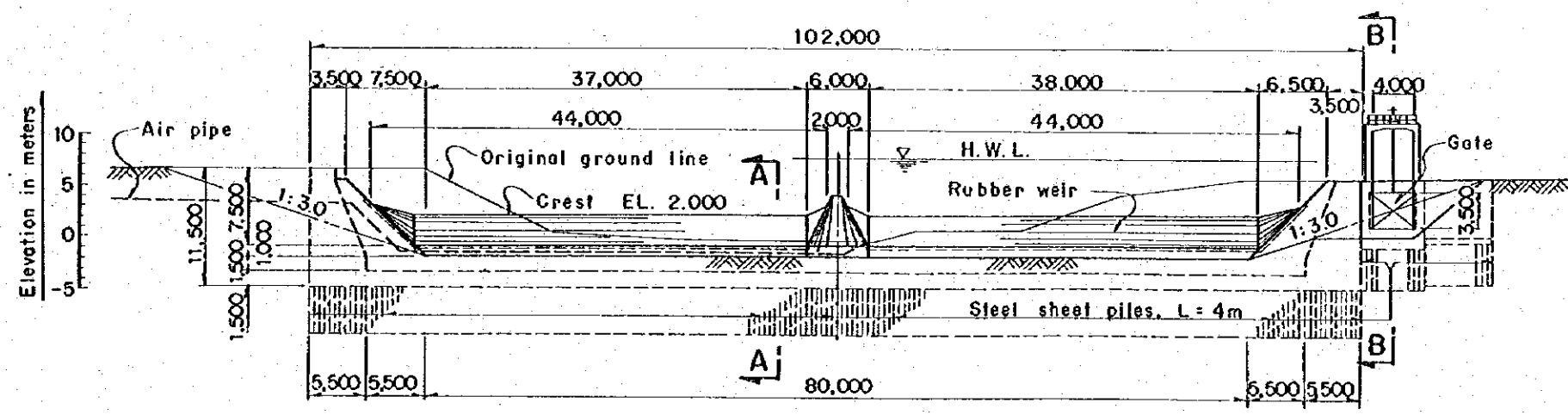
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SECTION A-A SCALE B



SECTION B-B SCALE B



ELEVATION SCALE A

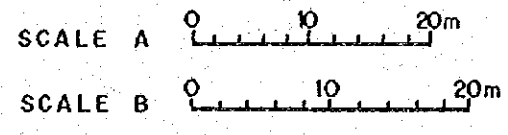
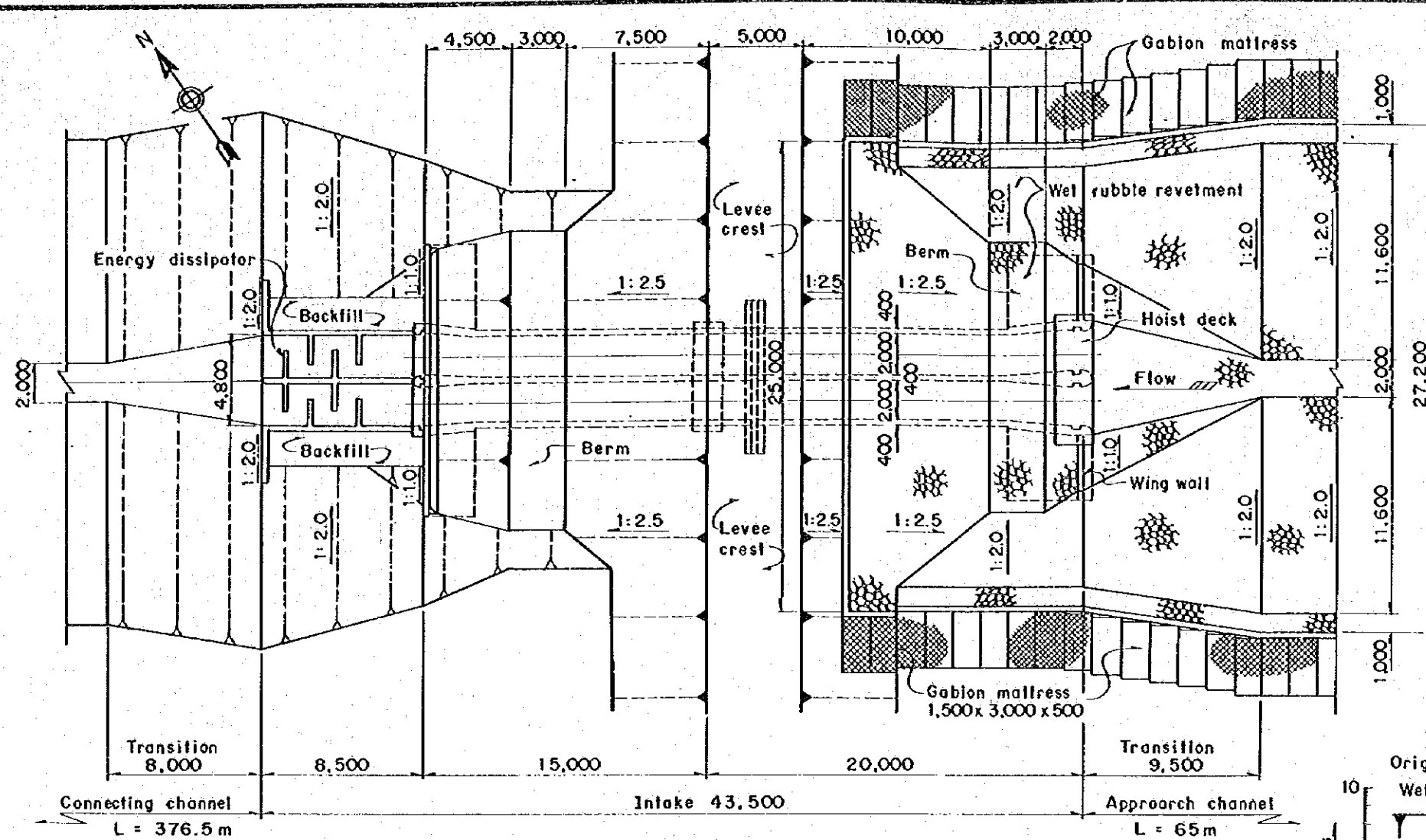
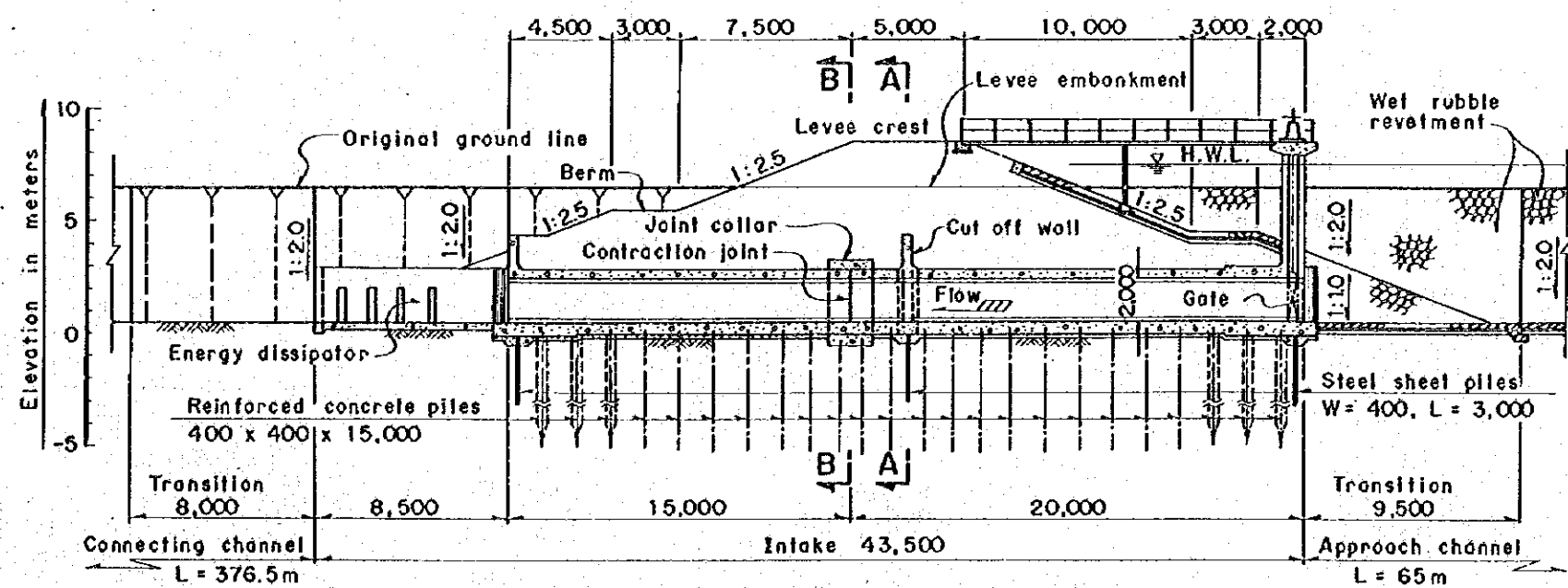


Fig. VIII.3 - 9 Alternative I : Diversion Weir Details

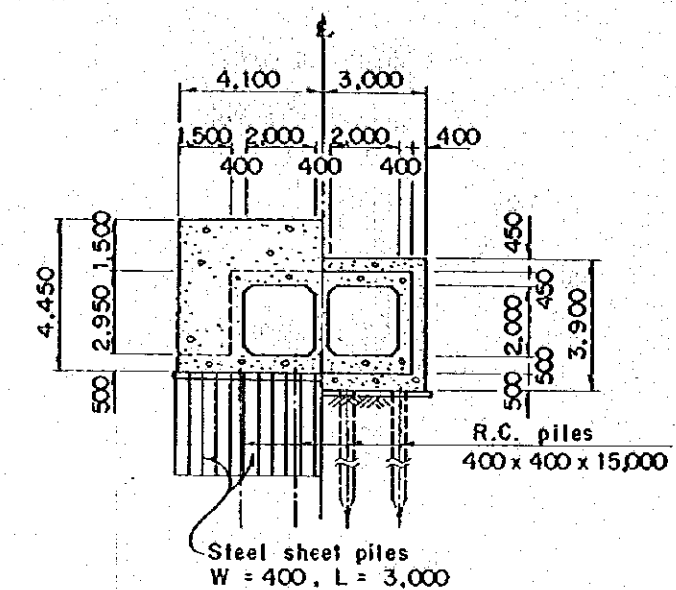




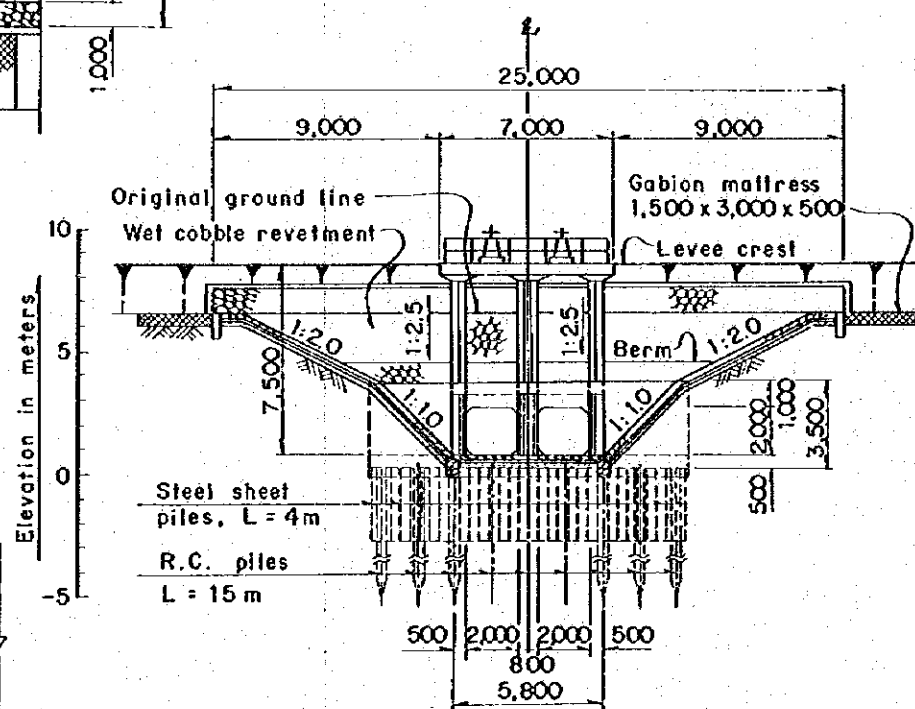
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PROFILE SCALE A



SECTION A-A SECTION B-B  
SCALE C SCALE C



ELEVATION SCALE A

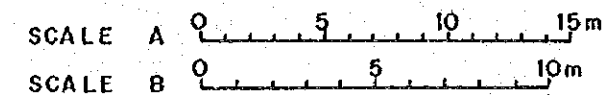


Fig. VIII.3-10 Alternative I : Sluice Conduit  
Details



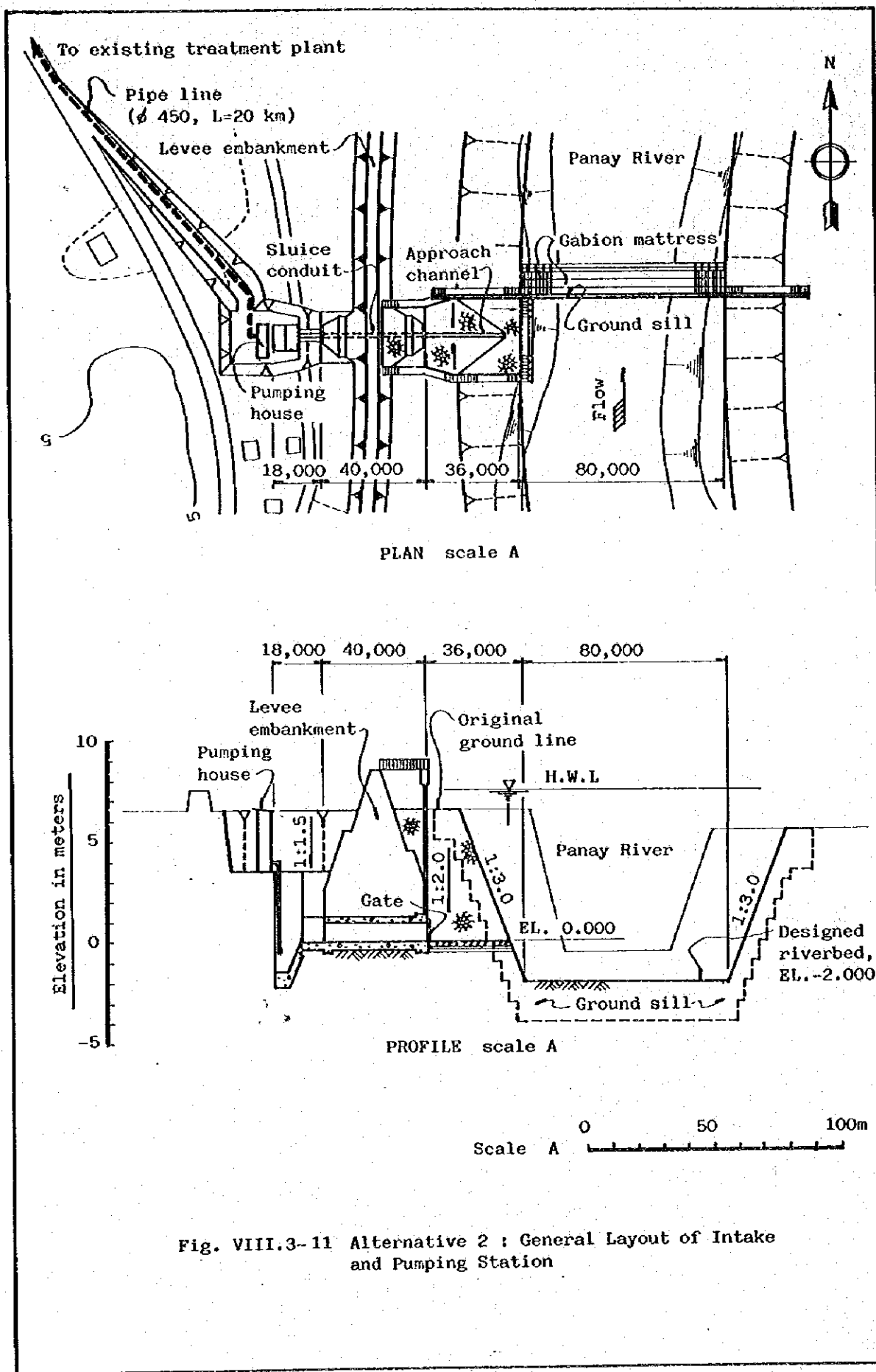


Fig. VIII.3-11 Alternative 2 : General Layout of Intake and Pumping Station

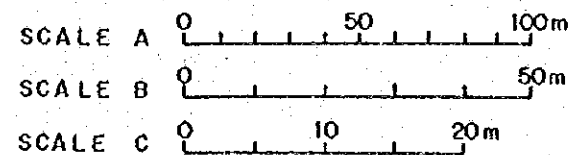
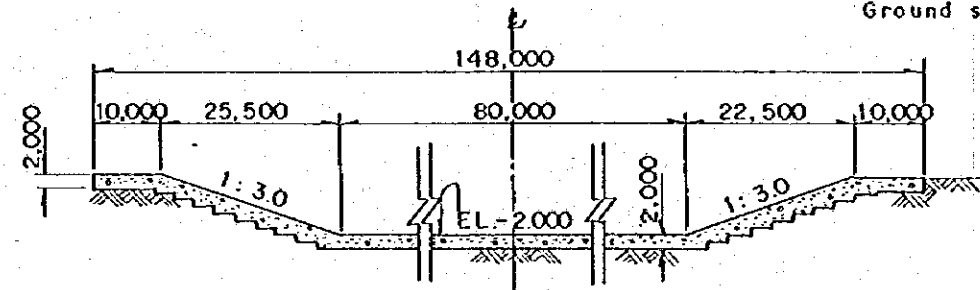
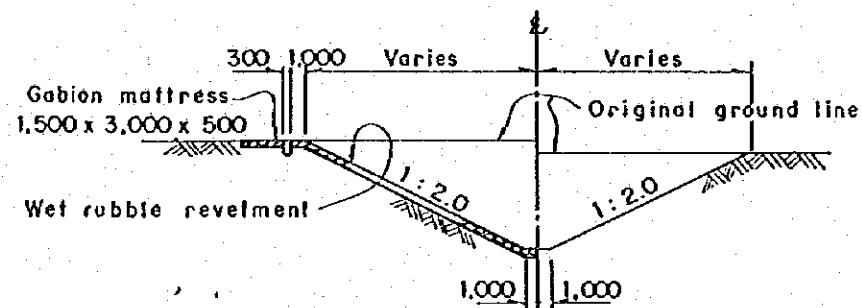
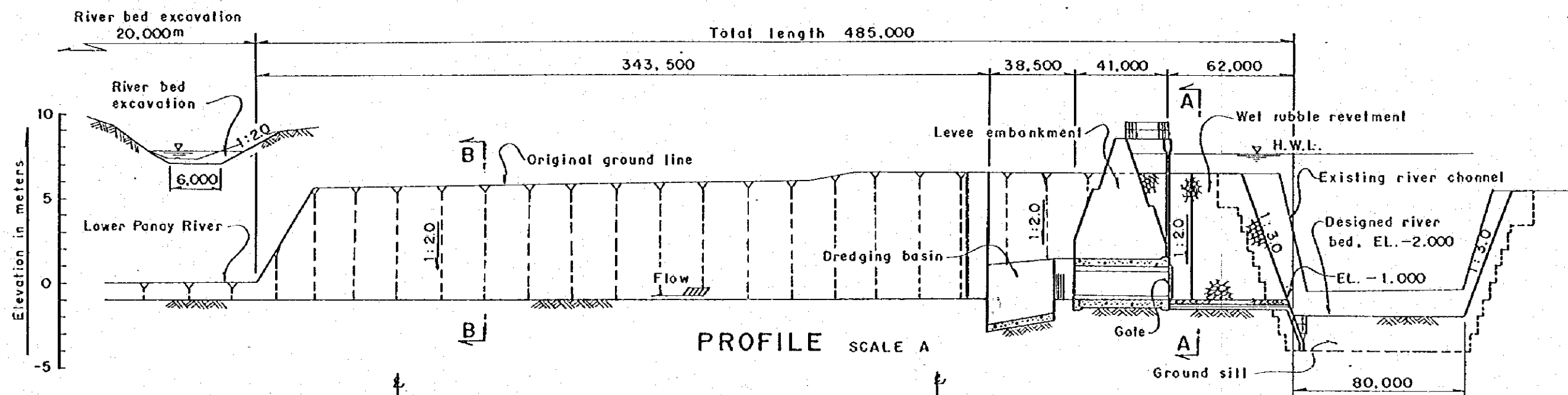
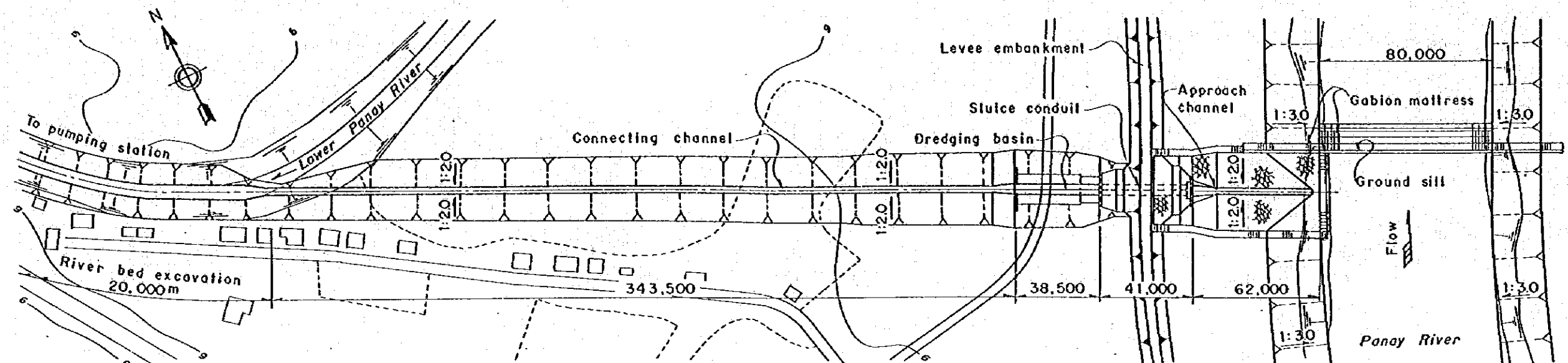


Fig.VIII.3-12 Alternative 3 : General Layout of Intake and Connecting Channel



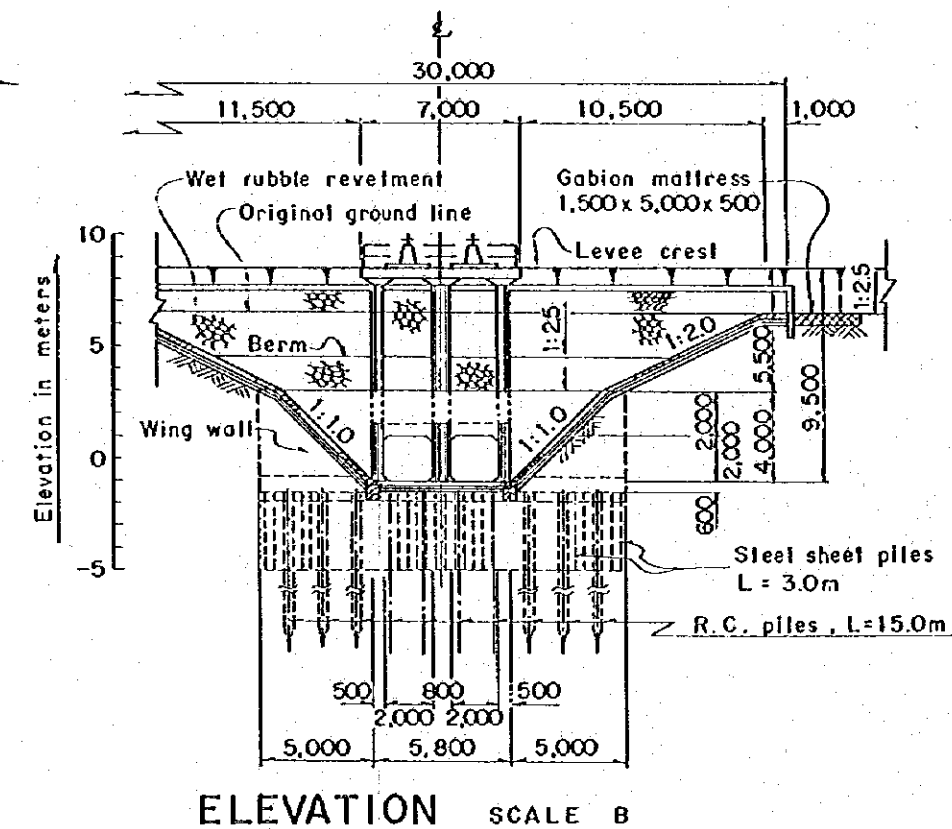
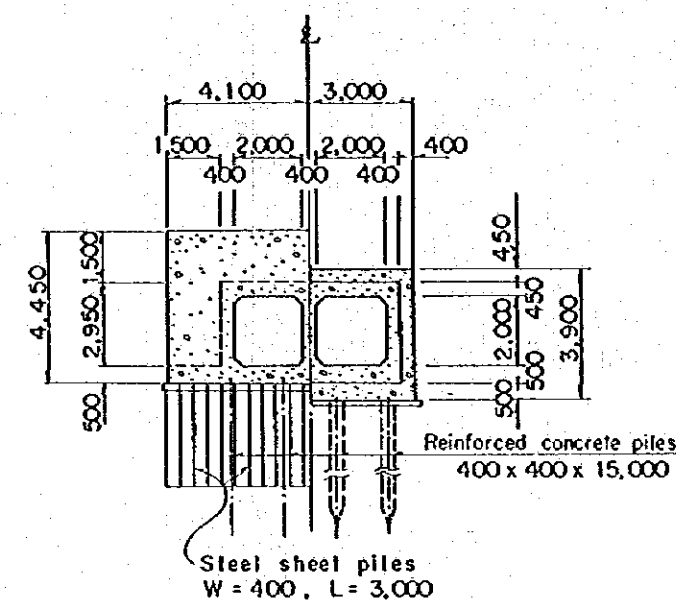
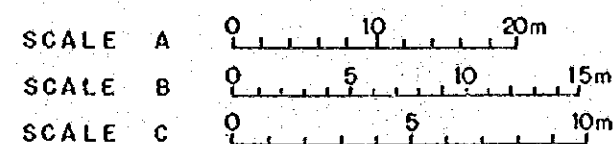
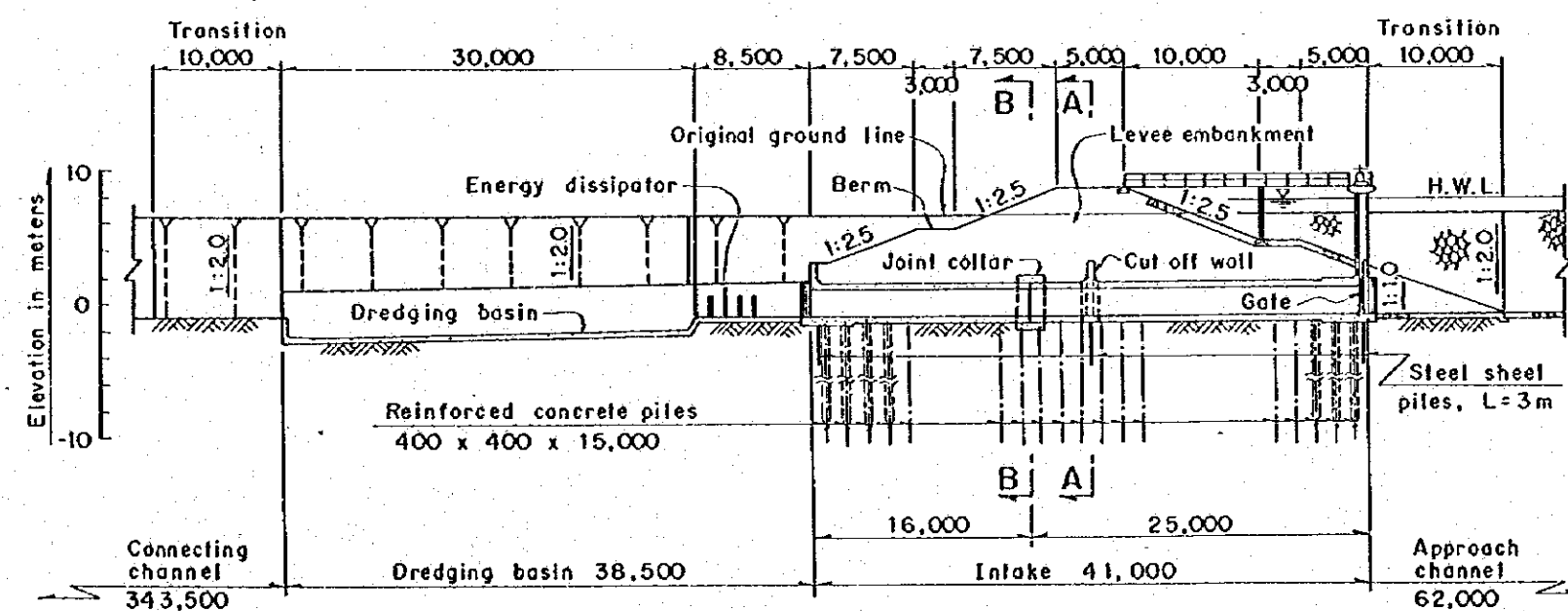
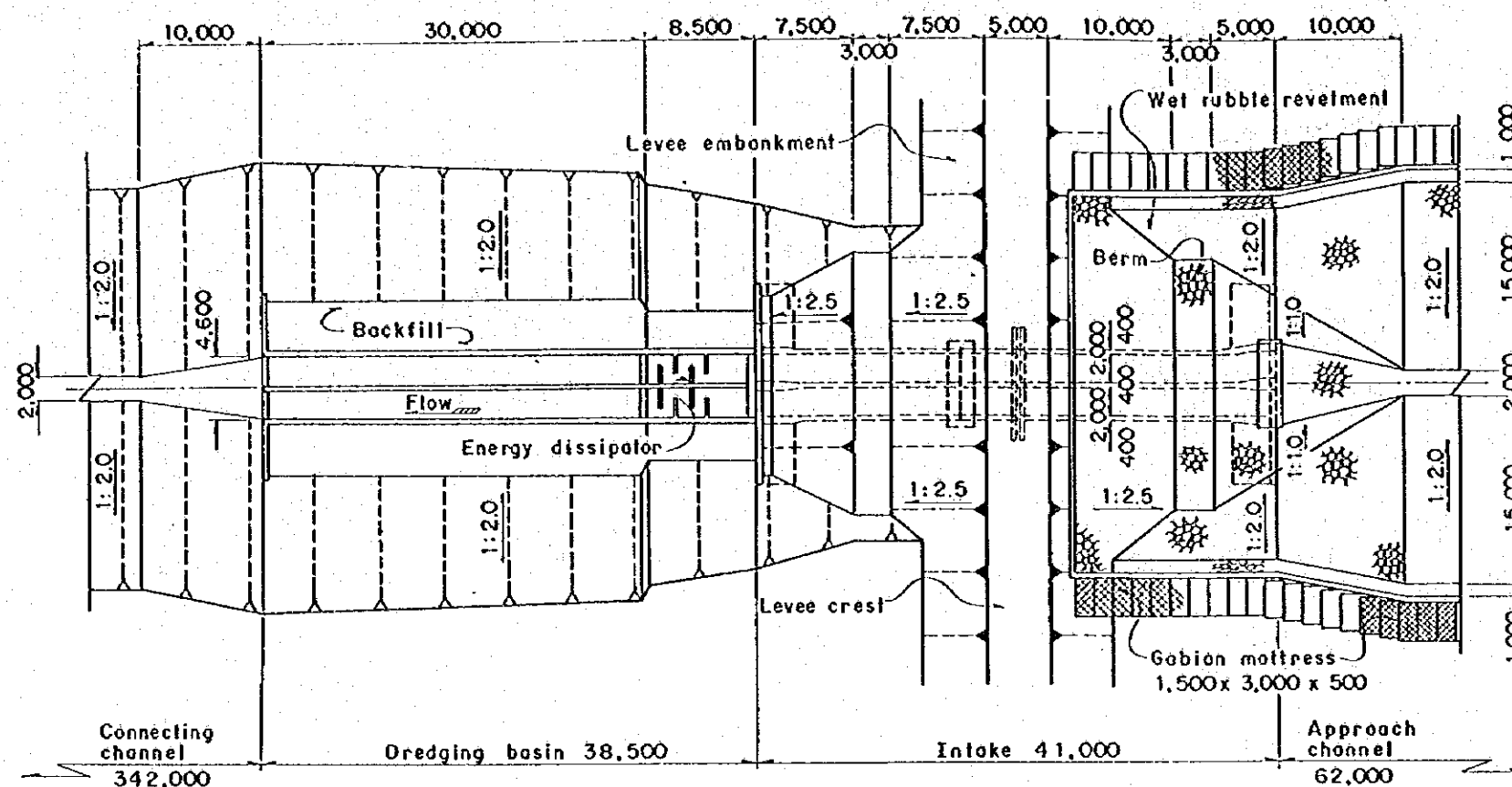
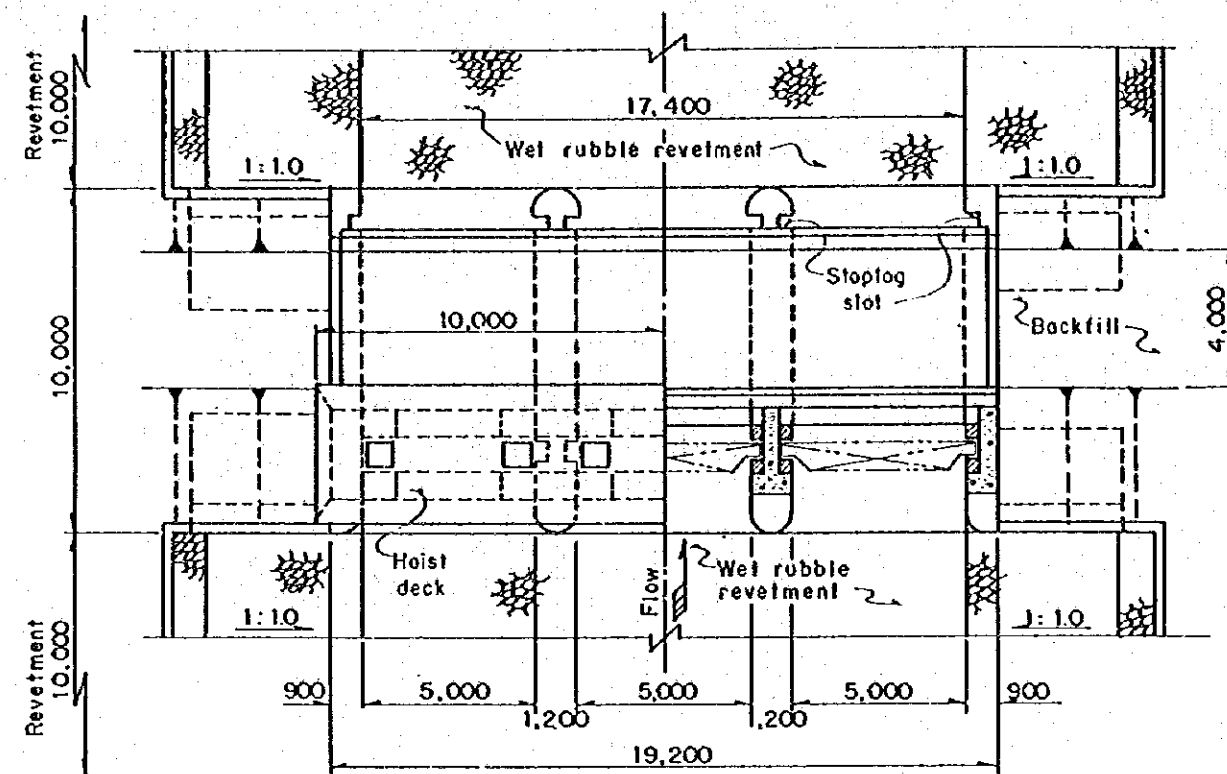
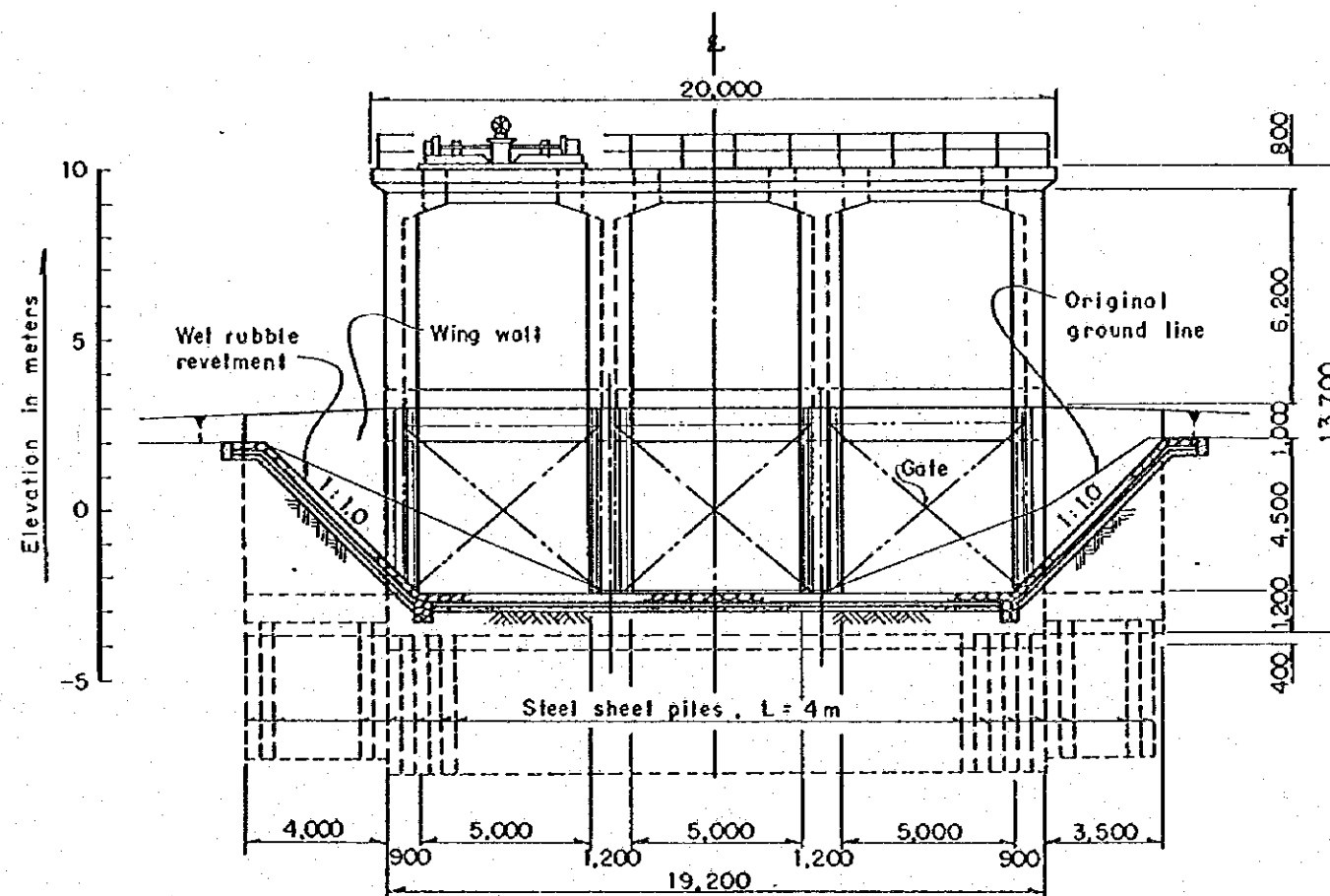


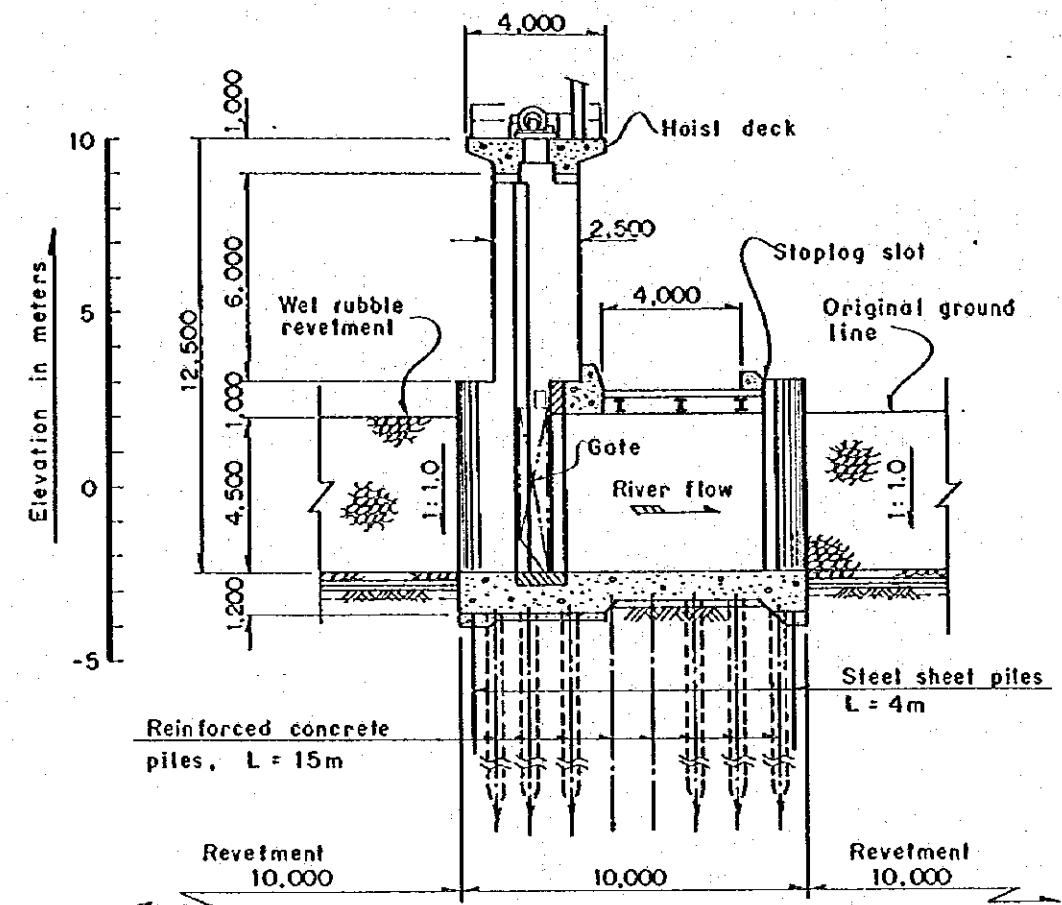
Fig.VIII.3-13 Alternative 3 : Sluice Conduit Details



PLAN



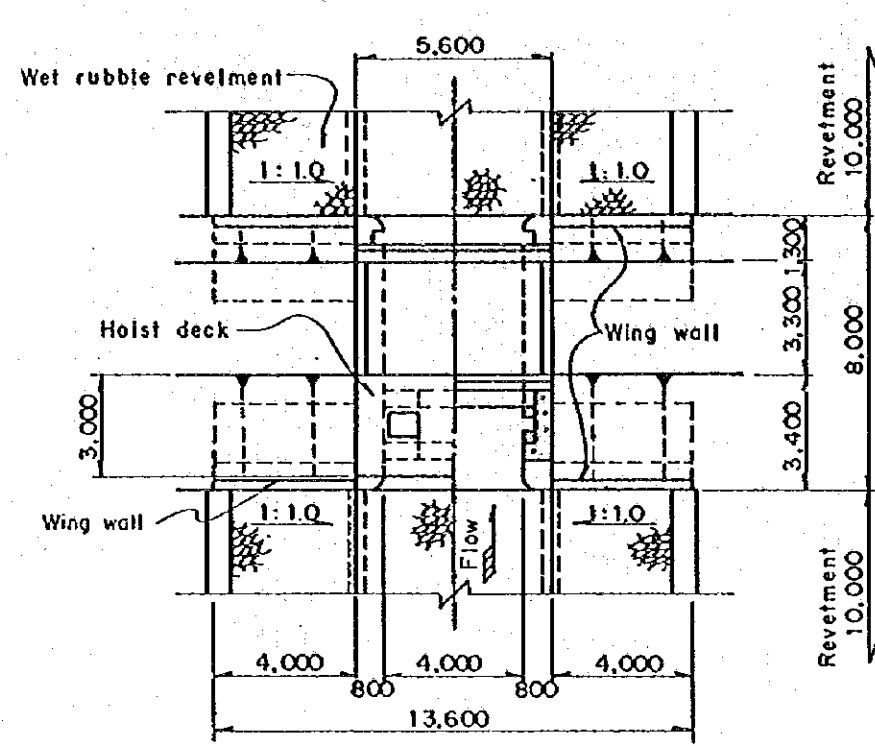
ELEVATION



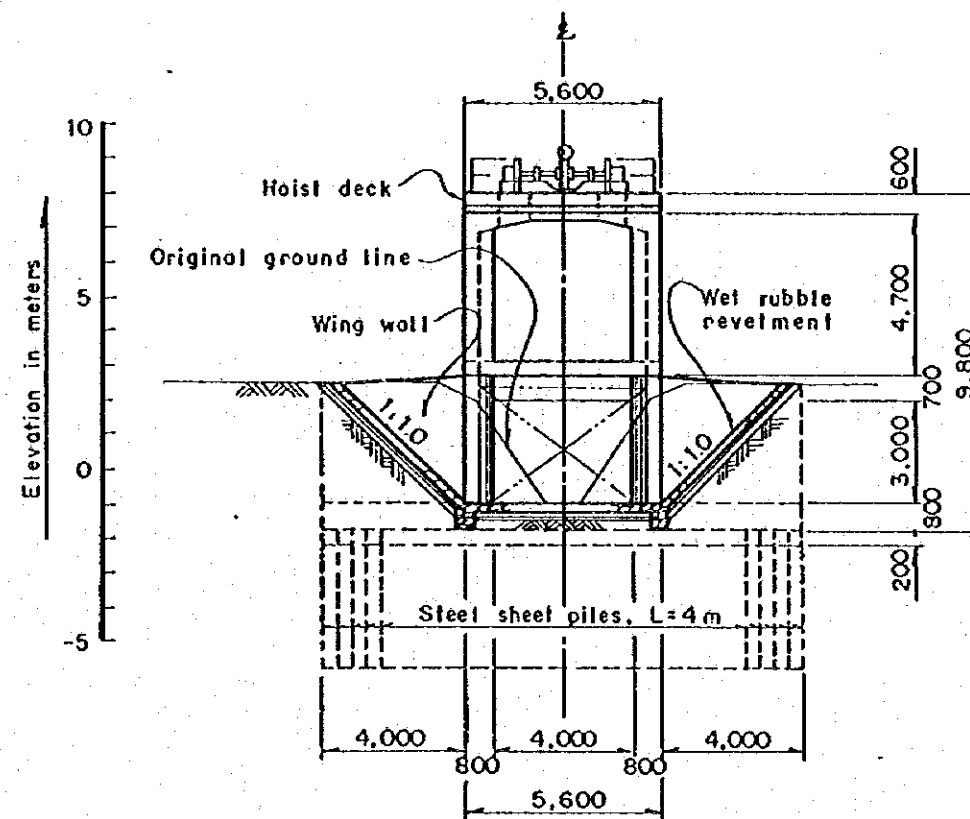
PROFILE

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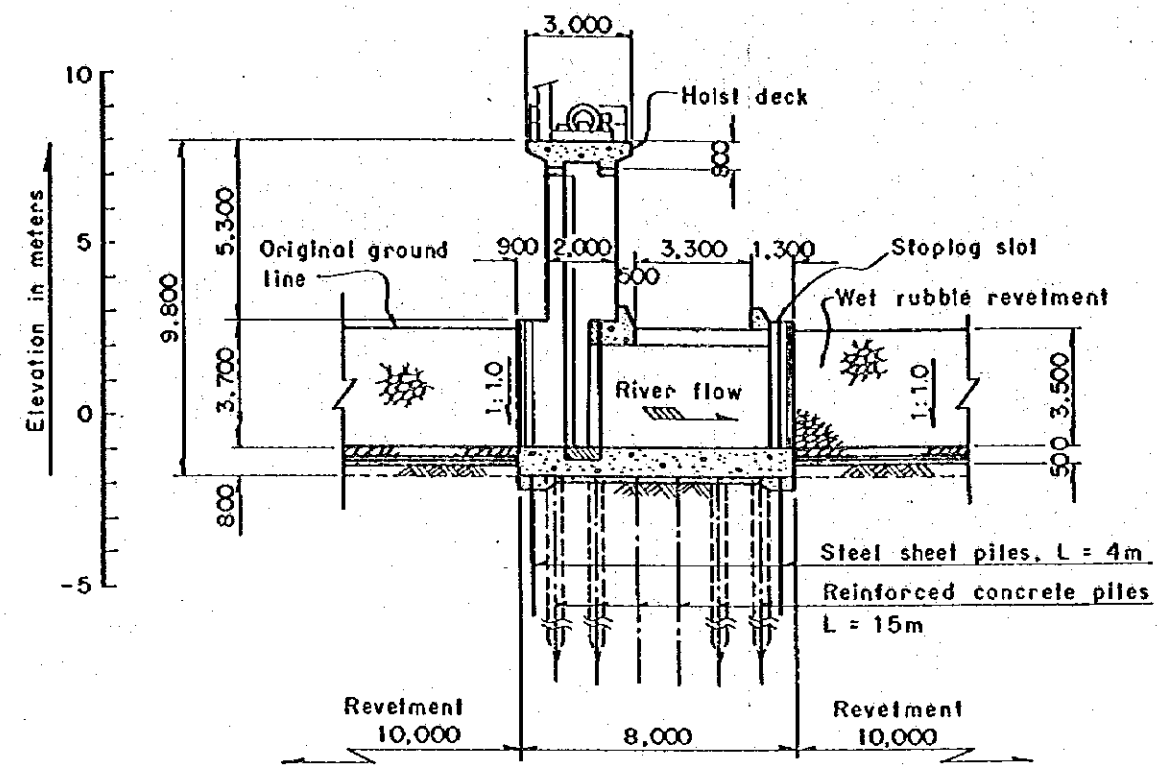
Fig. VIII.3-14 Alternatives 1 and 3: Tidal Gate on Lower Panay River



PLAN



ELEVATION



PROFILE

SCALE 0 5 10m

Fig. VIII. 3-15 Alternatives 1 and 3 : Tidal Gate on Streams



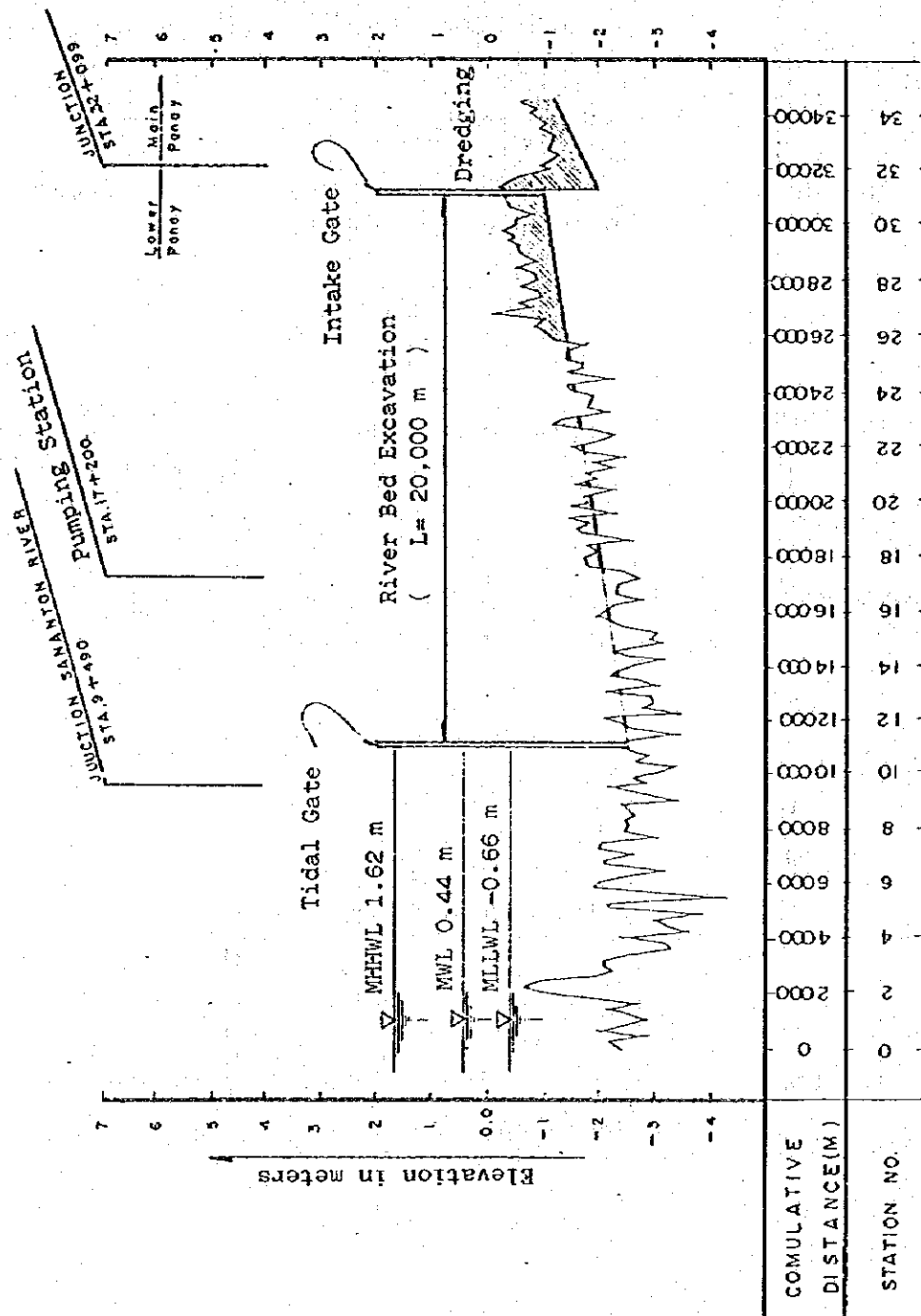


Fig. VIII.3-16 Alternative 3 : Profile of Lower Panay River

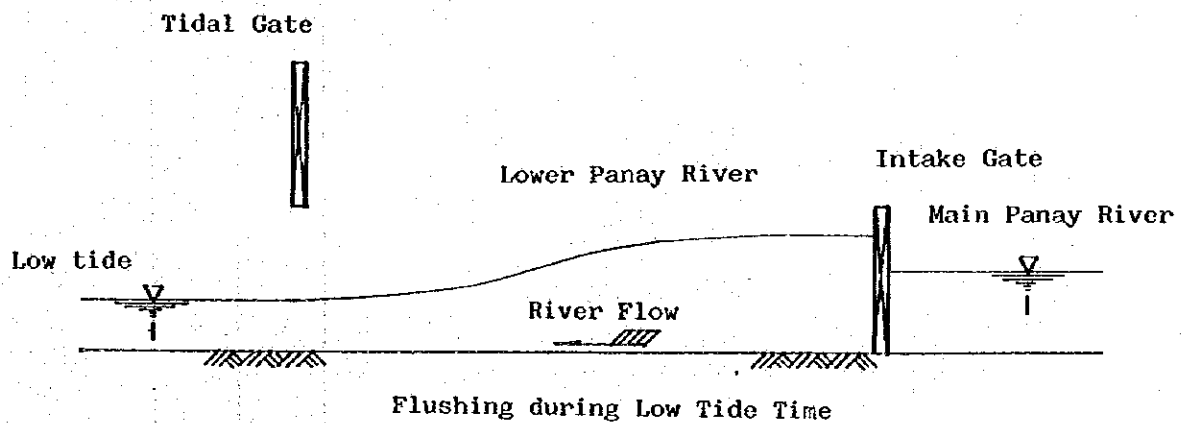
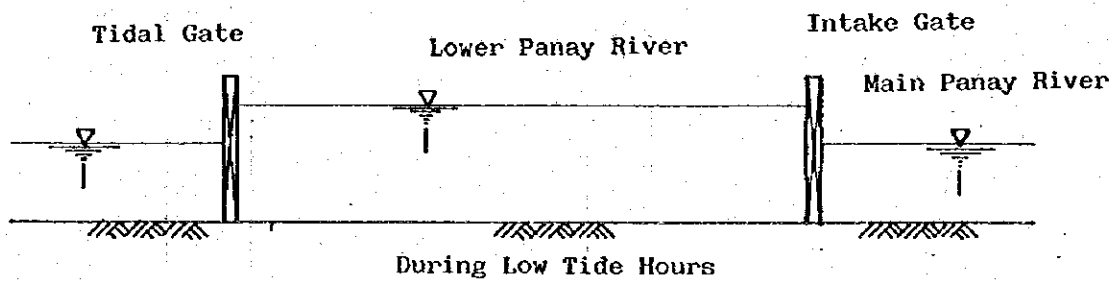
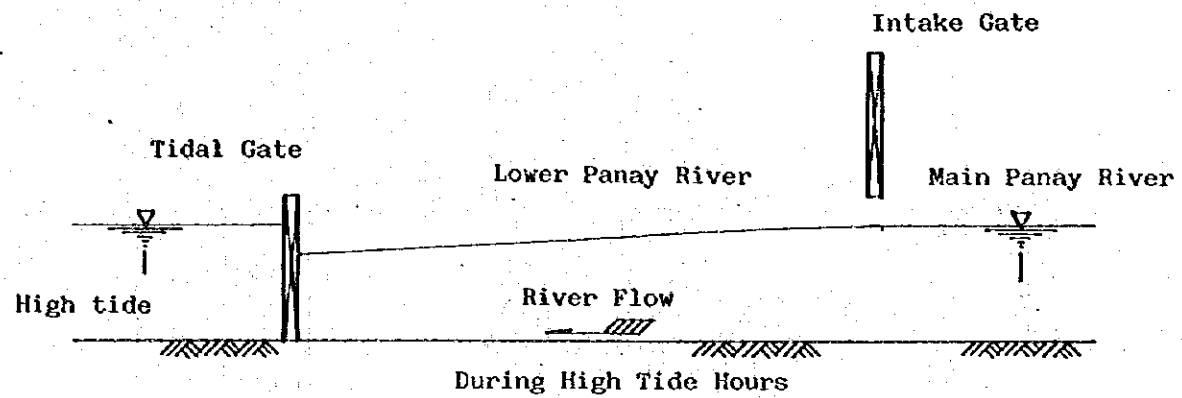


Fig. VIII.3-17 Alternative 3 : Logic of Gate Operation

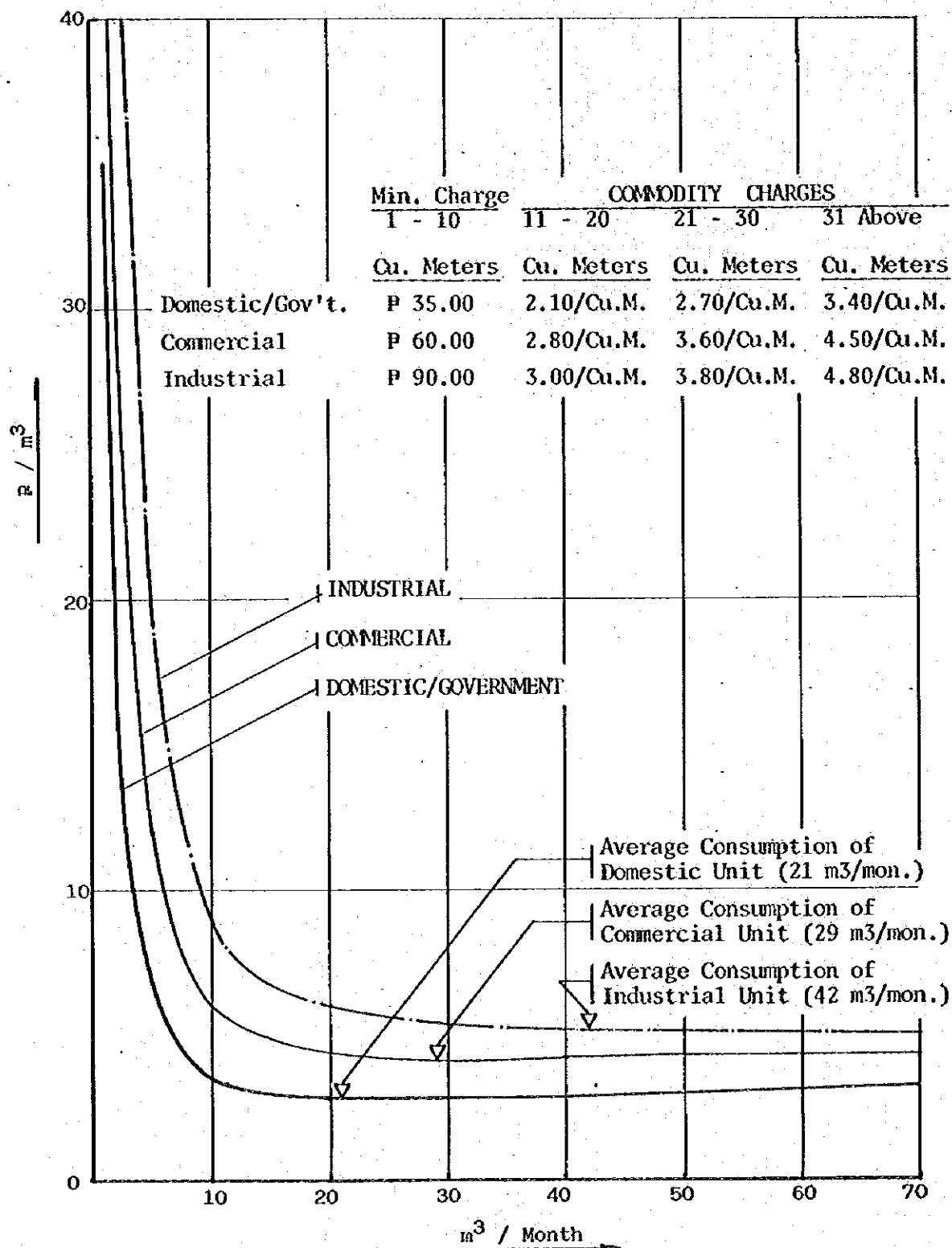


Fig. VIII.3-18 Water Rate of Roxas Water District  
(Effective since October 1984)





APPENDIX IX

SOCIO-ECONOMY

FOR

FINAL REPORT

ON

THE PANAY RIVER BASIN-WIDE

FLOOD CONTROL STUDY



THE PANAY RIVER BASIN-WIDE FLOOD CONTROL STUDY

APPENDIX IX SOCIO - ECONOMY

TABLE OF CONTENTS

	Page
1. Introduction .....	1-1
2. National Socio-Economic Background .....	2-1
2.1 Present Conditions .....	2-1
2.1.1 General .....	2-1
2.1.2 Population and Labor Force .....	2-1
2.1.3 Economic Condition .....	2-3
2.2 Socio-Economic Projections .....	2-5
2.2.1 National Development Plan .....	2-5
2.2.2 Population Projection .....	2-7
2.2.3 Socio-economic Projection .....	2-8
3. Socio-Economy in the River Basin .....	3-1
3.1 Present Condition .....	3-1
3.1.1 General .....	3-1
3.1.2 Population and Labor Force .....	3-1
3.1.3 Overall Economic Output .....	3-3
3.1.4 Development Programs .....	3-4
3.1.5 Spatial Profile .....	3-5
3.1.6 Sectoral Profile .....	3-6
3.2 Socio-Economic Projections .....	3-13
3.2.1 Population Projection .....	3-13
3.2.2 Projection of Gross Regional Domestic Product .....	3-13
3.3 Role of the River Basin .....	3-15
3.3.1 Socio-economic Role in the National Economy ..	3-15
3.3.2 Potentials for the River Basin Development ...	3-16
3.3.3 Tasks ahead for concrete steps .....	3-18

## LIST OF TABLES

	Page
IX. 2-1 POPULATION BY SEX, URBAN AND RURAL RESIDENCE AND LABOR FORCE .....	T2-1
IX. 2-2 GAINFUL WORKERS 15 YEARS OLD AND OVER BY INDUSTRY GROUP .....	T2-2
IX. 2-3 GROSS DOMESTIC PRODUCT .....	T2-3
IX. 2-4 GROSS DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN .....	T2-4
IX. 2-5 POPULATION PROJECTION .....	T2-5
IX. 2-6 PROJECTED GROSS DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN .....	T2-6
IX. 2-7 PROJECTED GROSS DOMESTIC PRODUCT .....	T2-7
IX. 3-1 POPULATION BY CITY AND MUNICIPALITY (PANAY RIVER BASIN) .....	T3-1
IX. 3-2 POPULATION GROWTH (REGION VI) .....	T3-2
IX. 3-3 POPULATION BY AGE GROUP .....	T3-3
IX. 3-4 GAINFUL WORKERS 15 YEARS OLD AND OVER BY INDUSTRY GROUP (REGION VI) .....	T3-4
IX. 3-5 GAINFUL WORKERS 15 YEARS OLD AND OVER BY INDUSTRY GROUP (CAPIZ) .....	T3-5
IX. 3-6 GROSS REGIONAL DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN (REGION VI) .....	T3-6
IX. 3-7 PER CAPITA GROSS DOMESTIC PRODUCT COMPARISON .....	T3-7
IX. 3-8 NUMBER OF DWELLING UNITS BY YEAR BUILT AND BY STRUCTURE .....	T3-8
IX. 3-9 POPULATION PROJECTION BY CITY AND MUNICIPALITY (PANAY RIVER BASIN) .....	T3-9
IX. 3-10 FAMILY SIZE PROJECTION IN CAPIZ PROVINCE .....	T3-10
IX. 3-11 PROJECTED GROSS REGIONAL DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN (REGION VI) .....	T3-11
IX. 3-12 PROJECTED GROSS REGIONAL DOMESTIC PRODUCT .....	T3-12

## LIST OF FIGURES

	Page
IX. 3-1 POPULATION GROWTH .....	F3-1
IX. 3-2 GAINFUL WORKERS 15 YEARS OLD AND OVER BY INDUSTRY GROUP .....	F3-1
IX. 3-3 INTEGRATED AREA DEVELOPMENT DIVISIONS .....	F3-1
IX. 3-4 INDUSTRIAL CHARACTERISTICS .....	F3-2



## 1. Introduction

The socio-economic study aims at projecting population, gross domestic product (GDP) and gross regional domestic product (GRDP) in the target year as the basic framework for the other sectoral studies. Present socio-economic framework and other principal indicators are simultaneously mentioned in this sectoral study.

Chapter two describes the present and future socio-economic framework of the Philippines. Population and GDP are projected based on the national development plan for 1983-1987 and scenarios which are assumed reflecting present conditions of the country.

Chapter three describes the present and future framework of the Panay river basin. Socio-economic present conditions are outlined through development policies, regional aspects and industrial conditions. Based on the national socio-economic projection in the chapter two, population and GRDP in the basin are formulated. Finally, based on these situations, role of the basin is presented from a point of view of the national economy. At the same time, tasks ahead for the next concrete steps are listed in the final section.

This socio-economic study neither covers all aspects of socio-economic of the Philippines nor includes any proposal for socio-economic planning. It aims to provide the figures for the use of working out the other relevant sectoral studies. A further study will be needed for more detailed implementation plans such as a feasibility study.

## 2. National Socio-Economic Background

### 2.1 Present Conditions

#### 2.1.1 General

The Philippines, one of the largest archipelagos in the world, with 7,100 islands, covers an area of approximately 300,000 km<sup>2</sup>. She consists of three major islands groups: Luzon with an area of 141,395 km<sup>2</sup>; Mindanao with an area of 101,999 km<sup>2</sup>; and the Visayas with an area of 56,606 km<sup>2</sup>. The respective groups have some of regions, provinces, cities and municipalities, and barangays in order of administrative substructures. There are 12 regions, 73 provinces, 60 cities, 1493 municipalities, and 40,207 barangays in the country.

#### 2.1.2 Population and Labor Force

##### (1) Population

According to the 1980 census by NCSO, the Philippines had population of 48,098,460. This population increased by 21 million compared with the 1960 census. During 1960's, the average annual growth rate of population is estimated at 3.08%. To control such a high growth of population, the Commission of Population was established in 1969 and formulated a national population program. Owing to the population control policy of the government, the population growth showed down at 2.71%. This rate shows that the population becomes double with about 25 years. According to the Medium Term Plan of Philippine Population Program which was formulated in 1980, it is expected that the growth rate of population will reduce from 2.3% in 1980 to 2.0% in 1985.

According to the 1980 census, the male population was slightly more than the female population, i.e., 24.1 million of the male population (or 50.2% of the total population) and 24.0 million of the female population (or 49.8% of the total population).

The population in the urban areas was gradually increasing from 31.8% in 1970 to 37.3% in 1980. Most of the population growth in the urban areas might be attributed to the influx of rural migrants to the



urban areas, Metro Manila in particular. Centralization to the urban areas, however, has brought about a number of problems such as ethnic conflicts, increase in urban squatters, rise in cost of housing and in unemployment, and unbalance in income distribution. For the purpose of administering the centralization, some regional development programs in major cities such as Iloilo are implemented to guide the proper spatial distribution of the population, by means of providing alternative poles of attraction outside the metro-police.

## (2) Labor Force

In 1980, the total number of the labor force was 15,140 thousand. Of this number, 14,184 thousand or 96.6% were employed. Participation rate, which means the rate of the labor force to the total population of 15 years old and over, decreased from 58.6% in 1970 to 53.3% in 1975. But between 1975 and 1980, the ratio kept almost the same rate as shown in Table IX.2-1.

The agricultural sector, the primary sector, including fishery and forestry absorbs the greatest portion of the manpower resource. This sector accounts for 5,614 thousand or 52.3% of the total gainful workers in 1970 and for 7,295 thousand or 51.4% in 1980 as shown in Table IX.2-2. The average annual growth rate of the agricultural sector, during the late decade, is slightly smaller than that of the total population.

The industrial sector, the secondary sector, such as mining and quarrying, manufacturing, construction, and electricity, gas and water supply, employs the smallest number of persons accounting for 1,847 thousand in 1970 and 2,514 thousand in 1980.

The services' sector, the tertiary sector, such as transportation, commerce and various kinds of service, accounts for the second largest employment with 3,276 thousand in 1970 and 4,735 thousand in 1980. The average annual growth rate of 3.75% during the decade is the largest among three (3) industrial sectors.

### 2.1.3 Economic Conditions

#### (1) General

The Philippine economy has depended chiefly upon agriculture since independence from the United States in 1956. In early 50's, however, the Philippines aimed at industrialization by means of import replacement industry for promoting the economic independence and economic development as most of developing countries. This industrialization policy was a tolerable success, and particularly in early 50's, the average annual growth of manufacturing sector showed the extremely high rate of 15.8%.

In 60's, this rapid growth brought about the several social problems such as acceleration of capital intensive industries and centralization of industrial location into the big cities, so that caused to decrease the employment opportunity and to shrink the promotion of export industries.

In 70's, the government transferred its policy from import replacement industrialization to export promotion measures, and furthermore, proposed to lay a stress on regional development, promotion agricultural development and attraction of foreign investment. As a result, the economic growth in the Philippines showed a successful figure of 6.7% per annum on the average from 1972 to 1979.

Since the oil crisis in 1978, the Philippines has experienced serious economic stagnation. For the sake of stimulating the national economy, the government formulated the business stimulating policy in the early 80's. However, such the policy did not contribute to the development of the national economy due to the lingering economic recession in industrialized countries. As a result, this unsuccessfulness brought about various economic disorder such as government budget deficit, decrease in foreign currency reserves and flight of capital.

#### (2) Gross domestic product

GDP (Gross Domestic Product) in 1983 is about ₱380 billion (approximately US\$ 27 million) which increased by about 11.9% compared with that in the previous year as shown in Table IX.2-3. Per capita GDP is ₱7,330 which shows increase in about 9.3% than that of the previous year.

Real growth rate of GDP and per capita GDP, however, are 1.0% and -1.3% respectively, which are the lowest in the last decade. Such a decline is mainly due to the fact that the Philippine economy has deteriorated caused by the oil crisis and the worldwide recession.

### (3) Agricultural sector

Although agricultural sector maintained a stable growth during the second half of the 1970's, its real growth rate gradually went down from 4.5% in 1979 to -2.4% in 1983 as shown in Table IX.2-4. Hampered by a long dry weather during rainy season and the adverse effect of typhoons, annual growth in paddy production declined from 4.8% in 1979 to -13.0% in 1983. Banana and forest products also declined during the same period caused by depressed world market condition. In contrast, fishery, sugar cane, livestock and poultry brought about the modest productions for the same period.

### (4) Industrial and services' sectors

During the 1978-1983 period, the industrial sector experienced an average annual real growth rate of 4.0%. Among the industrial sector, the manufacturing sector grew at an average annual rate of 3.5% during the same period. In particular, it was only 2.2% in 1983. As for the construction, it was comparatively high rate of 5.4% among industrial sectors. Such a high growth would be due to the fact that the industrial sector was supported by the infrastructure program of the government such as the development plans of transportation, water resource and power generation. In 1983, however, the government experienced the serious financial problem and then it cannot help cutting down the expense for the infrastructure program. Thus, for 1982-1983 it recorded the lowest growth rate of -5.8%.

During the 1978-1983 period, the services' sector experienced an average annual real growth rate of 4.4%. This figure is almost the same as the average annual real growth rate of the GDP, 4.6%, during the same period.

## 2.2 Socio-economic Projection

### 2.2.1 National Development Plan

The Philippine Development Plan for 1983-1987 is the basis of the national economic development. Objectives of the plan are to attain (a) sustainable economic growth, (b) more equitable distribution of the fruits of development and (c) total human development. In order to achieve these objectives, the following strategic policies are formulated. With these strategies, GDP is expected to attain an average annual growth of 6.5% during the period from 1983 to 1987.

#### (1) Overall strategies

Overall strategies are summarized as follows.

- (a) The appropriate, intensive investment and efficient management of natural resources will be made more responsive to ensure a diversified, competitive and high labor absorbing economy.
- (b) In order to sustain food self-sufficiency and to promote export development, the application of appropriate technology and the efficient management of natural resources should be consistent with the development thrust in agriculture and industry.
- (c) The more development of infrastructure, particularly small scale irrigation system, farm-to-market roads, bridges and telecommunication systems should be improved for the distribution of economic opportunity.
- (d) The plan to encourage foreign investment, international economic cooperation and foreign assistance might be expected to support larger and integrated area development project.

#### (2) Strategies for agricultural development

The following development policies for agriculture are approved in order to maintain self-sufficiency in rice, fish, poultry, pork, vegetable and fruit.

- (a) All land suitable for agriculture should be put into cultivation and be used for the most suitable species.
- (b) Once cultivated, agricultural land should be improved to increase productivity and be maintained to keep it fertile for higher productivity.
- (c) To assure farmers of a more stable real income, the NPA (National Food Authority) promotes the efficient marketing and distribution system through more effective procurement activities.

### (3) Strategies for industrial and trading development

The following main development policies for industry and trade are approved in order to establish world competitive industries and to upgrade the capability and competitiveness of existing ones.

- (a) By means of tariff reform, enhanced technological capability and manpower development, local industries and trades will be encouraged to improve quality and cost competitiveness. This will promote industry which brings employment and income opportunities to the countryside.
- (b) To encourage the cottage, small and medium-scale industries and exports, the government will pursue the development of the technological centers and common facilities for the cottage, small and medium-scale industries.

### (4) Strategies for water resource development

Among infrastructure investment requirements, the following water resource development strategies are approved.

- (a) Irrigation areas will be expanded by about 0.6 million ha, which would bring the coverage to 2.0 million ha by the end of 1987.
- (b) Water supply system will be provided at varying levels of services depending upon the social and physical conditions. about 90% of the total population will be covered by potable water by 1987.

- (c) The flood control program will concentrate on the drainage requirements in the major river basins.

### 2.2.2 Population Projection

The NCSO (National Census and Statistic Office) has conducted several studies dealing with the trend of population growth and distribution, and the factors affecting the growth and change in population. The latest population projection study done by NCSO is "Perspective for Population and Development Planning, Revised Population Projection for Philippines and its region, 1980-2030", in November 1983. Since this study is not only based on the latest and most reliable census data but also using new components reflecting the national economic development policies, the population projection in the Panay river basin study is based on the result of the NCSO study.

In the NCSO study, the component method (the cohort survival ratio methods) was adopted for projecting the future population. Fertility and mortality levels are provided as follows:

- (a) Three alternative assumptions of fertility levels; rapid fertility decline; medium fertility decline; and slow fertility decline.
- (b) Two alternative assumptions of mortality levels; moderate mortality decline; and rapid mortality decline.

Among these assumptions, the medium assumption is generally adopted because of its believable assumption reflecting national population aspects. The average annual growth rate of 2.59% between 1981 and 1985, which is based on the medium assumption, is slightly higher than both the five-year Philippine development plan's expectation of 2.2% and the estimation of the Philippine population program medium term plan of 2.0% during the same period. Projected national population as well as the labor force are summarized in Table IX. 2-5.

The population in the years 2,000 and 2,020 will be expected at 75 million and 98 million respectively. Since the labor force participation rates will increase year by year due to increase in female's

participation with the years, the labor force in 2,000 and 2,020 becomes 33 million and 52 million respectively.

### 2.2.3 Socio-economic Projection

In unfavorable global economic circumstances, the government is making an effort to recover the national economy. Table IX.2-6, which is the updated projection by NEDA (National Economic and Development Authority) in September 1984, shows that the government expects to recover the economic level to the same level as the 1983's condition by the end of 1986. As a result, the average annual growth rate of GDP is expected to be 1.0% during the period from 1983 to 1987. Per capita GDP, however, will drop down from P1,820 in 1987, resulting in substantial deterioration of living condition during the same period.

Although the foresaid development plan proposes the future national economy, it projects the national feature for only coming five (5) years. The long-term economic projection, which reflects the present unforeseen circumstance, is not available. Although "Long-term Development Plan up to the year 2,000" by NEDA shows the expected growth in the economy in the future, the figures shown in this report do not reflect the recent unfavorable economic conditions, hence they are not appropriate to apply to long-term economic projection. With the favorable international economic cooperation and the implementation of domestic adjustment measures as shown below for improvement of the economy, the national economy is to grow gradually year by year after 1987.

#### (a) International balance of payments

By means of domestic adjustment measures such as foreign exchange control and reduction in government expenditures, international credit to the Philippines will gradually recover and foreign currency reserves will also grow in accordance with improved foreign trade and foreign investment.

(b) Expansion of agricultural production

Expansion of agricultural sector will not only bring about sustaining the national economy by means of effective utilization of national resources, but also contribute much of the stability of the national life, improvement of the balance of trade, increase in the employment opportunity, etc.

(c) National population

Contribution to social stability, in accordance with expansion of the employment opportunity, will support the national population policy.

In the above circumstances, the per capita GDP will recover to the level (P1,953) of 1982 at the end (1992) of the next five (5) years in spite of the fact that the population will grow during the same period, although it will drop down to the level of P1,820 in 1987. Real growth in GDP is expected to be a 6.5% per annum on the average after 1992, which is the same rate as the original five-year Philippine development plan, 1983-1987.

Under the above mentioned scenarios, long-term projection of the socio-economy of the Philippines will be made so as to maintain the modest possible ratio of growth consistent with the overall system of the socio-economy in the future. Table IX.2-7 shows the projected growth which is estimated based on the foresaid conditions.



### 3. Socio-Economy in the River Basin

#### 3.1 Present Conditions

##### 3.1.1 General

The Panay river basin comprises one (1) city (Roxas), 14 municipalities in the province of Capiz and two (2) municipalities of the province of Iloilo, as shown in Table VIII.3-1. Approximately 90% of the river basin area belongs to the province of Capiz and the remain belongs to the province of Iloilo. The Capiz province consists of one (1) city of Roxas and 16 municipalities among which 14 municipalities belong to the river basin. The Capiz and Iloilo belong to the Region VI (Western Visayas).

The Resion VI, which is divided into two (2) principle islands such as Panay and Negros, covers an area of 20,223 km<sup>2</sup>. It is made up of five (5) provinces: Aklan with an area of 1,818 km<sup>2</sup>; Antique with 2,522 km<sup>2</sup>; Capiz with 2,633 km<sup>2</sup>; Iloilo with 5,324 km<sup>2</sup>; and Negros Occidental with 7,926 km<sup>2</sup>. The former four (4) provinces are located in the Panay island and the rest is in the Negros island.

##### 3.1.2 Population and Labor Force

###### (1) Population

According to the 1980 census by NCSO, the population within the river basin was estimated at 465,258 as shown in Table IX.3-1. The population of the Capiz province is 492,231 in 1980. The majority of the population within the basin is composed of Capiznon and the remains are Ilongos. Characteristics of Capiz, therefore, represents that of the basin. Among 73 provinces of the Philippines, Capiz ranks 34th in terms of population.

The average annual growth rate of population in the province of Capiz during 1970-1980 is calculated at 2.25% and it is 2.25% for the Region VI and 2.75% for the whole country. The growth in the basin is lower than that for the whole country, but almost the same as the Region VI. The low and fluctiating growth of the Region, as shown in Figure IX.3-1, is mainly caused by sugar business cycle in the world

market. Although the population in the basin will also be influenced by the sugar business, this influence to the basin seems to be less than that to other provinces, particularly to Negros Occidental and Iloilo, as shown in Table IX.3-2. Therefore, the population growth in the basin is relatively stable, though the growth rate is comparatively low.

The population density is 186.9 persons per km<sup>2</sup> in 1980. This density is bigger than 160.3 persons per km<sup>2</sup> for the whole country and smaller than 223.8 persons per km<sup>2</sup> for the Region VI. In Capiz, the population in the urban areas is 13.5% of the total population. As for the urban population, Capiz ranks 66th among 73 provinces. It connotes that the population in the basin is expected to grow with economic development and increase in business activities. The average number per family in the basin is 5.7 persons in 1980. It is 5.6 persons for the whole country and 5.8 persons for the Region VI, in the same year.

## (2) Labor force

In the river basin, the population of productive ages, belonging to the 15-64 year group, is 52.2% of the total population in 1980, as shown in Table IX.3-3. As for the Philippines and the Region VI, it is 54.6% and 53.7% respectively. Although the population of the productive age group in Capiz, which represents the basin, is increasing year by year, the percentage to the total population is still lower than those of the country and the Region VI.

In the Philippines, agriculture and its related industries, the primary sector, will absorb greater portion of the labor population than other industrial groups. The primary sector absorbs 67.2% of gainful workers in Capiz in 1980 as shown in Table IX.3-5. On the other hand, the primary sector of the country and the Region VI absorbs 51.4% and 60.5% of the gainful workers in the same year respectively, as illustrated in Table IX.2-2 and IX.3-4 and Figure IX.3-2. This shows that the basin economy depends more on the agricultural industry than other areas in the country.

### 3.1.3 Overall Economic Output

The majority of the population within the river basin is composed of Capiznon and about 90% of the basin area is occupied by Capiz, as mentioned in the previous section. Taking this fact into consideration, most of socio-economic data for the basin used in the present study are presented by those of Capiz, because there are no available data of the basin.

The GRDP (Gross Regional Domestic Product) of Region VI amounted to P8,288 million in 1983 at the 1972 constant prices as shown in Table IX.3-6. This accounted for 8.3% of GDP of P100,125 million of the nation. Among GRDP, P3,171 million (38.3%) was contributed by the agricultural sector, P2,380 million (28.7%) by the industrial sector and P2,737 million (33.0%) by the services' sector. The GRDP in 1983 dropped down from P8,410 million in 1982 because the agricultural products were seriously damaged by drought in 1983 and its GVA (Gross Value Added) decreased 6.4% to the previous year.

The per capita GRDP of the Region VI in 1983 amounted to P1,691 at the 1972 constant prices, which corresponded to 87.8% of the per capita GDP of P1,927 as shown in Table IX.3-7. On the other hand, the per capita GRDP in 1983 at the current prices was P5,952, which corresponded to 81.2% of the per capita GDP of P7,330. This implies that the inflation in the Region VI is slightly sluggish compared with that in the nation. Furthermore, the difference between the per capita GRDP and GDP has gradually been increasing.

Table IX.3-7 shows variations in the annual growth rates of GRDP and GDP for the period from 1972 to 1982. Such variations are mainly due to the impacts of world market demand for agribased products, particularly sugar, and of climatic conditions over the Region. Although the variation in GVA of agriculture has influenced on the regional economy, the Capiz economy is stable compared with other provinces because the major crop in Capiz is not sugar cane, but paddy.

#### 3.1.4 Development Programs

Over Capiz province, several strategic development programs are being implemented to exploit its indigenous resource potentials for productive development endeavors. The major programs relating to area and resource development are as follows:

(1) The KKK program

The KKK, standing for "Kilusang Kabuhayan at Kaunlaran", is a national livelihood program to generate employment and income. The program has been promoted by MHS. It intends to gear an impetus for the establishment of livelihood project to encourage social and economic development, which is owned and managed by the community residents. As of the end of 1983, 153 projects were approved under the KKK program, and a number of projects are undergone within the Capiz. Some of programs for the agricultural sector such as Masagana 99 and Maisan fall under the KKK program.

(2) The LRM program

The LRM, standing for "Local Resource Management", has been implemented as a 10-year multi-phased program by NEDA since 1982. The program is assisted by the United States whose share of costs for the first three (3) years is US\$6.0 million. It seeks to achieve the following specific objectives: (a) redirect provincial development towards supporting self-help efforts of poverty groups; (b) mobilize local financial and human resources; and (c) enhance the role of the local government as catalyst in local development. Capiz is primarily chosen as one of the seven (7) pilot areas in the country.

(3) The IAD program

The IAD, standing for "Integrated Area Development", maximizes the use of scarce resources through the coordination of implementing agencies to income generating activities in the rural area. The "C" approach, using the "Any Barangay sa Bagong Lipunan (the Barangay in the New Society)" concept, is the overall development of Capiz as a link of the IAD program. The "C" approach, standing for "Halaran; the Capiz approach

to development, a 5-year program", is proposed by the governor of the Capiz province in 1983. The "C" approach has the following five (5) pillars of development: (a) renewable energy (fuel) through the planting of more trees; (b) the barangay center, comprising the barangay government and a public library; (c) the rural credit system providing financial assistance; (d) the community development school implementing agri-business and demonstration farms; and (e) the communications network making the isolated zone closer and nearer to other places in the province.

### 3.1.5 Spatial Profile

Capiz has a city of (Roxas), 16 municipalities and 472 barangays. The IAD program divides the province into five (5) divisions based on spatial characteristics (See Figure IX.3-3). Each division has its own thrust and strategies as follows.

#### (1) Division 1

Division 1 consists of the city of Roxas and the municipalities of Panay, Ivisan and Panitan, having a population of 157,878 in 1980. It is the center of trade, commerce and other economic and social activities in the whole province. Roxas city is also the provincial capital, providing the Culasi port and the domestic airport. By means of the KKK funds, several livelihood projects will be implemented such as cannery, duckery, seaweed culture, shellcraft and bangus fry nursery projects. The fishing is particularly significant industry in this division.

#### (2) Division 2

Division 2 comprises the municipalities of Pontevedra, President Roxas, Pilar and Ma-ayon having a population of 78,009 in 1980. The water of Ma-ayon river irrigates about 3,000 ha of paddy field and a sizable area of sugar land. Virtually, the division is one of the prime contributors to the food production in Capiz. Particularly, paddy is the most suitable crop in this field. Furthermore fishery is considered to be suitable in Pontevedra. Prawn hatchery, fresh-water demonstration farm projects are being proposed in this division.

### (3) Division 3

Division 3 covers the municipalities of Dao, Sigma and Cuartero, having a population of 62,477 in 1980. The division is the predominant area of rice production within Capiz. Livestock and fishery productions are also carried out by a sizable number of habitants. The division is expected to increase crop production not only to cope with domestic consumption requirement, but also to supply other areas with any surplus.

### (4) Division 4

Division 4 is comprised of the municipalities of Mambusao, Sapián and Jamindan with a population of 76,502 in 1980. The division is prominent than other divisions for coconut and banana plantations, and inland fishery as well as paddy production. The Panay state polytechnic college in Mambusao is one of the progressive college. In this division, the growth of its industrial and commercial activities is remarkable.

### (5) Division 5

Division 5 is made up of the municipalities of Dumalag, Dumarao and Tapaz, having a population of 87,261 in 1980. As characterized by rugged terrain and rolling hills, the division has more than 50% of the non-commercial forest in the province. Coffee and bamboo besides paddy are the main products of this division. Mining and quarrying are also major industrial activities with the production of metallic and nonmetallic resources.

#### 3.1.6 Sectoral Profile

Agriculture is the main industry in the Region VI, as shown in Figure 4. Within the primary industry, rates of the production in the Region VI to the country exceed the rate of population in the Region VI to the country, with respect to agricultural crops such as paddy, sugar cane, banana, some of poultry, and fishery, especially fishpond products. On the other hand, the crops produced in Capiz are slightly different from those of the Region VI. Rates of the production in Capiz to the Region VI exceed the rate of population in Capiz to the Region VI, as to paddy, corn, most of livestock and poultry and fishpond products.

Sugar cane and fishery except inland fishery, however, may not be prosperous products in Capiz province compared with other provinces in the Region VI, judging from the figures in Figure IX.3-4.

Characteristics of industry in the basin area will be overviewed for each sector as follows.

(1) Agriculture, fishery and forestry

Paddy

Paddy is a staple product of Capiz. As for the paddy production, Capiz is one of the leading provinces in the Region VI which is also the leading region in the country. In 1981, the paddy production in Capiz is approximately 275 thousand tons, corresponding to 21% of the regional production (1,273 thousand tons) and 3.5% of the national production (7,723 thousand tons). Such the figures show that Capiz plays an important role in the country with respect to the paddy production.

Sugar cane

Sugar cane, one of major products for the foreign currency earning, is a principle product of the Region VI. Sugar cane production in the Region in 1981 corresponds to about 27% of the total production in the country. Capiz produces sugar as one of the principle crops in the province. However, the percentage of sugar cane production in Capiz to the Region is only 4%. In sugar cane production, the role of Capiz is relatively lower than the other provinces such as Negros Occidental and Iloilo. Most of sugar cane produced in Capiz are milled by two (2) centrals; the Pilar Sugar Central in President Roxas and Asturias Sugar Central in San Juan, Dumalag.

Corn

Corn is an important crop, second to rice among cereals, especially during the lean months of year. Although corn production in the Region in 1981 is only 2% of that in the whole country, about 16% of its production is produced in Capiz.

### Other crops

Banana and other fruit are produced in the Region about 10% of the national production. The fruit production in Capiz, however, is only 5% of the regional production. The production of other crops except banana is relatively small, and most of them are for self-consumption of producers.

### Livestock and Poultry

Livestock and poultry raisings are the important industries in the economy of Capiz. But most of the production is carried on in a small scale industry basis. Among livestock, carabao is used not only for livestock but also for farming, as recommended in the "Masagana 99". Prosperity of livestock and poultry raisings will be mainly based on the implementation of major schemes like the "Supervised credit for livestock program" and "the KKK program".

### Fishery

Fishery is also a significant industry for the Region, and in 1981 its production amounts to 277 million tons, corresponding to 17% of the national production. Breakdown of the production is 117 million tons for commercial, 107 million tons for municipal and 53 million tons for inland. In the same year, the production in Capiz is only 16 million tons, corresponding to 6% of the regional production. Most of the production in Capiz depends on the inland fishery, and Capiz produces 29% of the regional production on the inland fishery.

The inland fishery is one of the major encouragement industries of the government and will be further promoted by the KKK program. Since some marine product such as prawn are considered to be significant for a foreign currency earning, the government gears an impetus to increase inland fishery. In this context, Capiz is one of the most pertinent provinces in the country.

### Forestry

In the region, the production of logs and lumber has decreased year by year because of insufficient and limited stock, and in addition, the world recession has brought the decrease in the export demand.



Capiz scarcely produces logs and lumber. Therefore, Capiz is not very expected in terms of forest production.

Ipil-ipil production is fostered as a substitute for fuel by the government support programs such as the KKK program. Dendro-thermal plants will trigger off the demand for ipil-ipil.

## (2) Industry

There are no mining companies operating in Capiz at present, although there are known metallic and nonmetallic minerals like china clay, guano, limestone, phosphate rock, copper and quartz. Limestone, phosphate and guano are sufficient sources of fertilizer for the fishpond area, the rice fields and sugar cane fields in the province.

The development of manufacturing industries in Capiz has been very slow. There are only two (2) manufacturing industries with more than 100 employees in Capiz in 1978, which are two (2) sugar centrals; one from President Roxas and the other from Dumalag. Other enterprises than the above-mentioned industries are small scale industries with 5 to 99 employees or cottage industries with 1 to 4 employees. They are composed of food manufacturing, wood products, furniture, shoemaking, shellcraft, bamboocraft, metalcraft, garment and the like.

Future development in Capiz should involve agricultural diversification to help stabilize the economy of Capiz. The diversification would encourage agri-business of industries, which depends on basically two (2) crops; rice and sugar cane. The future development should also promote small and medium-scale industries that would generate labor intensive employment.

## (3) Services' sector

Growth in service sector depends largely on agriculture and fishery, and to a lesser extent on industry. Most of commercial enterprises are located in Roxas City which is the commercial center of the province. In municipalities, commercial firms are mostly in "Poblacions", i.e. town centers.

Presently, no recorded data are available in the Panay river basin concerning demands for outdoor and waterbased recreation activities such as swimming, camping, boating and sailing. Public demand for such activities arises only as the Capiz population increases, and as the amount of disposable income increase over day-to-day living expense.

#### (4) Infrastructure

##### Transportation

As of 1982, the total length of roads in Capiz are 2,469.139 km under the following distribution; 11% or 285.134 km for the national; 19% or 467.115 km for the provincial; 33% or 818.860 km for the municipal; and 36% or 898.027 km for the barangay. Road density is 0.46 km per ha.

Capiz has only one port, Culasi port. It has a 55.5 m x 12.0 m - pier by 9.0 m - wharf and the depth of water is 7.5 m. Capiz also has only one airport, which is regularly servicing one flight a day between Roxas City and Manila, and some local flights. Panay Railways has mainline of 116.6 km servicing in the provinces of Capiz and Iloilo.

##### Power

As of 1983, the total annual load of electric power in Capiz was 11,628 MWH and the peak load was 7.5 MW. The number of customs was 25,284 distributed as follows: 93.7% or 23,697 for the residential; 4.0% or 1,017 for the commercial; 0.2% or 42 for the industrial; and 2.1% or 528 for street lights. The total load of 11,628 MWH was distributed as follows: 62.3% or 7,243 MWH for the residential; 22.3% or 2,595 MWH for the commercial; 15.1% or 1,761 MWH for the industrial; and 0.3% or 29 MWH for street lights. On the other hand, 23% of the total power energy was generated by CAPELCO (Capiz Electric Cooperative), which supplies electricity in the entire area of Capiz, but the remaining 77% was purchased from NPC (National Power Corporation). The peak load in the basin was 7.5 MW in 1983, of which 3.8 MW is met by the generation capabilities in the basin and the remains are met by power sent from Iloilo by NPC.

### Water supply

Water demands in Capiz are presently being met by public water supply systems, rivers and deep or shallow wells. Within Roxas City, some parts of which are served with water by ROX-WD (Roxas City Water District), 1,624 customers are getting public water about 40 thousand  $m^3$  a month from the ROX-WD as of June 1984. The number of customers is distributed as follows: 84.9% or 1,377 for the residential; 12.0% or 195 for the commercial; 0.9% or 15 for the industrial; and 2.2% or 37 for the municipal. The total consumption volume is 39.6 thousand  $m^3$  a month, distributed as follows: 72.4% or 28.7 thousand  $m^3$  for the residential; 14.3% or 5.7 thousand  $m^3$  for the commercial; 1.5% or 600  $m^3$  for the industrial; and 11.7% or 4.6 thousand  $m^3$  for the municipal. Since supply capabilities of the present plant system are about 4,880  $m^3$  a day, ROX-WD will be able to cover the threefold number of present customers.

There were 247 irrigation systems in operation in the river basin in 1983. These systems covered about 8.6  $km^2$  corresponding to 21% of the paddy field of 41.0  $km^2$  in the basin.

### Other facilities

In Capiz, there are several communication facilities such as telecommunications, posts and broadcast media. The 16 municipalities and the city of Roxas are linked by CAPLECS (The Law Enforcement Communication system) and the new radio communication system. Telegraphic service is provided by the Bureau of Telecommunications and five (5) privately-owned communication systems. Three (3) radio-broadcast stations are also located in the Capiz.

#### (5) Housing

The present problems being faced in the housing sector are not the lack of the number of dwelling units but the replacement because of unacceptable housing conditions. Of the 86,440 dwelling units in total, 86.7% or 74,957 are made of light materials as shown in Table IX.3-8. More than 20% of the type IV's units were constructed before ten (10) years ago, depreciation period of which is ten (10) years. Thus, lots of houses are old and dilapidated conditions.

More than 15 thousand houses are located in the flood prone areas. Most of them have elevated floors for the countermeasure to regular floods. They might be built on the rivers by taking the convenience of living near crop fields and a water source into consideration.

(6) Social services

In 1981/82, Capiz has 392 public and private elementary schools and 55 secondary schools. Besides, there are also one (1) state college- Panay State Polytechnic College, several high schools and collegiate vocational schools.

The number of health facilities in Capiz as of 1982 is 116 in total, consisting of BHS (Barangay Health Stations) of 94, RHU (Rural Health Units) of 17, and are hospitals of five (5).

### 3.2 Socio-Economic Projections

#### 3.2.1 Population Projection

Future population in the basin is projected based on the following references:

- (a) Perspective for Population and Development: Revised population projections for the Philippines and its regions, 1980-2030 (medium assumption), NCSO; and
- (b) Population projections by province, city and municipality: 1980-2000 Region VI - Western Visayas, NCSO.

Results of the projection are given in Table IX.3-9.

Family size gets smaller year by year in the basin as well as the Region and the Philippines. But the statistics of family size are very poor and not sufficient to estimate theoretically the future one. Therefore based on the growth rate of the population and household number in the census years of 1975 and 1980, the future family size is projected to decrease from 5.69 in 1980 to 5.06 in 2020 as shown in Table IX.3-10.

#### 3.2.2 Projection of Gross Regional Domestic Product

Future GRDP in the Region VI is forecasted based on future GVA estimated for each of agricultural, industrial and services' sectors. The Table IX.3-11 shows a preliminary GRDP projection calculated by NEDA, Region VI in June 1984. The estimated GRDP by NEDA is only for five (5) years from 1983 to 1987. There are no pertinent economic projections for long-term. Although some long-term economic projections have been forecasted by NEDA, they are made before the present economic recession and are not revised based on the present conditions yet. Therefore the future GRDP is estimated assuming that will change in proportion to the GDP. In the present study, the functional relationship between GDP and GRDP is assumed to be linear based on the past data. The GRDP in Capiz is also assumed to change in proportion to the GRDP in the Region. Results of the projection are given in Table IX.3-12.

It is assumed that after 1992, the GDP of the Philippines will grow at a rate of 6.5% per annum on the average, as projected in the paragraph 2.2.3. Based on Table IX.3-12, however, the GRDP in the Region VI will grow at somewhat smaller rate than the GDP. This shows that the difference between the GDP and the GRDP per capita will gradually increase from P236 in 1992 to P1,141 in 2020, and the ratio of GRDP to GDP per capita will decrease from 87.9% in 1992 to 84.8% in 2020. This means that the disparity will be gradually enlarged among regions in the future. Although per capita GRDP in Capiz is relatively high compared with other provinces in the Region VI as shown in the table, it is still low compared with the per capita GDP in the country.

### 3.3 Role of the River Basin

#### 3.3.1 Socio-Economic Role in the National Economy

Since the early 1980's, the Philippines has experienced serious economic stagnation because of the world recession. The effects of prolonged stagnation brought about the economic disorder in the country. As a result, the economy to a higher growth performance, was severely affected. Although the government has retained the policy of the export industrialization promotion since the early 1970's, the adverse economic circumstance had the government transfer the policy to the new strategies to hasten rapid recovery.

In updated Philippine Development Plan, 1984-1987, the government proclaims that development programs anchored on the primary sector which includes agriculture, forestry and fishery will be given the highest priority. This new policy emphasizes the promotion of agro-based industry, which is also export-oriented as well as agricultural modernization. Hence, the adoption of an agricultural incentive policy throws light on the agriculture-oriented regions such as the Region VI. To those regions, concerted efforts will be undertaken to more efficiently exploit the country's vast agricultural potential in line with the thrusts of attaining self-sufficiency and promoting import substitution and export development.

The river basin is one of the most agriculture-oriented areas in the Region VI and even in the country, as mentioned in the previous section. In this context, the basin seems to have the extremely high priority in the country.

In fact, some domestic development programs such as KKK and some foreign assistance programs such as LRM are already being implemented in the province of Capiz. In spite of such endeavors, economic productivity of the province is still low compared with that of the nation. That connotes that the basin still has the high potential for development and undertakes the expectation of the country's agricultural enhancement.

### 3.3.2 Potentials for the River Basin Development

Potentials in the river basin for promotion of agro-based industries is mainly characterized as follows:

#### (1) Human resource

There are plenty of human resources in the basin, although there are slightly growing tendency of efflux to big cities and a somewhat small ratio of labor force to the total population in the basin compared with the Region VI and the country. The basin is still backward in urbanization from the point of view of human resource distribution, so it is considered as a diffusion area. This is in a suitable condition to promote the labor intensive innovation in the basin as proposed in "Masagana 99".

#### (2) Main industries

The main industries in the basin are rice production, inland fishery, and livestock and poultry raising. In particular, prawn and rice are expected to be for a foreign currency earning. The government makes an endeavor to increase the production of prawn and rice. Thus, it is reinforcing the expansion/rehabilitation of irrigable areas and fishponds. On the other hand, marginal sugar cane areas are shifted to more viable crops or other activities notably livestock feedlot or ranching in view of the depressed world market prices for sugar. For recent two (2) years, however, agricultural production has seriously been struck by the unfavorable weather conditions such as flood and drought. Although agricultural production amounts went down by the disasters, it is no change that the dominant industries in the basin are agriculture. These situations would rather result in giving an impetus to develop irrigation systems to keep the basin's potential.

#### (3) Labor productivity

The per capita GRDP in the Region VI has been about 12% lower than that of the whole nation for recent several years. This means that the productivity of labor has not been improved for the years. Once introducing labor-using technical progress by means of an innovation of



industrial structure, the labor productivity would be improved much faster. In this context, the promotion of the well-balanced agro-based industry would function for pertinent distribution of labor force.

#### (4) Infrastructure

The basin requires major improvement to complete the laying down of its primary economic support infrastructures. In particular, greater attention should go into the expansion of rural based infrastructure such as farm-to-market roads, rural electric power distribution, and water supply and drainage, that can effectively link up with the major infrastructure systems. For the sake of maintaining the high productivity in the basin as well as satisfying human basic needs such as safety, soundness, comfortability and effectiveness around livelihood, the flood control system should be a prerequisite infrastructure in the basin.

#### (5) Water resource

The basin has considerably affluent water resource. An abundance of water resource is a prerequisite for supporting basin industries such as irrigation, inland fishery, hydro-power, water supply and agro-industry like food processing. Without well-controlled facilities for water resource, the basin would rather be struck by a serious disaster such as flood and drought.

#### (6) Land capability

Of the basin area of  $218 \times 10^3$  ha, around  $156 \times 10^3$  ha or 71% is suitable for agricultural and inland fishing activities based on the land suitability for agriculture by the BOS. Since approximately  $109 \times 10^3$  ha or 50% of the basin area has already been developed for agriculture, fishponds and residential use,  $47 \times 10^3$  ha or 21% of the basin area has not been cultivated yet so far. Such remaining area, however, is considered to be in very severe conditions for agricultural development with regard to slope ranges and soil types. Forest land in the basin consists of about  $12 \times 10^3$  ha or 5% of the basin area. This percentage is extremely low compared with that of the Region VI of 32.2%. The lack of forest is considered as the cause of land erosion in the basin.

Since most of the cultivable land has been developed for agriculture and fishery as mentioned before, development efforts should mainly focus on improving land use and raising production efficiencies in presently cultivated areas. The application of adoptive technologies such as water control and land improvement could be intensified to expand highly productive area by shifting undeveloped upland and pasture area to highly productive area and to replace present products by those of high value products added such as prawn and rice. Therefore, once the government reinforces to expand supporting infrastructures along with a pertinent linkage between the primary and secondary sectors, the basin would have well-balanced agro-based industries in the future.

### 3.3.3. Tasks ahead for concrete steps

There are generally lots of constraints which should be solved before implementing the development project. Even if the project is economically feasible, it would be quite natural to have some bottlenecks in the stage of implementation. In fact, the project has various phases with respect to technical, financial, legislative and implementing aspects. Basic socio-economic tasks ahead for the following step of the basin development are summarized as follows:

#### (1) Financial Liability

The government strictly restricts new investment to improving a financial deficit and to getting the approval of rescheduling from financial syndicates. These conditions might continue for a couple of years in spite of the government's effort. Therefore in order to have a chance of investment to this project, the Panay river basin project has to have a captivating potentiality in terms of economic contribution for the country.

#### (2) Legislative backup

Water resource should be utilized systematically by the people concerned. From this point of view, the authorities concerned should establish managing responsibility, maintenance manual and water rights.

It is important to maintain water resource under a good condition and it is much more important to keep the conditions economically because most of the users are tiny farms and could not afford to pay for expensive water. Therefore the rule of water utilization has to be formulated based on the historical and traditional background and natural conditions.

(3) Prevention of speculation

Development is sometimes given up on the way because of speculation. In particular, its information gives speculators a lot of chances. Therefore final development program would involve some countermeasures against speculation in case of accompanying land acquisition.



TABLES

FOR

APPENDIX IX



TABLE IX.2-1 POPULATION BY SEX, URBAN AND RURAL RESIDENT AND LABOR FORCE

Item	Number of Persons (in thousand)				Percent Distribution (%)				Average Annual Growth Rate (%)			
	1960	1970	1975	1980	1960	1970	1975	1980	1960-70	1970-75	1975-80	
1. Population	27,088	36,684	42,070	48,098	100.0	100.0	100.0	100.0	3.08	2.78	2.71	
2. Male	13,663	18,250	21,276	24,129	50.4	49.8	50.6	50.2	2.94	3.12	2.55	
3. Female	13,425	18,434	20,794	23,969	49.6	50.2	49.4	49.8	3.22	2.44	2.88	
4. Urban	-	11,678	14,046	17,944	-	31.8	33.4	37.3	-	3.76	5.02	
5. Rural	-	25,066	28,024	30,155	-	68.2	66.6	62.7	-	2.31	1.48	
6. 15 years old & over	-	19,928	23,577	27,877	-	54.3	56.0	58.0	-	3.42	3.41	
7. Labor Force	-	11,679	12,561	15,140	-	31.8	29.9	31.5	-	1.47	3.81	
8. Labor Participation Rate	-	58.6%	53.3%	54.3%	-	-	-	-	-	-	-	
9. Gainful Workers (15 yrs & over)	-	10,737 <sup>1</sup>	11,918 <sup>2</sup>	14,184 <sup>3</sup>	-	29.3	28.3	29.5	-	2.11	3.54	
10. Employment Rate	-	95.3%	97.2%	96.6%	-	-	-	-	-	-	-	
11. Un-employment	-	942	643	956	-	2.6	1.5	2.0	-	-7.35	8.25	
12. Un-employment Rate	-	4.7%	2.7%	3.4%	-	-	-	-	-	-	-	

Sources : 1983 Philippine Statistical Year Book, NEDA

<sup>1</sup> Philippines 1970 Census of Population and Housing, NCSO

<sup>2</sup> 1975 Integrated Census of the Population and its Economic Activities Philippines, NCSO

<sup>3</sup> 1980 Census of Population and Housing Philippines, NCSO

TABLE IX.2-2 GAINFUL WORKERS 15 YEARS OLD AND OVER BY INDUSTRY GROUP

Industry Group	Gainful Workers (in thousand)			Percent Distribution (%)			Average Annual Growth Rate (%)		
	1970 <sup>/1</sup>	1975 <sup>/2</sup>	1980 <sup>/3</sup>	1970	1975	1980	'70-'75	'70-'80	'70-'80
Total	10,737	11,918	14,184	100.0	100.0	100.0	2.11	3.54	2.82
Agriculture, fishery & forestry	5,614	6,362	7,295	52.3	53.4	51.4	2.53	2.77	2.65
- Agriculture	5,196	5,750	6,513	48.4	48.3	45.9	2.05	2.52	2.28
- Fishery	342	559	708	3.2	4.7	5.0	10.33	4.84	7.55
- Others	76	53	74	0.7	0.4	0.5	-6.96	6.90	-0.27
Industry	1,847	1,808	2,154	17.2	15.2	15.2	-0.43	3.56	1.55
- Mining & quarrying	50	58	85	0.4	0.5	0.6	3.01	7.94	5.45
- Manufacturing	1,327	1,300	1,370	12.4	10.9	9.7	-0.41	1.05	0.32
- Construction	437	415	635	4.1	3.5	4.5	-1.03	8.88	3.81
- Electricity, gas & water	33	35	64	0.3	0.3	0.5	1.18	12.83	6.85
Service sectors	3,276	3,748	4,735	30.5	31.4	33.4	2.73	4.79	3.75
- Transportation	496	523	788	4.6	4.4	5.6	1.07	8.54	4.74
- Commerce	815	1,017	987	7.6	8.5	7.0	4.53	-0.60	1.93
- Service	1,965	2,208	2,950	18.3	18.5	20.8	2.36	5.97	4.15

Source : <sup>/1</sup> Philippines 1970 Census of Population and Housing, NCSO<sup>/2</sup> 1975 Integrated Census of the Population and its Economic Activities Philippines, NCSO<sup>/3</sup> 1980 Census of Population and Housing Philippines, NCSO



TABLE IX.2-3 GROSS DOMESTIC PRODUCT

Year	GDP at Current Prices			GDP at 1972 Constant Prices			
	G. D. P.		GDP Per Capita	G. D. P.		GDP Per Capita	
	Amount (₹10 <sup>6</sup> )	Growth Rate (%)	Amount (₹) Growth Rate (%)	Amount (₹10 <sup>6</sup> )	Growth Rate (%)	Amount (₹) Growth Rate (%)	
1970	42,448	-	1,157	51,014	-	1,390	-
1971	50,120	18.1	1,324	53,526	4.9	1,413	1.7
1972	56,075	11.9	1,540	56,075	4.8	1,450	2.6
1973	71,786	26.2	1,808	60,931	8.7	1,531	5.6
1974	99,638	38.8	2,420	64,139	5.3	1,564	2.2
1975	114,603	15.0	2,714	68,361	6.6	1,622	3.7
1976	133,928	16.9	3,116	72,962	6.7	1,703	5.0
1977	155,631	16.2	3,439	77,990	6.9	1,760	3.3
1978	178,603	14.8	3,880	82,797	6.2	1,808	2.7
1979	220,477	23.4	4,625	88,346	6.7	1,870	3.4
1980	266,008	20.7	5,477	92,706	4.9	1,917	2.5
1981	305,274	14.8	6,164	96,207	3.8	1,942	1.4
1982	340,357	11.5	6,708	99,097	3.0	1,953	0.5
1983	380,821	11.9	7,330	100,125	1.0	1,927	-1.3

Source : Philippine Statistical Yearbook 1984, NEDA

TABLE IX. 2-4 GROSS DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN (At 1972 Constant Prices)

	Gross Domestic Product (10 <sup>6</sup> Pesos)						Annual Growth Rate (%)						
	1978	1979	1980	1981	1982	1983	'78-'79	'79-'80	'80-'81	'81-'82	'82-'83	'78-'83	
Agriculture	21,620	22,595	23,732	24,608	25,465	24,845	4.5	5.0	3.7	3.5	-2.4	2.8	
Agr. crops	13,282	14,149	14,996	15,419	15,915	15,079	6.5	6.0	2.8	3.6	-5.3	2.6	
Paddy	3,767	3,948	4,169	4,307	4,544	3,953	4.8	5.6	3.3	3.7	-13.0	1.0	
Corn	1,439	1,423	1,447	1,494	1,544	1,403	-1.1	1.7	9.5	10.9	-9.1	-0.5	
Coconut	1,330	1,270	1,313	1,396	1,430	1,298	-4.5	3.4	6.3	2.4	-9.2	-0.5	
Sugarcane	1,295	1,366	1,322	1,337	1,402	1,256	5.5	-3.2	1.1	2.7	-10.4	-0.6	
Banana	2,053	2,183	2,402	2,356	2,358	2,393	6.3	10.0	-1.9	2.2	1.5	3.1	
Others	3,398	3,959	4,343	4,528	4,637	4,776	16.5	9.7	2.2	2.4	3.0	7.0	
Livestock	1,912	1,957	1,841	1,925	2,017	2,170	2.4	-5.9	4.6	4.8	7.6	2.6	
Poultry	1,207	1,387	1,633	1,958	2,192	2,481	14.9	17.7	19.9	11.9	13.2	15.5	
Fishery	3,655	3,667	3,876	4,132	4,314	4,417	0.3	5.7	6.6	4.4	2.4	3.9	
Forestry	1,564	1,435	1,386	1,175	940	698	-8.2	-3.4	-15.4	-17.9	-25.7	-14.9	
Industry	29,598	32,343	33,471	34,963	35,812	36,048	9.3	3.5	4.5	2.4	0.7	4.0	
Mining	1,809	2,134	2,236	2,175	2,016	2,082	18.0	4.8	-2.7	-1.5	3.3	2.9	
Manufacture	21,108	22,239	23,175	23,959	24,535	25,084	5.4	4.2	3.4	2.4	2.2	3.5	
Construction	5,913	7,121	7,139	7,830	8,177	7,705	20.4	0.3	9.7	4.9	-5.8	5.4	
Electricity	788	849	921	999	1,084	1,177	10.5	8.5	8.5	6.2	8.6	8.9	
Service	31,579	33,408	35,503	36,636	37,907	39,232	5.8	6.3	0.5	6.2	3.5	4.4	
Transport.	4,501	4,613	4,827	5,040	5,165	5,328	2.5	4.6	4.4	2.5	3.2	3.4	
Commerce	16,861	18,085	19,345	19,695	20,355	21,438	7.3	7.0	1.8	3.0	5.3	4.9	
Service	10,217	10,710	11,331	11,901	12,387	12,466	4.8	5.8	4.8	2.7	0.6	4.1	
Total	82,797	88,346	92,706	96,207	99,184	100,125	6.7	4.9	2.7	4.1	0.9	3.9	

Source : Philippine Statistical Year Book, 1984, NEDA

TABLE IX.2-5 POPULATION PROJECTION

Year	Population		Labor Force	
	Number (in thousand)	Average Annual Growth Rate (%)	Number (in thousand)	Participation Rate (%)
1980	48,098	2.71	17,211	35.8
1985	54,668	2.59	20,393	37.3
1990	61,460	2.37	24,044	39.1
1995	68,424	2.17	28,238	41.3
2000	75,223	1.91	32,751	43.5
2005	81,590	1.64	37,563	46.1
2010	87,206	1.34	42,532	48.8
2015	92,432	1.17	47,444	51.3
2020	97,614	1.10	51,977	53.2

Source : Perspectives for Population and Development Planning : Revised Population Projections for the Philippines and its Origins, 1980 - 2030, (MEDIUM ASSUMPTION), NCSO

TABLE IX. 2-6 PROJECTED GROSS DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN  
(At 1972 Constant Prices)

	Gross Domestic Product (10 Pesos)						Annual Growth Rate (%)					
	1983(R)	1984	1985	1986	1987		82-83	83-84	84-85	85-86	86-87	83-87
Agriculture, Fishery & Forestry	24,845	25,206	26,077	27,239	28,672		-2.4	1.5	3.5	4.5	5.3	3.6
Industry	36,048	32,240	32,859	33,687	34,773		0.7	-10.6	1.9	2.5	3.2	0.9
Mining & quarrying	2,082	1,592	1,617	1,649	1,698		3.3	-23.5	1.6	2.0	3.0	-5.0
Manufacturing	25,084	23,014	23,479	24,131	24,928		2.2	-8.3	2.0	2.8	3.3	-0.2
Construction	7,705	6,382	6,446	6,522	6,672		-5.8	-17.2	1.0	1.2	2.3	-3.5
Electricity, Gas & Water	1,177	1,252	1,317	1,385	1,475		8.6	6.3	5.2	5.2	6.5	5.8
Service Sector	39,232	38,173	39,931	39,902	40,917		3.5	-2.7	2.2	2.2	2.5	1.1
Total	100,125	96,619	97,967	100,828	104,362		0.9	-3.5	1.4	2.9	3.5	1.0

Source : Updated Philippine Development Plan, 1984-1987, September 1984, NEDA

TABLE IX.2-7 PROJECTED GROSS DOMESTIC PRODUCT

Year	G D P (P 10 <sup>6</sup> )	Average Annual Growth Rate (%)	Per Capita (P)	GDP (US\$)*	Population
1982	99,097	-	1,953	275	50,783
1987	104,362	1.0	1,820	256	57,356
1992	125,287	3.6	1,953	275	64,151
1997	171,654	6.5	2,415	340	71,067
2000	207,349	6.5	2,756	388	75,223
2010	389,223	6.5	4,463	629	87,206
2020	730,624	6.5	7,485	1,054	97,614

Remark : Foreign exchange rate US \$ 1 = P 7.10

TABLE IX.3-1 POPULATION BY CITY AND MUNICIPALITY (PANAY RIVER BASIN)

City and Municipality	Population		Average Annual Growth Rate (%)	
	1970	1980	1970/75	1975/80
Roxas City	67,648	71,305	1.06	2.63
Quartero	14,497	17,665	4.05	0.94
Dao	18,535	21,052	2.58	2.59
Dumalag	18,348	20,038	1.78	2.07
Dumarao	22,422	27,338	4.04	1.83
Ivisan <sup>1</sup>	13,593	17,414	2.49	2.52
Jamindan <sup>1</sup>	20,483	25,652	3.13	1.43
Maayon	20,229	23,075	2.67	2.19
Mambusao	24,530	28,129	2.78	2.67
Panay <sup>1</sup>	24,074	24,479	0.33	5.27
Panitan	23,259	26,361	2.54	0.95
Pontevedra <sup>1</sup>	25,314	27,266	1.50	2.26
Sapian	14,171	17,395	4.18	1.51
Sigma	15,911	18,536	3.10	1.58
Tapaz <sup>1</sup>	26,482	30,589	2.93	2.81
Lemery <sup>1</sup> <sup>2</sup>	10,591	13,357	4.75	3.29
Bingawan <sup>1</sup> <sup>2</sup>	7,740	9,229	2.51	1.04
Panay River Total Basin	367,827	414,615	2.42	2.33
Capiz Province	394,041	445,716	2.50	2.01
Region VI	3,621,326	4,146,390	2.74	1.77
Philippines	36,684,486	42,070,660	2.78	2.71

Source : 1980 Census of Population and Housing, NCSO

Remarks : <sup>1</sup> Population covers the whole municipality, though some parts of the municipality are not included by the Panay River Basin.<sup>2</sup> Municipality of Iloilo.

TABLE IX.3-2 POPULATION GROWTH (REGION VI)

Census Year	Population (Percentage)					Average Annual Growth Rate (%)						
	Total	Akian	Antique	Capiz	Iloilo	Negros Occidental	Total	Akian	Antique	Capiz	Iloilo	Negros Occidental
1948	2,510,519 (100.0)	196,982 (7.8)	233,506 (9.3)	224,889 (9.0)	816,384 (32.5)	1,038,758 (41.4)	-	-	-	-	-	-
1960	3,113,305 (100.0)	226,232 (7.3)	238,405 (7.7)	310,079 (10.0)	966,266 (31.0)	1,372,323 (44.1)	1.81	1.16	0.17	2.71	1.41	2.35
1970	3,621,326 (100.0)	263,358 (7.3)	289,172 (8.0)	394,041 (10.9)	1,167,973 (32.3)	1,503,782 (41.5)	1.52	1.53	1.95	2.43	1.91	0.92
1975	4,146,390 (100.0)	293,349 (7.1)	308,484 (7.4)	445,716 (10.7)	1,313,049 (31.7)	1,785,792 (43.1)	2.74	2.18	1.30	2.50	2.37	3.50
1980	4,525,615 (100.0)	324,563 (7.2)	344,879 (7.6)	492,231 (10.9)	1,433,641 (31.7)	1,930,301 (42.7)	1.77	2.04	2.26	2.01	1.77	1.57

TABLE IX.3-3 POPULATION BY AGE GROUP

Name of Area	Population			Percent Distribution (%)		
	Total	0-14 years	15-64 years	65 years & over	0-14 years	15-64 years 65 yrs & over
Philippines	48,098,460	20,221,447	26,240,572	1,636,341	42.0	54.6 3.4
Region VI	4,525,615	1,910,028	2,430,639	184,948	42.2	53.7 4.1
Capiz Province	492,231	215,901	256,866	19,464	43.8	52.2 4.0
Panay River Basin	465,258	203,900	242,620	18,620	43.8	52.2 4.0

Source : 1980 Census of Population and Housing, NCSO



TABLE IX.3-4 GAINFUL WORKERS 15 YEARS OLD AND OVER BY INDUSTRY GROUP (REGION VI)

Industry Group	Gainful Workers (persons)			Percent Distribution (%)			Average Annual Growth Rate (%)		
	1970 <sup>L1</sup>	1975 <sup>L2</sup>	1980 <sup>L3</sup>	1970	1975	1980	'70-'75	'75-'80	'70-'80
Total	1,075,202	1,187,728	1,320,035	100.0	100.0	100.0	2.0	2.1	2.1
Agriculture, fishery & forestry	601,599	743,373	798,495	56.0	62.6	60.5	4.3	1.4	2.9
- Agriculture	551,867	671,212	708,319	51.4	56.5	53.7	4.0	1.1	2.5
- Fishery	45,675	70,438	85,722	4.2	5.9	6.5	9.1	4.0	6.5
- Others	4,057	2,223	4,454	0.4	0.2	0.3	11.3	14.9	0.9
Industry	179,586	132,854	126,948	16.7	11.2	9.6	-5.8	-0.9	-3.4
- Mining & quarrying	3,435	3,468	5,016	0.3	0.3	0.4	0.2	7.7	3.9
- Manufacturing	130,521	95,348	79,033	12.2	8.0	6.0	-6.1	-3.9	-4.9
- Construction	43,399	32,168	39,491	4.0	2.7	3.0	-5.8	4.2	-0.9
- Electricity, gas & water	2,231	1,870	3,408	0.2	0.2	0.2	-3.5	12.8	4.3
Service sectors	294,017	311,001	394,592	27.3	26.2	29.9	1.1	4.9	3.0
- Transportation	42,643	45,834	64,892	4.0	3.9	4.9	1.5	7.2	4.3
- Commerce	75,280	82,001	84,394	7.0	6.9	6.4	1.7	0.6	1.1
- Service	176,094	183,166	245,306	16.3	15.4	18.6	0.8	6.0	3.4

Sources : <sup>L1</sup> 1970 Census of Population and Housing, NCSO

<sup>L2</sup> 1975 Integrated Census of the Population and its Economic Activities, NCSO

<sup>L3</sup> 1980 Census of Population and Housing, NCSO

(Aklan, Antique, Capiz, Iloilo and Negros Occidental Reports were used)

TABLE IX.3-5 GAINFUL WORKERS 15 YEARS OLD AND OVER BY INDUSTRY GROUP (CAPIZ PROVINCE)

Industry Group	Gainful Workers (persons)			Percent Distribution (%)			Average Annual Growth Rate (%)		
	1970 <sup>1</sup>	1975 <sup>2</sup>	1980 <sup>3</sup>	1970	1975	1980	'70-'75	'75-'80	'70-'80
Total	120,837	133,785	141,679	100.0	100.0	100.0	2.1	1.2	1.6
Agriculture, fishery & forestry	78,102	95,049	95,249	64.6	71.0	67.2	4.0	0.0	2.0
- Agriculture	69,954	83,470	81,758	57.9	62.4	57.7	3.6	-0.4	1.6
- Fishery	7,788	11,441	13,200	6.4	8.5	9.3	8.0	2.9	5.4
- Others	360	138	291	0.3	0.1	0.2	-17.5	16.1	-2.1
Industry	15,619	11,493	11,144	13.0	8.6	7.9	-6.0	-0.6	-3.3
- Mining & quarrying	43	91	400	0.0	0.1	0.3	16.2	34.5	25.0
- Manufacturing	11,481	8,193	7,040	9.5	6.1	5.0	-6.5	-3.0	-4.8
- Construction	3,795	2,985	3,468	3.2	2.2	2.4	-4.7	3.0	-0.9
- Electricity, gas & water	300	224	236	0.3	0.2	0.2	-5.7	1.0	-2.4
Service sectors	27,116	27,243	35,286	23.4	20.4	24.9	0.1	5.3	2.7
- Transportation	3,365	3,830	5,395	2.8	2.9	3.8	2.6	7.1	4.8
- Commerce	6,374	7,424	8,788	5.3	5.5	6.2	3.1	3.4	3.3
- Service	17,377	15,989	21,103	14.3	12.0	14.9	1.6	5.7	2.0

Sources : <sup>1</sup> 1970 Capiz Census of Population and Housing, NCSO

<sup>2</sup> 1975 Integrated Census of the Population and its economic activities, Capiz, NCSO

<sup>3</sup> 1980 Census of Population and Housing Capiz, NCSO

TABLE IX.3-6 CROSS REGIONAL DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN (REGION VI)

Year	G R D P (Million Pesos)			Percent Distribution (%)			(At 1972 Constant Prices)		
	GRDP			GRDP			Growth Rate (%)		
	Agriculture Fishery & Forestry	Industry Sector	Service Sector	Agriculture Fishery & Forestry	Industry Sector	Service Sector	Agriculture Fishery & Forestry	Industry Sector	Service Sector
1972	5,215	2,202	1,257	1,756	42.2	24.1	33.7	-	-
1973	5,555	2,270	1,424	1,861	40.9	25.6	33.5	6.5	13.3
1974	5,904	2,454	1,536	1,914	41.6	26.0	32.4	6.3	7.9
1975	6,133	2,543	1,633	1,957	41.5	26.6	31.9	3.9	6.3
1976	6,577	2,760	2,723	2,094	42.0	26.2	31.8	6.8	5.5
1977	6,580	2,624	1,759	2,197	39.9	26.7	33.4	0.5	2.0
1978	6,730	2,600	1,846	2,284	38.6	27.4	34.0	2.3	4.9
1979	7,294	2,887	2,045	2,362	39.6	28.0	32.4	8.4	10.8
1980	7,636	3,039	2,091	2,508	39.8	27.4	32.8	4.7	2.2
1981*	7,970	3,148	2,254	2,568	39.5	28.3	32.2	4.4	7.8
1982*	8,410	3,387	2,361	2,662	40.3	28.1	31.6	5.5	4.7
1983*	8,288	3,171	2,380	2,737	38.3	28.7	33.0	-1.4	0.8

Source : Regional Development Information Western Visayas (Region VI)

Remark : \* Estimated in December 1984.

TABLE IX.3-8 NUMBER OF DWELLING UNITS BY YEAR BUILT AND  
BY STRUCTURE

Year Built	Housing Structure <sup>1</sup>				Total	Percent Distribution (%)
	I	II	III	IV		
1976 - 1980	443	1,500	1,047	39,191	42,181	48.8
1971 - 1975	518	1,554	1,150	20,489	23,711	27.4
1961 - 1970	492	1,642	1,341	11,831	15,306	17.7
1951 - 1960	91	609	664	2,769	4,133	4.8
1942 - 1950	36	75	241	501	853	1.0
1941 & earlier	20	25	75	176	296	0.3
Total	1,600	5,405	4,478	74,957	86,440	100.0
Percent Distribution (%)	1.9	6.2	5.2	86.7	100.0	-

Source : 1980 Census of Population and Housing, Capiz, NCSO

Remarks : <sup>1</sup> I : Reinforced concrete  
II : Semi-concrete  
III : Strong materials  
IV : Light materials



TABLE IX.3-9 POPULATION PROJECTION BY CITY AND MUNICIPALITY (PANAY RIVER BASIN)

City and Municipality	1985	1990	1995	2000	2005	2010	2015	2020
Roxas City	92,398	104,049	113,269	123,239	131,027	137,602	143,576	149,669
Quartero	20,250	21,981	23,134	24,407	25,949	27,232	28,435	29,641
Dao	26,937	30,037	32,404	34,967	37,176	39,042	40,737	42,466
Dumalag	24,936	27,742	29,867	32,167	34,200	35,916	37,475	39,066
Dumarao	33,439	26,966	39,657	42,527	45,214	47,483	49,544	51,647
Ivisan <sup>1</sup>	19,770	22,213	24,132	26,205	27,861	29,259	30,530	31,825
Jamindan <sup>1</sup>	28,387	31,146	33,105	35,242	37,469	39,349	41,058	42,800
Maayon	29,076	32,546	35,234	38,141	40,552	42,586	44,435	46,321
Nambusao	36,100	40,208	43,332	46,714	49,666	52,158	54,422	56,732
Panay <sup>1</sup>	35,811	40,107	43,442	47,050	50,023	52,533	54,814	57,140
Panitan	30,226	32,813	34,537	36,440	38,742	40,686	42,453	44,254
Pontevedra <sup>1</sup>	34,403	38,434	41,535	44,890	47,727	50,122	52,298	54,517
Sapian	20,791	22,854	24,332	25,942	27,581	28,965	30,223	31,506
Sigma	22,254	24,495	26,111	27,868	29,629	31,116	32,467	33,845
Tapaz <sup>1</sup>	40,200	45,499	49,760	54,369	57,805	60,705	63,341	66,029
Lenery <sup>1</sup> <sup>2</sup>	18,496	20,912	24,733	26,268	27,928	29,329	30,602	31,901
Ringawan <sup>1</sup> <sup>2</sup>	10,239	10,954	12,315	12,488	13,277	13,943	14,549	15,166
Panay River Basin	523,713	572,956	630,899	678,924	721,826	758,046	790,959	824,525
Capiz Province	550,674	604,263	656,884	706,400	751,038	788,725	822,967	857,892
Region VI	5,092,413	5,672,211	6,249,677	6,799,926	7,301,346	7,728,445	8,119,370	8,520,815
Philippines	54,668,332	61,460,180	68,424,077	75,223,851	81,590,921	87,206,451	92,431,710	97,613,831

Source : . Perspective for Population and Development Planning : Revised Population Projections for the Philippines and its Origins.

1980 - 2030. (MEDIUM - ASSUMPTION), NCSSO

. Population Projections by Province, City and Municipality : 1980 - 2000 Region VI - Western Visayas, NCSSO.

TABLE IX. 3-10 FAMILY SIZE PROJECTION IN CAPIZ PROVINCE

Year	Population	Number of Household <sup>/4</sup>	Family Size
1970 <sup>/1</sup>	394,041	67,575	5.83
1975 <sup>/2</sup>	445,716	77,020	5.77
1980 <sup>/3</sup>	492,231	86,440	5.69
1990	604,263	109,273	5.53
2000	706,400	131,567	5.37
2010	788,725	151,317	5.21
2020	822,967	162,619	5.06

Source : <sup>/1</sup> 1970 Census of Population and Housing, Capiz, NCSO  
<sup>/2</sup> 1975 Integrated Census of the Population and its Economic Activities, Capiz, NCSO  
<sup>/3</sup> 1980 Census of Population and Housing Capiz, NCSO  
<sup>/4</sup> Number of Household is assumed to grow at the growth rate of 0.3 percent bigger than the growth rate of population.

TABLE IX.3-11 PROJECTED GROSS REGIONAL DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN (REGION VI)

	(At 1972 Constant Prices)									
	Gross Regional Domestic Product (10 <sup>6</sup> pesos)			Annual Growth Rate (%)						
	1983	1984	1985	1986	1987	82-83	83-84	84-85	85-86	86-87
Agriculture, fishery & forestry	3,049	3,128	3,291	3,482	3,708	-7.9	2.6	5.2	5.8	6.5
Industry	2,403	2,304	2,357	2,405	2,487	1.8	-4.1	2.3	2.0	3.4
Mining & quarrying	200	203	208	214	221	-7.8	1.4	2.5	2.8	3.3
Manufacturing	1,806	1,763	1,820	1,853	1,910	3.4	-2.4	0.8	1.8	3.1
Construction	352	296	283	288	300	1.7	-15.9	-4.3	1.5	4.5
Electricity, gas & water	45	42	46	50	56	12.5	-6.6	9.5	8.6	12.0
Service sector	2,721	2,675	2,715	2,761	2,830	2.1	-1.7	1.5	1.7	2.5
Total	8,173	8,107	8,363	8,646	9,025	-1.9	-0.8	3.2	3.4	4.4

Source : Preliminary projection of NEDA, Region VI, June 1984



TABLE IX.3-12 PROJECTED GROSS REGIONAL DOMESTIC PRODUCT

Year	The Philippines			The Region VI			The Province of Capiz		
	GDP (P 10 <sup>6</sup> )	Growth Rate (%)	GRDP <sup>1</sup> (P 10 <sup>6</sup> )	Per Capita GRDP		GRDP <sup>2</sup> (P 10 <sup>6</sup> )	Per Capita GRDP		
				(P)	(US\$)/ <sup>5</sup>		(P)	(US\$)/ <sup>5</sup>	
1982	99,097 <sup>3</sup>	-	8,334 <sup>3</sup>	-	1,730(P) <sup>3</sup>	244	917	1,766	249
1987	104,362 <sup>4</sup>	1.0	9,025 <sup>4</sup>	1.6	1,696	239	993	1,736	245 <sup>5</sup>
1992	125,287	3.7	10,126	2.3	1,717	242	1,114	1,783	251
1997	171,654	6.5	13,490	5.9	2,087	294	1,484	2,194	309
2000	207,349	6.5	16,081	6.0	2,365	333	1,769	2,504	353
2010	389,223	6.5	29,279	6.2	3,788	534	3,221	4,083	575
2020	730,624	6.5	54,053	6.3	6,344	894	5,946	6,931	976

Remarks : <sup>1</sup>  $Y = 0.07256x + 1099.97$  Where Y: GRDP and X: GDP  
<sup>2</sup> GRDP in Capiz is assumed to occupy approximately 11 percent of GRDP  
<sup>3</sup> Real Figure  
<sup>4</sup> Preliminary Projection by NEDA  
<sup>5</sup> Foreign exchange rate US\$ 1 = P 7.10



FIGURES

FOR

APPENDIX IX



FIG IX.3-1 POPULATION GROWTH

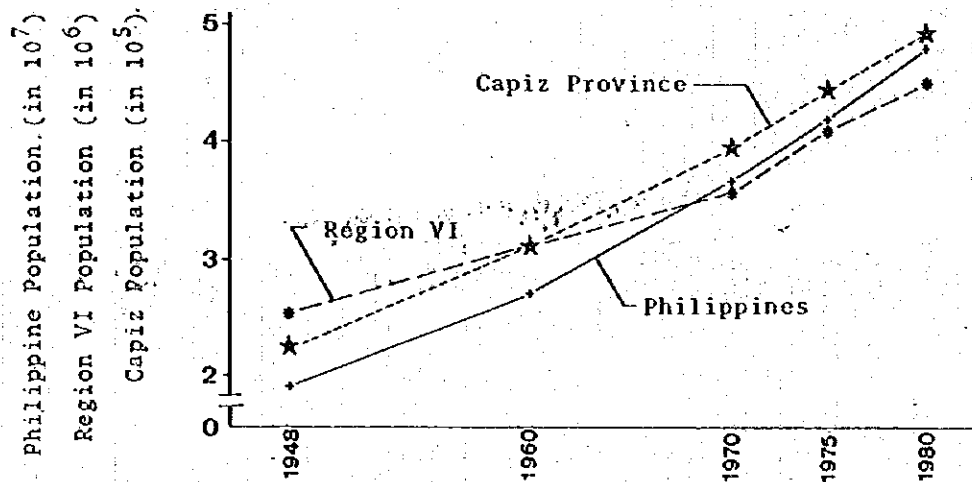


FIG IX.3-2 GAINFUL WORKER 15 YEARS OLD AND OVER BY INDUSTRIAL GROUP

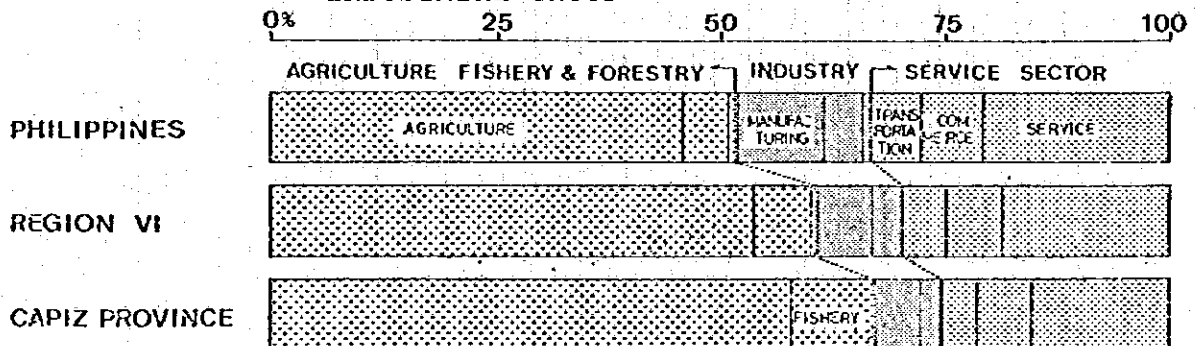


FIG IX.3-3 INTEGRATED AREA DEVELOPMENT DIVISIONS

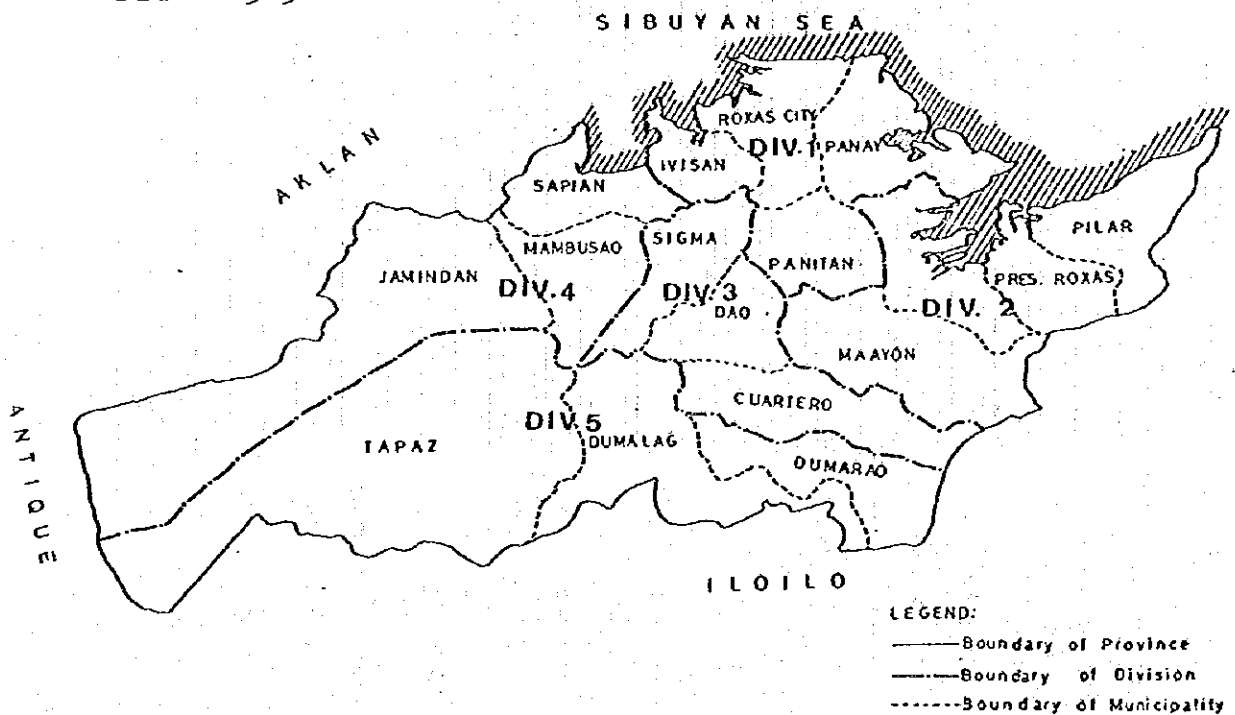
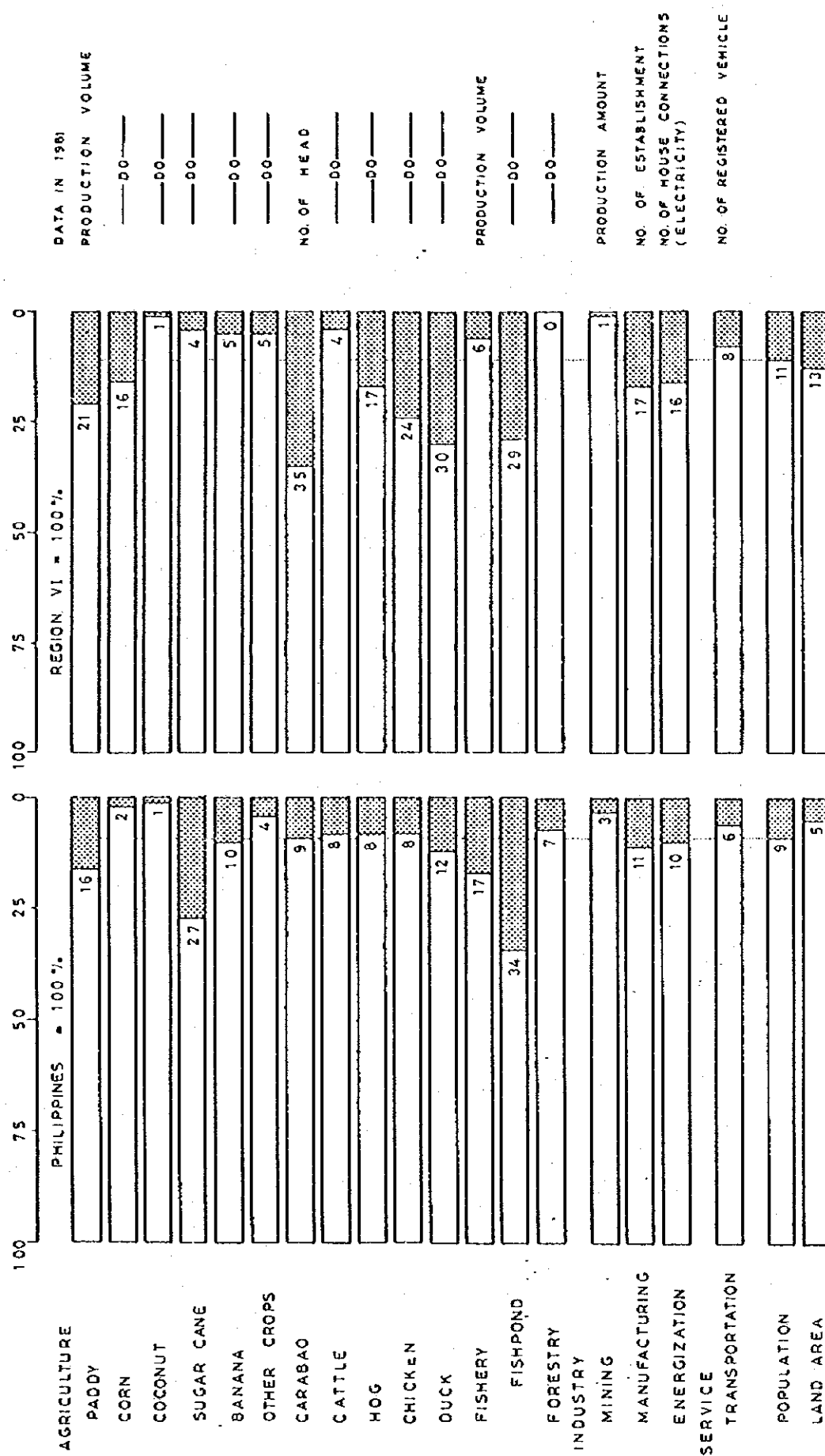


FIG IX.3-4 INDUSTRIAL CHARACTERISTICS OF REGION VI AND CAPIZ PROVINCE



SOURCES: PHILIPPINE YEAR BOOK 1983, NCSO; REGIONAL PROFILE OF WESTERN VISAYAS 1982, NEDA REGION XI SOCIO ECONOMIC PROFILE 1982, PROVINCE OF CAPIZ

APPENDIX X

POWER DEMAND AND SUPPLY

FOR

FINAL REPORT

ON

THE PANAY RIVER BASIN-WIDE

FLOOD CONTROL STUDY

