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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DIRECTORATE GENERAL OF FISHERIES
MINISTRY OF AGRICULTURE
THE REPUBLIC OF INDONESIA

THE STUDY ON COASTAL RESOURCES INVENTORY MANAGEMENT AND ENHANCEMENT IN THE REPUBLIC OF INDONESIA

SUPPLEMENTAL REPORT

MARCH 1994

SYSTEM SCIENCE CONSULTANTS INC.

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Contents

I Study Area

1. Socio-economic 1
2. Fishery Production and Fishing Ground 57
3. Aquaculture 105
4. Fish Marketing/Processing 131
5. Study on Fishermen Organization/Institution 167
6. Current Condition ・ Managemet and Utilization of Mangrove Forest 199
7. Environmental Considerations 227

II Model Areas for Fishing Village Development

1. Socio-economic Conditions of Fishing Villages in the Model Areas 251
2. Fishery Production and Fishing Grounds 277
3. Aquaculture 301
4. Fish Marketing/Processing 313
5. Fishermen Organizations/Institution 325
6. Current Condition ・ Management and Utilization of Model Mangrove Area .. 337
7. Environmental Considerations 373
8. Inhabitants' Opinion on Protection and Development of Coastal Resources 381
9. Opinions and Impact Felt by the Residents Regarding the Draft Policies 389
for Coastal Resource Inventory Management and Enhancement

I Study Area

1. SOCIO-ECONIMIC

1. Socio-economic

1.1 Socio-economic Conditions of Riau Province 1

1.1.1 Socio-economic Development Policies of Riau Province 1

1.1.2. Summary of the Socio-economic Index of Riau Province 3

1.2 Socio-economic Conditions of the Study Area 6

1.2.1 Summary of the Socio-economic Index for Kab. Bengkalis 6

1.2.2 Summary of the Socio-economic Index According to Villages (DESA) 8

1.2.3 Survey Findings on Socio-economic Conditions 11

1.3 Important Factors Regarding Selection of the Model Area 16

Tables & Figures

Table 1.1 Population by Province and Growth Rate 17
Table 1.2 Population Density in Sumatera 17
Table 1.3 Number of General Transmigration Families by Destination 18
Table 1.4 Gross Regional Domestic Products at current price by Provinces 19
Table 1.5 Gross Regional Domestic Products including oil, gas and their Products at current prices by Province 20
Table 1.6 Gross Regional Domestic Products without oil, gas and their Products at current prices by Province 21
Table 1.7 Per Capita Gross Regional Domestic Products without oil,gas and their Products at current prices by Province 22
Table 1.8 Gross Regional Domestic Products in Riau by industrial origin including oil at current market prices 23
Table 1.9 Gross Regional Domestic Products in Riau by Industrial Origin Excluding Oil at Current Market Prices 23
Table 1.10 Monthly Average Minimum Amount of Requirement for Employees by Province 24
Table 1.11 Retail Prices of Rice in Free Market in Some Cities 25
Table 1.12 Amount of Export and Import including oil 25
Table 1.13 Export by Country of Destination, 1990 26
Table 1.14 opulation by Kabupaten in Riau Province 26
Table 1.15 Population by Kec./Kota. in Kabupaten Bengkalis 26
Table 1.16 Religion of Inhabitants by Kec./Kota. in Benkalis 27
Table 1.17 Per Capita GRDP by Kabupaten in Riau at 1983 constant price 27
Table 1.18 Share of Industry in GRDP by Kabupaten in Riau at 1983 constant price 27
Table 1.19 Socio-Economic Index of Villages in Kab. Bengkalis (1991) 28
Table 1.20 Races in Surveyed Area 34
Table 1.21 Religions in Surveyed Area 34
Table 1.22 Present Occupation by Kecamatan and by Sex 35
Table 1.23 Duration of Present Occupation by Kecamatan and by Sex 36

Table 1.24 Present Occupation of Inhabitant by Desa 37
Table 1.25 Average Annual Household Income by Occupation and by Kecamatan 39
Table 1.26 Average Annual Household Income by Occupation and by Desa 40
Table 1.27 Annual Average Expenditure of Household by Kecamatan 42
Table 1.28 Annual Average Expenditure of Household by Desa 43
Table 1.29 Per Capita Food Consumption by Kecamatan 45
Table 1.30 Per Capita Food Consumption by Desa 46
Table 1.31 Revenue & Operation Cost of Fishery Activity 47
Table 1.32 Gross Profit Ratio & Composition of Operation Cost in Fishery Activity 50

Fig. 1.1 Distribution of Villages with Higher Ratio of Chinese Indonesian Population 53
Fig. 1.2 Distribution of Villages with more than 30 Fisherman Household 54
Fig. 1.3 Distribution of Villages indicating per Capita Net Income below US$ 160 55
Fig. 1.4 Land Use Map Planned by BAPPEDA in Kec. Bengkalis 56

1. SOCIO-ECONIMIC

1.1 Socio-economic Conditions of Riau Province

1.1.1 Socio-economic Development Policies of Riau Province

Based on the basic policies endorsed by Replita V, the two major objectives of development activities in Riau Province are given below.

1) Establish balanced development which will improve the assets and living standards of the inhabitants of Riau Province

2) Development activities will be concerned with the moral as well as material well-being of its inhabitants, in accordance with Pancasila.

In addition to the aforementioned, economic development is also targeted and priorities in this area are as follows:

1) Measures which will contribute to development in the agricultural sector, by processing raw materials which are available in the province will be implemented. However, this activity will be carried out within the following framework.
   a. Improve the income of inhabitants and government revenue
   b. Provide greater employment opportunities
   c. Achieve a balanced regional economic structure
2) In addition to measures which target improvements in the economic sector, improvements will also be aimed at the social, cultural, political, defense, etc. sectors as well.

Socio-economic development policies of Riau Province will be based on the aforementioned; and the relevant sectors are the agricultural sector which include water resources, the industrial sector which include transportation, and the tourism sector.

Riau Province will be divided into six regional zones and the following policies have been formulated for each region.

Region I

Area	: Pekanbaru, eastern Kab. Kampar
Center	: Pekanbaru
Relevant sectors	: Industrial, mining, agriculture (particularly plantations) - Pekanbaru will be the center of education, public health, and commerce. - Development activities in eastern Kab. Kampar will be implemented at the same level of other regions.

Region II

Area	: Western Kab. Kampar
Center	: Pasir Pangarayan
Relevant sectors	: Agriculture (particularly plantations, production of food grains), industrial, tourism,

- Mining, and energy (particularly improvements in hydraulic power at Kota Panjang)
- Kota Tandun and its neighboring areas will be the center of commerce.
- Pasir Pangarayan will be the center of local government.

Region III

Area : Bengkalis

Center : Dumai

Relevant sectors : Mining, industrial, agriculture, tourism

- Development activities will take environmental conditions into consideration.
- Dumai will not only be the center of development activities, but will also function as the center for industrial and commerce.
- Improvements to Dumai port will allow it to handle not only petroleum, but other export products as well.

Region IV

Area : Indragiri Hulu, Indragiri Hilir

Center : Rengat

Relevant sectors : Agriculture, industrial, mining (particularly Indragiri Hulu)

- Rengat will function as the the center of development activities.
- The road connecting Rengat, Tembilahan, and Kuala Enok will be improved.
- In order to develop the plantations in this region, it is necessary to prepare a development plan promoting the port at Kuala Enok as an export point.

Region V

Area : Kab. Kepulauan Riau

Center : Tg. Pinang

Relevant sectors : Agriculture (particularly plantations and the fisheries), industrial, mining, and tourism

- Development activities will take environmental issues into consideration.
- Tg. Pinang will function not only as the center of development activities, but will become the center for commerce, education, public health, and tourism.

Region VI

Area : Batam

Center : Batu Ampar

Relevant sectors : Industrial, agriculture (particularly the fisheries and livestock industries), and environmental sector

- Development of the industrial sector will be emphasized, in accordance with Presidential Decree 41 (1973).
- Development activities will take physical, social, and cultural aspects into consideration.

1.1.2. Summary of the Socio-economic Index of Riau Province

(1) Population

The population growth rate of Riau Province from 1980 to 1990 was 4.3 percent. This statistic is rather high, in comparison to the total population growth rate of Sumatra and the nationwide population growth rate of 2.7 and 2.0 percent, respectively (see Table 1.1). This is due to the fact that Riau Province has the largest number of immigrants from Java Island, etc. in the nation, as shown in Table 1.3.

The population density of Sumatra in 1990 was 77 people/ square kilometer, which is lower than the national statistic of 93 people/square kilometer. In particular, the population density of Riau Province is 35 people/square kilometer which is the lowest in Sumatra (see Table 1.2). As a result, Sumatra island in Riau Province, Sumatra Selatan, and Jambi Province have accepted large numbers of immigrants from other parts of the nation. As of 1990, these provinces have accepted approximately one half of the total number of immigrants (see Table 1.3).

(2) GRDP

The nominal Gross Regional Domestic Product (GRDP) of Riau Province, including its petroleum, gas and petroleum based products from 1984 to 1989, was an annual 8.9 percent. This figure is the lowest in Sumatra Province; and it indicates a growth rate of only 70 percent of the national GRDP which is 15.1 percent per annum (see Table 1.4). Petroleum, gas, and petroleum based products comprise 80 percent of the GRDP of Riau Province. It is believed that the declining price of petroleum in recent years has greatly affected the growth of nominal GRDP. During the same period the nominal GRDP per annum, excluding petroleum, gas, and petroleum based products, was 15.5 percent. This figure is slightly higher than the national per annum GRDP of 15.1 percent (see Table 1.5). Based on these statistics, the large effect of petroleum and gas on GRDP can be discerned. In addition, other sectors, excluding petroleum and gas, indicate a growth rate which is in line with the national average.

The per capita nominal GRDP including petroleum, gas, and petroleum based products of Riau Province was Rp.4,076,000 in 1989, second only to Kalimantan Timur (Rp.4,959,000); and it is four times the national figure of Rp.939,000 (see Table 1.6). However, if gas, petroleum, and petroleum based products are excluded from this figure, the per capita nominal GRDP of Riau Province for the same year was Rp.834,000. In contrast to the national figure of Rp.799,000, the difference is not large (see Table 1.7). Therefore, it has been concluded that the economic growth of Riau Province is on par with the national average, when petroleum, gas, and petroleum based products are excluded from the GRDP.

The per capita nominal GRDP growth rate of Riau Province from 1984 to 1989, including petroleum, gas, and petroleum based products, was an annual 5.5 percent. This figure is one half the annual national growth rate of 11.1 percent and it is low (see Table 1.6). This is due to the extremely rapid increase in the population of Riau Province which is double the national average, and the declining price of petroleum during this period. This latter factor was crucial for Riau Province, which has a high rate of dependence on petroleum. However, the per capita nominal GRDP growth rate, excluding petroleum, gas, and petroleum based products, of Riau Province during this same period was 11.9 percent annually. This figure approximated the national annual growth rate of 12.7 percent and was an indication that development in industries other than petroleum was taking place (see Table 1.7).

(3) Structure of Industries

In studying the nominal GRDP of Riau Province according to industry and its structure, the mining sector comprised 70 percent of the GRDP including petroleum, from 1985 to 1989. It was followed by manufacturing, commerce, and agriculture at 8.3 percent, 6.6 percent, and 5.1 percent, respectively in 1989 (see Table 1.8).

The mining and manufacturing sectors were 6.0 percent and 9.5 percent, respectively, of the nominal GRDP excluding petroleum, in 1989. Based on these figures, the high ratio of petroleum excavation and processing can be seen. In addition, the ratio of agriculture, commerce, transportation, and communication was 26.2 percent, 23.6 percent, 11.4 percent, respectively; and they are major industries within Riau Province, excluding the petroleum industry. Although the ratio of agriculture was the highest from 1985 to 1989, it leveled out to a uniform rate after 1986. The manufacturing industries still comprise a small ratio of the GRDP, but they have grown steadily during this same period. In contrast, the ratio of commerce has declined (see Table 1.9).

In addition, the annual growth rate of the nominal GRDP, excluding petroleum, from 1985 to 1989 for electricity and water was very high at 36.8 percent. This figure reflects the emphasis placed on development of these sectors. The annual growth rate in the area of finance and government expenditures was 31.4 percent and 25.0 percent respectively. In particular, the ratio of government expenditures of the GRDP is nearly equivalent to that of the manufacturing industry. This is an indication of the government's large role in regional development (see Table 1.9).

(4) Income

As shown in Table 1.10, the minimum monthly income a worker living in Riau Province requires to support a wife and two children is Rp.200,000. This figure is higher than that of the other provinces on the island of Sumatra. In addition, it is higher than the minimum monthly income of Rp.161,00 in Jakarta, although it is lower than the minimum monthly income of Maluku Province (Rp.205,000), Irian Jaya Province (Rp.211,000), and Timor-timur Province (Rp.224,000). The transport network in all of the aforementioned provinces, including Riau, is undeveloped; and this has contributed to a high cost of living due to excessive transport fees of goods.

An example of the high cost of living in Riau Province is reflected in the retail price of rice in its major cities. Pekanbaru has the highest priced rice in the nation, at Rp.523 per liter; and it is about 1.3 times higher than the price of rice in Jakarta (see Table 1.11). One major underlying cause of this high cost is due to the low production volume of rice in terms of its population, which requires large volumes of rice to be brought in from other regions. Due to the undeveloped transport network, the transport cost of rice contributes to its overall high cost.

(5) Imports and Exports

The major export item of Riau Province is petroleum, of which 65 percent of the exported volume is earmarked for Japan, followed by the United States, Singapore, China, Korea, Taiwan, and Australia, respectively (see Table 1.12, 1.13).

However, due to the drop in the price of oil, export earnings declined from 1984 to 1986, and leveled out until 1988. As of 1989, export earnings have been rising, due to the slight recovery in the price of oil, stemming from measures taken by the petroleum producing nations to control production, etc.

Import earnings from imports were at a standstill from 1986 to 1988, but rose in 1989. However, in 1990 they declined to the midway levels of 1988 to 1989. Generally, a growth in export stimulates the regional economy, and there is a tendency for imported materials, equipment, machinery, etc. necessary for production, to increase. Therefore, it is anticipated that with the regional development of Riau Province, there will be a simultaneous growth in both imports and exports.

1.2 Socio-economic Conditions of the Study Area

1.2.1 Summary of the Socio-economic Index for Kab. Bengkalis

(1) Population

The annual population growth rate of Kab. Bengkalis from 1980 to 1990 was 4.8 percent, which was slightly higher than the annual average growth rate of Riau Province (4.3 percent per annum). The population ratio of Kab. Bengkalis was 26.1 percent of the entire population of the province in 1980 and rose to 27.3 percent by 1990. In addition, the population density of Kab. Bengkalis was 30 people/square kilometer in 1990, which was slightly lower than the entire average density of Riau Province (35 people/per square kilometer). It had the third lowest population density of the province (see Table 1.14).

The population growth rate from 1980 to 1990, according to Kecamatan, was rather high for Siak and Kubu, at 14.4 percent and 10.3 percent per annum, respectively. Both Siak and Kubu accept large numbers of immigrants moving in from other areas, in addition to having palm oil plantations in operation there. These factors appear to be the underlying cause for the high population growth rate. In addition, the population growth rate per annum for Mandau, Dumai Barat, and Bukit Kapur is 7.0 percent, 8.3 percent, and 8.1 percent, respectively, due to ample employment opportunities created by the oil refining and manufacturing plants located there. In contrast, the annual growth rate for Bengkalis, Tebing Tinggi, Merbau, and Rupat is around 2 percent, which is lower than the annual growth rate of 4.8 percent for the entire district (see Table 1.15).

(2) Religion

In 1990 the population ratio in Kab. Bengkalis for the population having religions other than the Islamic religion was 20 percent, and the majority were Indonesians of Chinese descent (see Table1.16). The total ratio of Chinese Indonesians for the entire national population is under 10 percent (5 to 6 percent). In view of this statistic, the ratio of Chinese Indonesians in the Kab. Bengkalis is exceedingly high in comparison to other areas.

Areas which contain a ratio of non-Islamic Chinese Indonesians higher than the district average, according to kecamatan, are Banko (37.5 percent), Kubu (34.0 percent), Rupat (30.6 percent), Dumai Barat (29.1 percent), and Tebing Tinggi (26.3 percent).

(3) GRDP

Per capita GRDP for 1990 in the Kab. Bengkalis was Rp.565,000, which was higher than the per capita GRDP for the neighboring kabupaten (Kampar, Indragiri Hulu, Indragiri Hilir). The annual growth rate of per capita GRDP from 1983 to 1986 was exceptionally low at 0.5 percent, the lowest in Riau Province, but rose to an annual growth rate of 4.7 percent from 1986 to 1989 (see Table 1.17)

The industrial distribution ratio of the GRDP in 1989 (1983 constant price) for businesses, hotels, and restaurants in the Kab. Bengkalis was 28.1 percent, second only to the distribution ratio of 36.7 percent of Pekanbaru. Although the GRDP manufacturing ratio of Batam, the area specially designated for industrial development, was 34.4 percent, it was succeeded by Kab. Bengkalis which has a high manufacturing distribution ratio of 13.3 percent. In addition, the distribution ratio for mining was also high at 10.9 percent, second only to the Riau Islands which had a ratio of 14.3 percent. In contrast, the distribution ratio for agriculture was 25.6 percent, one of the lowest among the kabupaten (see Table 1.18).

(4) Transport

The roads in Bengkalis island running from Bengkalis kota to the western tip of Meskom and from Bengkalis kota to the northern end of Bantan Air are paved. Aside from the roads within the cities, the roads in Bengkalis, Tebing Tinggi, Merbau, and Rupat are unpaved, dirt roads which pass through plains. Consequently, they often become impassable during the rainy season.

Due to these reasons, boats are used as a means of transport not only in interisland travel, but within an island itself. Hence the relative importance of water transport is high. The major ports in Kab. Bengkalis are given below. They are linked by regular boat service.

Major ports

- Island of Sumatra: Bagansiapiapi, Dumai, Sei Pakning, Sei Apit, Siak Sri Indrapura
- Rupat Island : Batu Panjan, Tg. Medang
- Bengkalis Island : Bengkalis
- Tebing Tinggi : Selatpanjang, Tg. Samak, Tg. Kedabu

Major navigational routes

- Bagansiapiapi - Batu Panjang - Dumai
- Dumai - Bengkalis - Selatpanjang - Tg. Samak - Tg. Pinan
- Bengkalis - Sei Pakning - Sei Apit - Siak Sri Indrapura - Pekanbaru
- Selatpanjang - Sei Apit - Siak Sri Indrapura - Pekanbaru

1.2.2 Summary of the Socio-economic Index According to Villages (DESA)

(1) Population

Dumai is the largest city in the study area, followed by Bengkalis and Selatpanjang. The population is concentrated in the neighboring areas of these cities. (The population density in residential areas surpasses 1000 people/square kilometer, see Table 1.19).

The population density rises in the residential area centering around Bengkalis Kota and in the area lying from western Wonsari to eastern Tameran in Kec. Bengkalis (more than 150 people/square kilometer). In addition, the density is also comparatively high in the northern section of Bantan Air where the roads are paved (more than 100 people/square kilometer).

In Kec. Tebing Tinggi, the population density centering around Selatpanjang kota and in the area lying between Insit to Banglas on the northern side of Tebing Tinggi island, is high (more than 200 people/square kilometer). In addition, the population density is also high in the areas from Bokor on the opposite side of Ransan island, to Sei China and Melai in the north (more than 170 people/square kilometer).

In Kec. Merbau, the population density in the residential areas of Semukut and Centai in the southeastern part of Merbau island is high, followed by the residential areas lying between Bandul in northern Padan island to Dedap (more than 190 people/square kilometer). All of these areas are located along channels which are major navigational routes. Their ideal location in terms of transport, facilitates the development of commerce. In turn, this factor appears to contribute to the high concentration of population in these areas. Tlk. Belitun which is the center of Merbau kecamatam also has a high population density which runs from Pelantai on Padan island to Bran Melintang on the opposite side on Merbau island (more than 190 people/square kilometer).

In Kec. Rupat, the population density is high in the residential areas of Batu Panjant, the center of local government (280 people/square kilometer). It is followed by Tg. Medang, the export base for fishery products (200 people/square kilometer).

(2) Religion

The large majority of the non-Muslim population are comprised of Indonesians of Chinese descent and their ratio has been calculated and shown in Table 1.20. If the ratio of Chinese Indonesians is under the figure of 21.4 percent representing the entire Kab. Bengkalis, a (+) has been placed next to the desa in the table. If it is 50 percent higher than this ratio, the desa has been marked with a (*). The results have been compiled in Fig. 1.1 and the following conclusions can be made.

- In the kab. Bengkalis nearly one half of the Chinese Indonesian population is found in Bengkalis, Kelemantan in the east (57 percent), and Kembung Luar (36 percent).
- In Tebing Tinggi, approximately one half of the Chinese Indonesian population is found in Selatpanjang, and Sonde (87 percent), Sokop (81 percent), and Tg. Kedabu (52 percent) in the northern part of Ransan island.
- In Merbau, the Chinese Indonesian population is 82 percent in Selat Akar and 32 percent in Kudap.
- In the northern half of Rupat, there is a high ratio of Chinese Indonesians, particularly in Hutan Panjan (95 percent) and Titi Akar (88 percent).

(3) Distribution of fishermen families

Based on the distribution of employed workers according to industry, the ratio of employed workers are the highest in plantations with 100 desa, commerce with 24 desa, paddy cultivation with 12 desa, and fisheries with 6 desa. In view of this data, fishing villages are nearly nonexistent.

Desa are composed of several dusun and the dusun are made up of towns and villages or RT. Although the ratio of fishermen is low in the desa, they are included in the main constituency of the RT which comprise that desa, even if there is only a small minority of fishermen.

Therefore, in examining desa which have more than 30 fishermen and desa which carry out fishing activities, according to the findings of a socio-economic survey on work distribution of residents, the ratio for both parties was more than 80 percent (see Chapter 1.2.3).

Hence it was estimated that RT with a major constituency of fishermen was included in the desa with more than 30 fishermen. These desa are shown in Table 1.20, marked with a (*), and in Fig. 1.20. The distribution of fishing villages are given below.

- Western area of Bengkalis island
  Meskom, Tlk. Latak, Sebauk
- Eastern area of Bengkalis island
  Jangkang, Selat Baru, Bantan Tengah, Muntai, Tlk. Pambang, Tlk. Lancar
- Southern area of Bengkalis island and western area of Padan island
  Air Putih, Penampi, Ketam Putih, Kudap
- Eastern area of Padan island and western area of Merbau island
  Selat Akar, Mengkirau, Bagan Melibur, Tlk. Belitung, Pelantai, Meranti Bunting, Tlk. Ketapang
- Northeastern area of Merbau island and western tip of Ransan island
  Kuala Merbau, Centai, Anak Setatah
- Southwestern area of Ransan island and central northern Tebing Tinggi island

Bantar, Insit, Alah Air, Selatpanjang Barat, Banglas, Kaya Ara, Beting

- Northeastern area of Ransan island

Sonde, Tg. Kedabu, Tg. Medang, Tg. Samak

- Northern, eastern, and western areas of Rupat island

Titi Akar, Tg. Medang, Tlk. Ruh, Tg. Punak, Kador, Makeruh, Sei Cingam, Pkl. Nyrih, Tlk. Lecah, Pergam, Terkul, Bata Panjang

(4) Net production

In the area of income distribution, the lowest income level for developing countries under 40 percent is the poverty line established by the World Bank. A per capita annual income of US$1,600 has been established as the poverty line in Indonesia.

Although there were no statistics on income for the study area, per capita net production values according to desa have been calculated. Generally, the net production value is the total sum of employer income, property income, and business income; and it is higher than the total income of residents. In the study area, excluding Dumai, industrial activities such as manufacturing, etc. are not extensively carried out. Moreover, industrial activities including financing are inactive in desa with a low per capita net production. Therefore, it was concluded that net production was meager in terms of per capita annual income; and desa with a per capita net production lower than the poverty line (per capita annual income of US$1,600 or Rp.3,200,000) was considered deprived and marked with a (#) in Table 1.19. They are also shown in Fig. 1.3 and the following have been deduced based on this figure.

1) Kec. Bengkalis

- Per capita net production surrounding Bengkalis is very high, but it is low in the outlying areas. In particular, desa in Sebauk in the west, Bantan Tua and Jangkang in the north, and Tameran in the east are deprived.
- From the north central Bengkalis island to its eastern area (Selat Baru, Pematan Duku, Tlk. Pambang), per capita net production is high, with the exception of Muntai which is a deprived area.
- The southeastern area of Bengkalis island (Kembung Luar, Kelemantan, Sekodi, Tlk. Lancar) is a deprived area.
- Desa Meskom in the western tip of Bengkalis island is also a deprived area.

2) Kec. Tebing Tinggi

- Per capita net production of Selatpanjang is exceedingly high, in contrast to the other desa.

- Inland desa of Tebing Tinggi island (Tenan, Sesap, Lukun) where access is difficult and Tg. Sari in the eastern tip of the island are deprived areas.
- Anak Setatah and Segomeng, desa located on the Malacca side of the western tip of Ransan island are deprived areas.
- Kayu Ara, Beting, Sokop, and Repan, desa located on the side of the channel in central Ransan island, northeast of Selatpanjang are deprived areas.
- Sonde and Tg. Kedabu, desa in the northern area of Ransan island on the Malacca side, are deprived areas.

3) Kec. Merbau
- Per capita net production of Dedap, Kudap, and Bandul in the northeastern area of Padang island is comparatively high, but desa Tg. Padang on the west side and Selat Akar on the southeast side of the island are deprived areas.
- Lukit, a desa with a low population density which faces the channel of Panjang, is a deprived area.
- Bagan Melibur, Pelantai, and Tlk. Ketapang which are near Tlk. Belitung, the center of local government for the kecamatam, are also deprived areas.
- Renak Dungun and Centai, desa in Merbau island, are deprived areas.

4) Kec. Rupat
- Each desa on Rupat island is below the poverty line and per capita net production in the northeastern area is low, with the exception of the inland area. However, it increases in the southwestern area.

1.2.3 Survey Findings on Socio-economic Conditions

(1) Study Approach

An interview survey was delegated and carried out by Riau University, in order to grasp the socio-economic conditions of the study area. The study approach is outlined below.

1) Summary of interview items
- Personal information
- Living conditions (housing, electrical appliances, personal means of transportation)
- Expenses and consumption
- Revenue from fishing and operation costs

2) Survey area

Eastern coastal areas east of Rupat island in Riau Province

3) Subjects of the survey

Householder or spouse

4) Sampling method: Two step sampling method

a. Sixty fishermen were selected from desa with large numbers of fishermen families.
b. Interviews were carried out on five to six households which were randomly selected from villages selected for the survey.

(2) Characteristic of interviewees

Approximately 76 percent of the participants in the interview survey were of Malay extraction and of the Muslim faith. The remaining participants were Chinese Indonesians who were Buddhist or of other faiths. As verified earlier in Chapter 1.2.2, section (2), the ratio of Chinese Indonesians in the study area was high in comparison to the rest of the nation (see Table 1.20, 1.21).

The number of people in one household averaged six people and this figure did not differ among the kecamatan.

(3) Living conditions

Nearly all of the homes including the land (more than 85 percent) were owned by the householder; and rented homes averaged around 1 percent in Merbau and Rupat. The majority of the residents in this area were Chinese Indonesians and their lifestyles were reflected in the area.

The majority of the homes are wooden structures covered by galvanized iron sheets and many of the survey respondents described the condition of their homes as normal. However, the respondents who felt their homes were in poor condition were 15 percent and 21 percent in Tebing Tinggi and Merbau, respectively. It is surmised that a difference exists in the quality of the property in these two areas.

More than half of the survey participants had televisions and radios in their homes. In contrast, refrigerators were not widespread, with the exception of Tebing Tinggi and Merbau.

Participants who possessed cars were exceedingly small. Although 33 percent of the respondents in Bengkalis and 20 percent in Tebing Tinggi owned motorbikes, this is probably due to the economic affluence of this area and the existence of fairly acceptable roads which would enable the use of a motorbike. More than 60 percent of the respondents in Bengkalis, Tebing Tinggi, and Merbau possessed cars. In particular, nearly all of the families surveyed in Bengkalis owned cars.

Approximately 60 to 70 percent of the respondents possessed a well for their water supply, and the remaining respondents used rain water. In Rupat, although 33 percent of the respondents had water supplied through self-devised plumbing, the number of samplings was limited and the actual conditions were not clear. However, it has been concluded that drainage facilities are somewhat better developed than other areas.

Kerosene was the prevalent source of lighting, followed by electricity. However, in Rupat and Bukit Kapur near Dumai, the ratio of gas usage was high. In addition, firewood was commonly used for heating. Toilets were mainly outhouse type latrines and flushed toilets were rare.

(4) Occupation and income

Distribution of occupations according to desa are given in Table 1.22. There are a total of 28 desa where the fishing ratio is high, according to occupational distribution. As shown in Table 1.19, of this number, 18 desa are projected to contain fishing villages and they have been marked with a (*). Although there are 10 desa which do not conform to the number of fishing villages given in Table 1.19, there are three desa in this table that have approximately 30 fishermen. When this number is added, the estimated 75 percent given in Chapter 1.2.2, section (3) is appropriate. In Bengkalis, Tebing Tinggi, Merbau, and Rupat where ocean fishing is prevalent, the degree of accuracy is about 90 percent.

In examining the distribution of occupations according to kecamatan, 70 percent of the occupations fall into the category of fishing and agriculture. In Bengkalis, Tebing Tinggi, and Merbau the ratio of fishing and agriculture is about equal, but in Rupat, the ratio of agriculture is more than double the ratio of fishing (see Table 1.23).

Women comprise 40 percent of the labor force and their contribution is high. However, according to Table 1.23, women rarely engage in fishing and the majority are employed in agriculture.

The length of employment in current occupations averaged ten years, while the period of employment for men was slightly longer than the women. In particular, men working in private industries, in the government, or who were self-employed had worked two to three years longer than women (see Table 1.24).

The annual income per household was the highest in Bengkalis at Rp.2,594,000, succeeded by Merbau where the annual income averaged Rp.2,413,000. Rupat was second to the last in the survey on kecamatan, which corresponded to the low per capita net production level of that area (see Table 1.25).

The annual income per household according to desa, indicate that in Bengkalis and Merbau, there is a tendency for the annual income to be correspondingly high with high fishing revenues; and in Tebing Tinggi, it is correspondingly high in desa with a high ratio of agricultural revenue. In particular, the annual income was high in the area of Selatpanjang in Tebing Tinggi; and it was higher in the surrounding vicinity of Tg. Medan in Rupat, in comparison to other areas (see Table 1.25).

(5) Expenditures and consumption

The annual expenditures per household was proportionate to their annual income. Nearly 60 to 70 percent of their expenditures were on food. Expenditure for rice and fish, including home grown rice was large (see Tables 1.27, 1.28).

In the majority of desa where the annual income per household exceeded Rp.2,500,000, the volume of rice consumption per person was more than 100kg/year. In Rupat where the annual income is low, the volume of rice consumption is also very low in comparison to other areas. Moreover, the volume of rice consumption in the study area is very low, in comparison to the national average rice consumption volume of 150kg/year (see Tables 1.29, 1.30).

The consumption of fish is high in areas with a large number of fishermen, since the ratio of harvested fish earmarked for private consumption by the fishermen and his family, is high. (The ratio of private consumption for the majority of the desa is 30 to 50 percent.)

The consumption volume of fishery products in the study area is much higher than the national average (15.4kg/year). However, the per capita fish consumption volume of Rupat and Bukit Kapur at 28kg/year and 21kg/year, respectively, is low in comparison to other areas. This is due to the large volume of harvested fish which is exported to Malaysia. In contrast, the fish consumption volume of Tebing Tinggi is 55kg/year, approximately twice the consumption volume of Rupat, due to its large production volume of fishery products and its economic strength (see Tables 1.29, 1.30).

The major source of meat is chicken which is inexpensive. Other meats such as beef are consumed only a few times a year. However, due to the large population of Chinese Indonesians, the consumption of pork is high in comparison to other areas.

In addition to food, another large expenditure is the purchase of cigarettes. According to a separate survey carried out by Riau University, the consumption volume of cigarettes is large. Observations on the lifestyles of the population made during the field survey, appears to support these findings.

(6) Fishing revenue and operation costs

Revenue from fishing activities and operational costs for the majority of the survey respondents who conduct fishing in motorized boats using long-lines and drift gill nets, are explained in the following(see Tables 1.31, 1.32).

1) Drift gill net

- Although gross profits differ, a majority of the profits ranged from 2 to 4 million rupiahs.

- The gross profit rate ranged between 40 to 70 percent of the sales amount; and many were near 50 percent.
- Labor costs comprised approximately one half of the operational costs.
- Fuel costs were from 3 to 5 million rupiahs for nearly one half of the survey respondents.
- Repair costs of fishing gear were approximately 1 to 2 million rupiahs and boat repair costs ranged from 1 to 3.6 million rupiahs. (extreme figures were ignored.)

2) Long-line
- The gross profit for the majority of the respondents was approximately 1.5 million rupiahs.
- The gross profit ratio ranged from 50 to 70 percent.
- Fueling costs were about 3 million rupiahs.
- Repair costs of fishing gear ranged from 1 to 3.9 million rupiahs and boat repair costs were about 0.8 to 1.8 million rupiahs.

Revenue from fishing activities and operational costs for the majority of the survey respondents who conduct fishing in non- motorized boats using Gombang and drift gill nets, are explained in the following (see Tables 1.31, 1.32).

3) Drift gill nets
- Fishermen operating in the waters between Bengkalis and Bukit Batsu generated a sales revenue of 2.2 to 2.6 million rupiahs. If the cost of fishing gear is excluded, gross profits were approximately 2 million rupiahs.
- The gross profits of fishermen in Selat Baru on the Malacca side of Bengkalis island were about 2 million rupiahs.
- The gross profits of fishermen in Kedabu Rapat and Melai on the Malacca side of the northern tip of Ransan island were 1 million rupiahs.
- The gross profits of fishermen in Centai in the northeastern area of Merbau island were 1 million rupiahs.
- Fishermen in Bandul on the coast of Selatpanjang reported gross profits of 3.6 million rupiahs; and it is surmised that there were high value added fish harvests.
- The gross profits of fishermen in Pangkalan Nyirih on Rupat island were 2.1 million rupiahs, excluding the cost of fishing gear.
- The gross profits of fishermen in areas other than the aforementioned, were minimal ranging under 1 million rupiahs.

4) Gombang
- The gross profits of the majority of the fishermen in this category ranged from 1.3 to 1.5 million rupiahs and the gross profit ratio was more than 90 percent.

- The gross profits of fishermen operating in the waters near Selatpanjang were between 1.3 to 1.4 million rupiahs and the gross profit ratio was about 90 percent. The cost of fishing gear was approximately one half the operational costs, and the rest was taken up by boat repair costs.
- The gross profits of fishermen operating in the channel of Bengkalis island were low and ranged from Rp.600,000 to 880,000. The gross profit ratio was approximately 90 percent.
- Although there are differences in the data on Bengkalis and Padan islands, it is estimated that the sales turnover ranges between 1 to 2 million rupiahs and gross profits are between 0.9 to 1.6 million rupiahs. In addition, the cost of fishing gear comprises a major part of the operational costs.
- The gross profits of fishermen in Sei Cingam on Rupat island were 1.5 million rupiahs and the gross profit ratio was 90 percent. Approximately 60 percent of the operating costs were taken up by fishing gear costs and boat repair costs take up the remaining 40 percent.

1.3 Important Factors Regarding Selection of the Model Area

The objective of this study is to format a regional development plan in the selected model area of fishing community development in order to improve socio-economic conditions and to enhance management of coastal resources in the study area. The model area are to be selected in this Phase I study. Following factors are to be taken into account for the selection;

1) To exist fishermen communities in the candidate villages

To achieve the above mentioned objective, the model area is to be selected from villages (Desa) in which fisheries are actively being done.

2) To be economically depressed village (poverty Desa)

The model area is to be selected from such village that its income level is low and its economic development is difficult by self- reliant base. Even though average income level of a village is low, income level of most landing places densely populated by Chinese Indonesian is higher than that of the village average; subsequently it is necessary to refer to relevant information obtained by the field reconnaissance in order to assess the development capability of such villages.

3) To be consistent with the development plan of Kab. Bengkalis

The land use and allocation plan of the Kab. Bengkalis has been recently proposed by following land use categories (See Fig. 1.4). The locations of the model area is to be consistent with this plan.

- Protection area	- Commercial area	- Industry area - Residence area
- Fisheries area	- Live stock area	- Plantation area
- Food crop area	- Transmigration area	- Forest area

Table 1.1 Population by Province and Growth Rate

Province	Population (x 1000)			Growth Rate	
	1971	1980	1990	1971-80	1980-90
1 DI Aceh	2,009	2,611	3,416	3.0%	2.7%
2 Sumatera Uatara	6,622	8,361	10,256	2.6%	2.1%
3 Sumatera Barat	2,793	3,407	4,000	2.2%	1.6%
4 Riau	1,642	2,169	3,304	3.1%	4.3%
5 Jambi	1,006	1,446	2,021	4.1%	3.4%
6 Sumatera Selatan	3,441	4,630	6,313	3.4%	3.1%
7 Bengkulu	519	768	1,179	4.5%	4.4%
8 Lampung	2,777	4,625	6,018	5.8%	2.7%
9 DKI Jakarta	4,579	6,503	8,254	4.0%	2.4%
10 Jawa Barat	21,624	27,454	35,381	2.7%	2.6%
11 Jawa Tengah	21,877	25,373	28,522	1.7%	1.2%
12 DI Yogyakarta	2,489	2,751	2,913	1.1%	0.6%
13 Jawa Timur	25,517	29,189	32,504	1.5%	1.1%
14 Bali	2,120	2,470	2,778	1.7%	1.2%
15 Nusa Tenggara Barat	2,204	2,725	3,370	2.4%	2.1%
16 Nusa Tenggara Timur	2,295	2,737	3,269	2.0%	1.8%
17 Timor-timur	-	555	748	-	3.0%
18 Kalimantan Barat	2,020	2,486	3,239	2.3%	2.7%
19 Kalimantan Tengah	702	954	1,396	3.5%	3.9%
20 Kalimantan Selatan	1,699	2,065	2,598	2.2%	2.3%
21 Kalimantan Timur	734	1,218	1,877	5.8%	4.4%
22 Sulawesi Utara	1,719	2,115	2,479	2.3%	1.6%
23 Sulawesi Tengah	914	1,289	1,711	3.9%	2.9%
24 Sulawesi Selatan	5,181	6,062	6,982	1.8%	1.4%
25 Sulawesi Tenggara	714	942	1,350	3.1%	3.7%
26 Maluku	1,090	1,411	1,856	2.9%	2.8%
27 Irian Jaya	923	1,174	1,641	2.7%	3.4%
Grand total	119,210	147,490	179,375	2.4%	2.0%

Sources : Central Bureau of Statistics.

Table 1.2 Population Density in Sumatera

Province	Density (persons/km2)		
	1971	1980	1990
1 DI Aceh	36	47	62
2 Sumatera Uatara	94	118	145
3 Sumatera Barat	56	68	80
4 Riau	17	23	35
5 Jambi	22	32	45
6 Sumatera Selatan	33	45	59
7 Bengkulu	24	36	55
8 Lampung	83	139	180
Sumatera	44	59	77
Indonesia	62	77	93

Sources : Central Bureau of Statistics.

Table 1.3 Number of General Transmigration Families by Destination

Destination	Number of Families					Share of Destination				
	1987	1988	1989	1990	1991	1987	1988	1989	1990	1991
1 DI Aceh	1,136	6,795	300	750	2,083	4.5%	3.4%	1.5%	2.9%	3.1%
2 Sumatera Uatara	845	3,576	200	250	960	3.4%	1.8%	1.0%	1.0%	1.4%
4 Riau	4,149	28,123	4,786	6,052	14,590	16.5%	14.0%	24.7%	23.8%	21.6%
5 Jambi	1,608	19,767		2,900	6,875	6.4%	9.8%	0.0%	11.4%	10.2%
3 Sumatera Barat		2,625	268	983	2,365	0.0%	1.3%	1.4%	3.9%	3.5%
7 Bengkulu	375	6,801	500	1,365	2,490	1.5%	3.4%	2.6%	5.4%	3.7%
6 Sumatera Selatan	3,156	24,715	1,250	4,154	9,313	12.6%	12.3%	6.4%	16.3%	13.8%
8 Lampung	742	16,963	1,000	1,726	5,126	3.0%	8.4%	5.2%	6.8%	7.6%
14 Kalimantan Barat	2,246	14,761	3,021	846	4,622	9.0%	7.4%	15.6%	3.3%	6.8%
15 Kalimantan Tengah	2,250	13,930	2,000	828	2,660	9.0%	6.9%	10.3%	3.3%	3.9%
16 Kalimantan Selatan	1,723	11,360	279	773	2,041	6.9%	5.7%	1.4%	3.0%	3.0%
17 Kalimantan Timur	1,577	13,508	2,243	2,598	4,146	6.3%	6.7%	11.6%	10.2%	6.1%
18 Sulawesi Utara		2,517	75	75	495	0.0%	1.3%	0.4%	0.3%	0.7%
19 Sulawesi Tengah	1,152	9,095	250	274	2,112	4.6%	4.5%	1.3%	1.1%	3.1%
20 Sulawesi Selatan	1,187	3,721	950	1,138	1,855	4.7%	1.9%	4.9%	4.5%	2.7%
21 Sulawesi Tenggara	865	6,813	103	390	762	3.5%	3.4%	0.5%	1.5%	1.1%
25 Maluku	350	2,821	352		490	1.4%	1.4%	1.8%	0.0%	0.7%
26 Irian Jaya	1,676	11,202	1,520	200	3,913	6.7%	5.6%	7.8%	0.8%	5.8%
23 Nusa Tenggara Barat		759	200	150	585	0.0%	0.4%	1.0%	0.6%	0.9%
27 Timor-timur	5	759	100		100	0.0%	0.4%	0.5%	0.0%	0.1%
24 Nusa Tenggara Timur					100	0.0%	0.0%	0.0%	0.0%	0.1%
Total	25,072	200,829	19,397	25,452	67,683	100.0%	100.0%	100.0%	100.0%	100.0%

Remarks : 1)Including Local Transmigration
2)Budget Year
3)Up to June 1988

Source : Department of Transmigration

Table 1.4 Gross Regional Domestic Products at current price by Provinces

Province	GRDP (X Rp. 1,000,000,000)						Growth
	1984	1985	1986	1987	1988	1989	Rate
1 DI Aceh	4,224	4,251	5,208	5,201	6,067	7,232	11.3%
2 Sumatera Uatara	4,362	4,702	5,182	6,440	7,907	9,476	17.5%
3 Sumatera Barat	1,442	1,616	1,847	2,205	2,556	2,899	15.5%
4 Riau	7,616	7,433	7,539	9,393	9,225	11,635	8.9%
5 Jambi	624	704	771	944	1,140	1,352	17.1%
6 Sumatera Selatan	4,112	4,557	4,614	5,531	6,175	7,180	11.7%
7 Bengkulu	301	360	448	535	623	682	18.4%
8 Lampung	1,236	1,354	1,805	2,177	2,566	2,839	19.6%
9 DKI Jakarta	9,611	10,519	11,745	13,730	16,001	18,771	14.6%
10 Jawa Barat	13,144	14,635	15,716	18,618	22,357	26,032	14.9%
11 Jawa Tengah	8,829	10,124	11,492	13,594	16,423	18,782	16.7%
12 DI Yogyakarta	894	994	1,162	1,300	1,487	1,651	13.4%
13 Jawa Timur	12,695	14,017	15,842	18,086	20,921	24,661	14.2%
14 Kalimantan Barat	982	1,091	1,302	1,575	2,032	2,287	19.7%
15 Kalimantan Tengah	552	636	742	880	1,057	1,272	18.3%
16 Kalimantan Selatan	1,048	1,143	1,238	1,475	1,732	1,975	14.0%
17 Kalimantan Timur	5,575	5,962	5,502	7,218	7,927	8,884	10.4%
18 Sulawesi Utara	745	811	875	1,018	1,141	1,287	11.8%
19 Sulawesi Tengah	426	480	535	617	718	863	15.0%
20 Sulawesi Selatan	2,012	2,323	2,609	2,871	3,299	3,736	12.9%
21 Sulawesi Tenggara	361	373	419	482	630	723	16.0%
22 Bali	1,092	1,440	1,693	1,954	2,234	2,593	18.0%
23 Nusa Tenggara Barat	635	709	771	853	951	1,098	11.2%
24 Nusa Tenggara Timur	594	659	737	849	938	1,040	12.1%
25 Maluku	581	637	728	940	1,130	1,332	19.1%
26 Irian Jaya	887	933	1,079	1,143	1,300	1,624	12.4%
27 Timor-timur	97	112	133	167	200	231	19.7%
Total of 27 Provinces	84,677	92,575	101,734	119,796	138,737	162,137	14.1%
Indonesia *)	89,885	96,997	102,683	124,817	142,020	166,330	13.4%

*) National Income of Indonesia/1984-1989

Note : The difference between the total and National Income of Indonesia is due to the diference in coverage and statistical discrepancies.

Source : Central Bureau of Statistics.

Table 1.5 Gross Regional Domestic Products without oil, gas and their Products at current prices by Province

Province	GRDP (X Rp. 1,000,000,000)						Growth
	1984	1985	1986	1987	1988	1989	Rate
1 DI Aceh	1,334	1,541	1,713	1,967	2,293	2,555	14.0%
2 Sumatera Uatara	4,071	4,443	4,979	6,210	7,671	9,191	18.5%
3 Sumatera Barat	1,442	1,616	1,847	2,205	2,566	2,898	15.5%
4 Riau	1,167	1,315	1,476	1,744	2,028	2,381	15.5%
5 Jambi	562	636	701	825	966	1,117	14.9%
6 Sumatera Selatan	2,801	3,105	3,469	4,167	4,859	5,575	15.3%
7 Bengkulu	301	360	448	535	623	682	18.4%
8 Lampung	1,236	1,354	1,805	2,177	2,566	2,839	19.6%
9 DKI Jakarta	9,611	10,519	11,745	13,730	16,001	18,771	14.6%
10 Jawa Barat	10,707	12,427	14,264	16,854	20,474	23,862	17.6%
11 Jawa Tengah	8,190	9,285	10,578	12,164	14,800	16,947	15.9%
12 DI Yogyakarta	894	994	1,162	1,300	1,487	1,651	13.4%
13 Jawa Timur	12,685	14,006	15,834	18,077	20,908	24,645	14.2%
14 Kalimantan Barat	982	1,091	1,302	1,575	2,032	2,287	19.7%
15 Kalimantan Tengah	552	636	742	880	1,057	1,272	18.3%
16 Kalimantan Selatan	984	1,081	1,204	1,426	1,704	1,944	15.2%
17 Kalimantan Timur	1,418	1,584	1,874	2,467	3,058	3,787	22.7%
18 Sulawesi Utara	745	811	875	1,018	1,141	1,287	11.8%
19 Sulawesi Tengah	426	480	535	617	718	863	15.0%
20 Sulawesi Selatan	2,012	2,323	2,609	2,871	3,299	3,736	12.9%
21 Sulawesi Tenggara	361	373	419	482	630	723	16.0%
22 Bali	1,092	1,440	1,693	1,954	2,234	2,593	18.0%
23 Nusa Tenggara Barat	635	709	771	853	951	1,098	11.2%
24 Nusa Tenggara Timur	594	659	737	849	938	1,040	12.1%
25 Maluku	574	628	724	932	1,120	1,319	19.2%
26 Irian Jaya	535	603	745	856	984	1,335	19.3%
27 Timor-timur	97	112	133	167	200	231	19.7%
Total of 27 Provinces	66,008	74,132	84,384	98,902	117,298	136,629	15.9%
Indonesia *)	70,249	80,126	88,297	104,921	121,522	141,447	15.1%

*) National Income of Indonesia/1984-1989

Remarks: 1) Oil, gas, and their products consist of crude petroleum, natural gas, LNG, and refined petroleum.

2) The difference between the total and National Income of Indonesia is due to the diference in coverage and statistical discrepancies.

Sources : Central Bureau of Statistics.

Table 1.6 Per Capita Gross Regional Domestic Products by Province at current price

Province	Per Capita GRDP (x Rp. 1,000)						Growth
	1984	1985	1986	1987	1988	1989	Rate
1 DI Aceh	1,472	1,444	1,724	1,679	1,910	2,221	8.5%
2 Sumatera Uatara	478	503	542	658	790	927	14.9%
3 Sumatera Barat	398	439	494	580	662	740	13.7%
4 Riau	3,124	2,953	2,902	3,503	3,342	4,076	5.5%
5 Jambi	377	409	433	510	594	679	12.8%
6 Sumatera Selatan	799	859	843	980	1,062	1,194	8.3%
7 Bengkulu	339	388	464	532	596	626	13.7%
8 Lampung	224	234	297	340	382	402	13.8%
9 DKI Jakarta	1,286	1,355	1,456	1,639	1,840	2,098	10.5%
10 Jawa Barat	439	478	502	582	683	713	11.0%
11 Jawa Tengah	332	377	423	494	591	668	15.4%
12 DI Yogyakarta	310	340	393	434	491	539	12.0%
13 Jawa Timur	413	450	502	566	646	751	12.7%
14 Kalimantan Barat	362	392	456	538	673	736	16.5%
15 Kalimantan Tengah	516	576	651	749	872	1,018	14.6%
16 Kalimantan Selatan	473	506	538	629	725	812	11.9%
17 Kalimantan Timur	3,827	3,930	3,472	4,375	4,605	4,959	5.9%
18 Sulawesi Utara	326	347	369	422	464	515	9.9%
19 Sulawesi Tengah	295	321	348	389	438	511	11.4%
20 Sulawesi Selatan	298	342	382	418	478	538	12.3%
21 Sulawesi Tenggara	338	337	366	408	515	572	12.1%
22 Bali	419	546	633	721	813	932	16.4%
23 Nusa Tenggara Barat	214	233	248	269	294	332	8.9%
24 Nusa Tenggara Timur	200	217	237	268	289	314	9.7%
25 Maluku	374	399	445	561	657	755	16.2%
26 Irian Jaya	675	689	772	794	834	1,054	8.4%
27 Timor-timur	159	180	207	255	297	335	16.8%
Indonesia *)	564	595	617	734	817	939	11.1%

*) National Income of Indonesia/1984-1989

Source : Central Bureau of Statistics.

Table 1.7 Per Capita Gross Regional Domestic Products without oil, gas and their Products at current prices by Province

Province	Per Capita GRDP (x Rp. 1,000)						Growth
	1984	1985	1986	1987	1988	1989	Rate
1 DI Aceh	465	523	567	635	722	785	11.1%
2 Sumatera Uatara	446	475	520	634	766	899	15.8%
3 Sumatera Barat	398	439	494	580	662	740	13.7%
4 Riau	479	523	568	650	735	834	11.9%
5 Jambi	339	370	394	446	503	561	10.7%
6 Sumatera Selatan	544	585	634	738	836	927	11.7%
7 Bengkulu	338	388	464	532	596	626	13.7%
8 Lampung	224	234	297	340	382	402	13.8%
9 DKI Jakarta	1,286	1,355	1,456	1,639	1,840	2,098	10.5%
10 Jawa Barat	358	406	456	527	626	654	13.6%
11 Jawa Tengah	308	345	387	442	532	603	14.7%
12 DI Yogyakarta	310	340	393	434	491	539	12.0%
13 Jawa Timur	413	449	501	565	645	751	12.7%
14 Kalimantan Barat	362	392	456	538	673	736	16.5%
15 Kalimantan Tengah	516	576	651	749	872	1,018	14.6%
16 Kalimantan Selatan	444	478	523	608	714	799	13.0%
17 Kalimantan Timur	973	1,044	1,183	1,495	1,776	2,114	17.7%
18 Sulawesi Utara	326	347	369	422	464	515	9.9%
19 Sulawesi Tengah	295	321	348	389	438	511	11.4%
20 Sulawesi Selatan	298	342	382	418	478	538	12.3%
21 Sulawesi Tenggara	338	337	366	408	515	572	12.1%
22 Bali	419	546	633	721	813	932	16.4%
23 Nusa Tenggara Barat	214	233	248	269	294	332	8.9%
24 Nusa Tenggara Timur	200	217	237	268	289	314	9.7%
25 Maluku	370	394	443	556	691	748	16.8%
26 Irian Jaya	407	445	533	594	632	866	15.1%
27 Timor-timur	159	180	207	255	297	335	16.8%
Indonesia *)	441	492	531	618	701	799	12.7%

*) National Income of Indonesia/1984-1989

Remark: Oil, gas, and their products consist of crude petroleum, natural gas, LNG, and refined petroleum.

Source: Central Bureau of Statistics

Table 1.8 Gross Regional Domestic Products in Riau by industrial origin including oil at current market prices

Industrial Origin	GRDP (x Rp. 1,000,000,000)					Growth	Share				
	1985	1986	1987	1988	1989	Rate	1985	1986	1987	1988	1989
1 Agriculture	350	375	439	504	595	14.5%	4.7%	5.0%	4.7%	5.5%	5.1%
2 Mining and quarrying	5,877	5,676	7,243	6,756	8,524	9.6%	79.1%	75.3%	77.1%	73.2%	73.3%
3 Manufacture	347	501	549	617	962	25.2%	4.7%	6.6%	5.8%	6.7%	8.3%
4 Electricity and water	10	12	17	25	33	37.0%	0.1%	0.2%	0.2%	0.3%	0.3%
5 Construction	26	29	33	37	45	14.2%	0.3%	0.4%	0.3%	0.4%	0.4%
6 Trade, hotel and restaurants	454	524	618	687	766	14.1%	6.1%	6.9%	6.6%	7.4%	6.6%
7 Transportation and communications	148	163	193	224	260	15.6%	2.0%	2.2%	2.0%	2.4%	2.2%
8 Bangking & Other financial intermediaries	25	35	47	60	75	31.3%	0.3%	0.5%	0.5%	0.6%	0.6%
9 Ownership of dwellings	87	100	108	117	126	9.4%	1.2%	1.3%	1.1%	1.3%	1.1%
10 Government and Defence	89	102	120	166	212	25.0%	1.2%	1.3%	1.3%	1.8%	1.8%
11 Services	20	23	27	32	37	16.6%	0.3%	0.3%	0.3%	0.3%	0.3%
Gross Regional Domestic Products	7,433	7,539	9,393	9,225	11,635	11.6%	100.0%	100.0%	100.0%	100.0%	100.0%

Remarks : Preliminary figures

Sources : Statistical Office, Riau Province

Table 1.9 Gross Regional Domestic Products in Riau by Industrial Origin Excluding Oil at Current Market Prices

Industrial Origin	GRDP (x Rp. 1,000,000,000)					Growth	Share (%)				
	1985	1986	1987	1988	1989	Rate	1985	1986	1987	1988	1989
1 Agriculture	350	375	439	504	595	14.5%	27.7	26.8	26.9	26.2	26.2
2 Mining and quarrying	78	84	102	117	137	15.7%	6.2	6.0	6.3	6.1	6.0
3 Manufacture	97	107	134	164	215	22.3%	7.7	7.7	8.2	8.5	9.5
4 Electricity and water	10	12	17	25	33	36.8%	0.8	0.8	1.0	1.3	1.4
5 Construction	26	29	33	37	45	14.2%	2.1	2.1	2.0	1.9	2.0
6 Trade, hotel and restaurants	336	369	409	478	537	12.7%	26.6	26.4	25.1	24.9	23.6
7 Transportation and communications	148	163	193	224	260	15.5%	11.7	11.7	11.8	11.7	11.4
8 Bangking & Other financial intermediar	25	35	47	60	75	31.4%	2.0	2.5	2.9	3.1	3.3
9 Ownership of dwellings	87	100	108	117	126	9.4%	6.9	7.1	6.6	6.1	5.6
10 Government and Defence	89	102	120	166	212	25.0%	7.0	7.3	7.4	8.6	9.3
11 Services	20	23	27	32	37	16.6%	1.6	1.7	1.7	1.7	1.6
Gross Regional Domestic Products	1,266	1,399	1,628	1,924	2,272	16.0%	100.0	100.0	100.0	100.0	100.0

Remarks : Preliminary figures

Sources : Statistical Office, Riau Province

Table 1.10 Monthly average minimum amount of requirement for employees by province

UNIT : Rp. 1,000

Province	1988			1989			1990		
	PL	K2	K3	PL	K2	K3	PL	K2	K3
1 DI Aceh	65	152	177	67	156	187	69	160	195
2 Sumatera Uatara	65	134	160	70	147	176	75	156	187
3 Sumatera Barat	56	129	163	58	135	171	63	142	179
4 Riau	86	176	225	93	190	243	97	200	253
5 Jambi	56	127	157	61	135	167	63	140	172
6 Sumatera Selatan	69	164	175	73	173	188	77	179	199
7 Bengkulu	61	126	156	67	136	167	72	148	181
8 Lampung	70	133	176	72	141	184	75	149	194
9 DKI Jakarta	63	137	166	69	148	175	76	161	193
10 Jawa Barat	61	135	166	65	144	175	69	154	188
11 Jawa Tengah	57	131	168	61	141	176	71	154	188
12 DI Yogyakarta	49	125	154	52	131	162	61	141	173
13 Jawa Timur	51	121	161	54	128	169	58	141	182
14 Kalimantan Barat	67	151	180	73	162	191	85	190	223
15 Kalimantan Tengah	73	154	174	84	176	188	87	194	217
16 Kalimantan Selatan	68	158	174	71	169	188	77	173	197
17 Kalimantan Timur	90	179	211	107	200	238	111	207	246
18 Sulawesi Utara	63	137	164	63	137	165	66	140	169
19 Sulawesi Tengah	63	136	168	69	144	178	72	148	184
20 Sulawesi Selatan	70	149	173	75	156	184	78	163	194
21 Sulawesi Tenggara	63	130	155	66	137	163	71	149	179
22 Bali	65	142	169	74	160	186	79	173	204
23 Nusa Tenggara Barat	58	127	147	60	135	156	64	144	174
24 Nusa Tenggara Timur	74	139	173	80	147	182	85	166	202
25 Maluku	81	174	197	83	181	205	97	205	226
26 Irian Jaya	103	197	258	106	205	265	109	211	270
27 Timor-timur	98	212	245	104	218	266	107	224	273

Remarks : PL ; unmarried worker

K2 ; married worker with wife and two children

K3 ; married worker with wife and three children

Source : Department of Manpower, Central Bureau of Statistic

Table 1.11 Retail Prices of Rice in Free Market in Some Cities

Unit : Rupia/liter

	City	1987	1988	1989	1990	1991
1	Banda Aceh	285	334	339	374	-
2	Medan	351	408	437	476	548
3	Padang	354	416	447	441	447
4	Pekanbaru	413	516	504	523	571
5	Jambi	328	396	384	438	467
6	Palembang	298	405	435	454	507
7	Tanjung Karang	366	464	423	483	529
8	Bengkulu	350	429	427	483	571
9	Jakarta	288	387	404	430	452
10	Bandung	333	410	418	476	495
11	Semarang	276	336	349	372	427
12	Yogyakarta	277	357	379	418	475
13	Surabaya	269	332	333	360	438
14	Denpasar	331	396	400	415	428
15	Mataram	366	428	463	486	527
16	Kupang	417	452	480	478	520
17	Dilli	343	395	410	480	511
18	Pontianak	313	373	413	423	481
19	Palangkaraya	338	409	404	482	505
20	Banjarmasin	319	469	417	449	495
21	Samarinda	299	373	369	400	505
22	Manado	318	394	400	434	457
23	Palu	313	378	336	400	420
24	Ujung Pandang	290	347	353	370	414
25	Kendari	313	376	362	400	469
26	Ambon	300	368	408	468	480
27	Jaya Pura	360	385	445	468	504
28	Malang	313	393	371	431	-
29	Balikpapan	326	400	375	400	-

Note : Annual Prices were derived from weekly reports.
- ; Data were not available.
Source : Central Bureau of Statistic

Table 1.12 Amount of Export and Import including oil

Unit : million US$

	1984	1985	1986	1987	1988	1989	1990
Export	7,089	4,817	3,333	3,961	3,577	4,073	5,186
Import	574	329	486	442	498	1,011	762
Residuel	6,514	4,487	2,847	3,519	3,080	3,062	4,424

Source : Statistical Office, Riau Province

Table 1.13 Export by Country of Destination, 1990

Country of Destination	Weight (1000ton)	Value F.O.B (million US$)
Singapore	10,690	366
Taiwan	1,086	133
China	982	211
South Korea	863	158
Japan	21,513	3,352
USA	4,075	569
Australia	650	129
Others	772	266
Total	40,631	5,186

Source : Statistical Office, Riau Province

Table 1.14 Population by Kabupaten in Riau Province

Kabpaten	Population(X 1000)			Growth Rate		Density (person/km2)		
	1971	1980	1990	1971-80	1980-90	1971	1980	1990
1 Pekanbaru	145	186	399	2.8%	7.9%	2,314	2,958	893
2 Kampar	259	363	570	3.8%	4.6%	9	11	20
3 Induragiri Hulu	197	229	368	1.7%	4.9%	12	14	23
4 Induragiri Hilir	286	398	478	3.7%	1.8%	25	34	41
5 Bengkalis	424	567	904	3.3%	4.8%	14	18	30
6 Kep. Riau	331	386	479	1.7%	2.2%	44	52	64
7 Batam	-	39	108	-	10.7%	-	64	176
Total	1,642	2,169	3,306	3.1%	4.3%	17	23	35

Source : Statistical Office,Pekanbaru

Table 1.15 Population by Kec./Kota. in Kabupaten Bengkalis

Kec./Kota.	Population (x 1000)		Growth Rate	Household	
	1980	1990		1980	1990
1 Mandau	65.0	128.1	7.0%	12,345	26,021
2 Siak	18.7	72.2	14.4%	3,828	15,705
3 Sungai Apit	25.4	35.8	3.5%	5,006	7,355
4 Tebing Tinggi	100.2	120.0	1.8%	16,618	22,605
5 Merbau	29.4	37.0	2.3%	5,361	6,721
6 Bengkalis	69.7	80.2	1.4%	11,966	15,035
7 Bukit Batu	28.7	35.4	2.1%	5,459	6,995
8 Tanah Putih	24.1	43.3	6.1%	5,016	9,144
9 Kubu	36.4	97.1	10.3%	5,790	18,228
10 Bangko	70.6	97.5	3.3%	12,697	18,620
11 Bukit Kapur	10.0	22.0	8.1%	1,916	4,296
12 Rupat	23.7	30.5	2.5%	4,057	5,176
13 Dumai Barat	22.9	50.8	8.3%	4,150	9,992
14 Dumai Timur	41.6	54.1	2.7%	7,801	10,704
Total	566.7	903.9	4.8%	102,010	176,597

Source : Statistical Office,Pekanbaru

Table 1.16 Religion of Inhabitants by Kec./Kota. in Benkalis

Kec./Kota.	Number of persons							Ratio	
	Islam	Protestant	Catholic	Hindu	Buddhist	Others	Total	Islam	Others
1 Mandau	104,251	21,370	1,051	192	666	576	128,106	81.4%	18.6%
2 Siak	67,845	707	22	-	123	3,479	72,176	94.0%	6.0%
3 Sungai Apit	33,533	225	14	-	39	1,954	35,765	93.8%	6.2%
4 Tebing Tinggi	88,462	588	96	-	3,385	27,499	120,030	73.7%	26.3%
5 Merbau	30,058	33	30	85	63	6,694	36,963	81.3%	18.7%
6 Bengkalis	64,178	497	209	8	1,813	13,518	80,223	80.0%	20.0%
7 Bukit Batu	29,992	810	46	4	3,745	762	35,359	84.8%	15.2%
8 Tanah Putih	43,161	95	43	9	13	5	43,326	99.6%	0.4%
9 Kubu	64,109	1,097	39	-	20,389	11,456	97,090	66.0%	34.0%
10 Bangko	60,917	965	263	10	33,556	1,785	97,496	62.5%	37.5%
11 Bukit Kapur	21,231	169	64	101	404	-	21,969	96.6%	3.4%
12 Rupat	21,155	771	226	34	6,384	1,917	30,487	69.4%	30.6%
13 Dumai Barat	36,024	3,971	519	137	1,098	9,096	50,845	70.9%	29.1%
14 Dumai Timur	45,399	5,484	422	32	2,699	43	54,079	83.9%	16.1%
Total	710,315	36,782	3,044	612	74,377	78,784	903,914	78.6%	21.4%

Source : Monograph of Bengkalis 1990, Statistic Ofice, Bengkalis

Table 1.17 Per Capita GRDP by Kabupaten in Riau at 1983 constant price

Kabupaten	Per Capita GRDP (x 1000)			Growth Rate	
	1983	1986	1989	1983-86	1986-89
1 Pekanbaru	483	701	775	13.2%	3.4%
2 Kampar	358	374	422	1.5%	4.1%
3 Indragiri Hulu	262	277	331	1.8%	6.1%
4 Indragiri Hilir	292	326	378	3.7%	5.1%
5 Bengkalis	485	493	565	0.5%	4.7%
6 Kep. Riau	439	493	570	4.0%	4.9%
7 Batam	602	649	647	2.5%	-0.1%

Sources : Satistical Office, Province Riau, 1989

Table 1.18 Share of Industry in GRDP by Kabupaten in Riau at 1983 constant price

Industry	PBR	KMR	INHU	INHIL	BKLS	KEPRI	BTM
1 Agriculture	0.97	53.73	42.49	39.31	25.88	18.74	0.81
2 Mining and quarrying	0.01	0.93	5.27	0.07	10.89	14.31	7.86
3 Manufacture	9.79	7.68	4.92	4.60	13.32	8.57	34.41
4 Electricity, gas and water	6.07	0.12	0.70	0.32	0.56	1.75	0.78
5 Construction	1.67	2.54	2.51	2.21	1.32	1.97	1.87
6 Trade, hotel and restaurant	36.68	13.38	14.57	25.41	28.10	27.36	19.05
7 Transportation and comminucation	20.20	6.95	7.51	11.15	8.83	11.84	16.33
8 Banking & other financial intermediaries	11.29	0.37	3.89	2.10	1.42	1.50	7.27
9 Ownership of dwellings	6.38	5.28	6.17	6.78	4.55	6.30	4.88
10 Government and defence	4.29	7.13	9.60	6.28	4.55	5.84	5.61
11 Services	2.66	1.88	2.38	1.77	1.18	1.82	1.14
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Sources : Satistic Office, Province Riau, 1989

Table 1.19 Socio-Economic Index of Villages in Kab. Bengkalis (1991) (1/6)

Kecamatan/Desa	Population	Number of households	Inhbt. Density (p/km2)	Ratio of age 10 - 55	Work Force by Industry: Total	Paddy	Farming	Estate	Livestock	Fishery	Small Indus.	Large Indus.	Trade	Desa Type	Net Production: Total amou (x Rp. 100	Per capita (Rp.)	
1 Bengkalis																	
1 Bengkalis Kota	6,569	1,196	3,285	76.9%	1,237	-	-	-	10	-	6	-	1,221	Trade	3,429,320	522,046	
2 Demon	5,193	969	2,597	68.1%	1,482	-	-	-	-	12	5	-	1,465	Trade	2,829,480	544,864	
3 Rimba Sekampung	3,918	729	1,567	73.5%	884	-	-	-	-	20	-	-	864	Trade	1,995,638	509,351	
4 Senggoro	2,398	448	218	68.9%	632	-	-	30	-	-	-	-	602	Trade	1,226,400	511,426	
5 Kelapa pati	4,114	765	411	76.0%	916	-	55	75	5	15	9	-	757	Trade	2,094,188	509,039	
6 Pedekik	1,642	314	82	71.1%	718	-	258	322	18	4	3	-	113	Estate	830,923	506,043	
7 Pangkalan Batang	2,412	409	73	64.2%	518	-	170	225	-	11	2	-	110	Estate	1,007,674	417,775	
8 Wonosari	3,129	605	156	77.1%	1,391	-	450	525	-	-	-	-	416	Estate	1,435,363	458,729	
9 Penebal	1,187	211	54	72.2%	427	-	115	220	21	27	7	-	37	Estate	365,821	308,190	(#)
10 Air Putih	1,284	240	86	65.9%	447	-	-	300	-	-	-	-	147	Estate	481,800	375,234	
11 Ketam Putih	1,931	340	84	68.0%	711	-	-	600	15	50	-	-	46	Estate	682,550	353,470	(*)
12 Sebauk	1,544	254	62	76.3%	416	-	-	280	-	30	30	-	76	Estate	472,821	306,231	(*) (#)
13 Teluk Latak	2,070	378	129	66.4%	661	-	74	349	49	71	11	-	107	Estate	758,835	366,587	(*)
14 Penampi	1,486	291	106	65.8%	424	-	-	240	-	86	-	-	98	Estate	531,075	357,386	(*)
15 Pematang Duku	2,433	471	61	66.3%	861	283	-	458	7	-	3	-	110	Estate	1,031,490	423,958	
16 Bentan Air	4,689	890	120	71.2%	1,358	321	-	556	-	150	47	-	284	Estate	1,949,100	415,675	(*)
17 Tameran	2,076	362	173	70.7%	450	-	75	222	29	26	5	-	93	Estate	528,520	254,586	(#)
18 Jangkang	2,151	391	80	72.4%	731	-	100	300	67	160	30	-	74	Estate	570,860	265,393	(*) (#)
19 Teluk Pambang	4,548	958	49	72.4%	2,059	-	-	1,834	-	100	2	-	123	Estate	2,098,020	461,306	(*)
20 Muntai	1,686	305	80	65.0%	311	-	-	218	-	57	-	-	36	Estate	500,962	297,130	(*) (#)
21 Meskom	2,871	514	106	73.2%	683	-	-	150	-	460	13	-	60	Fishery	844,245	294,060	(*) (#)
22 Bantan Tua	2,105	355	105	77.2%	583	-	75	349	22	20	10	-	107	Estate	647,875	307,779	(#)
23 Sungari Alam	2,791	483	164	69.7%	522	-	30	330	-	40	12	-	110	Estate	969,622	347,410	(*)
24 Kelemantan	1,384	267	58	69.9%	433	-	140	250	20	7	-	-	16	Estate	389,820	281,662	(#)
25 Sekodi	1,856	335	93	68.1%	365	-	20	298	-	-	30	-	17	Estate	550,238	296,464	(#)
26 Selat Baru	5,314	1,080	133	73.3%	1,698	-	200	961	-	98	65	-	374	Estate	2,759,400	519,270	(*)
27 Kembung Luar	2,908	521	145	69.9%	824	-	-	685	45	-	30	-	64	Estate	760,660	261,575	(#)
28 Teluk Lancar	1,382	242	69	64.4%	614	-	43	479	-	45	-	-	47	Estate	353,320	255,658	(*) (#)
29 Bantan Tengah	4,249	867	104	74.2%	1,010	-	125	723	42	15	19	-	86	Estate	1,898,730	446,865	

Remarks : (*) Fishermen in the Desa were 30 and over. (#) Per Capita Net Production of desa was lower than the poverty line (US$ 160).

Sources : Desa Reconstruction Office of Kabupaten Bengkalis

Table 1.19 Socio-Economic Index of Villages in Kab. Bengkalis (1991) (2/6)

Kecamatan/Desa	Population	Number of households	Inhbt. Density (p/km2)	Ratio of age 10 - 55	Work Force by Industry: Total	Paddy	Farming	Estate	Livestock	Fishery	Small Indus.	Large Indus.	Trade	Desa Type	Net Production: Total amo (x Rp. 100	Per capita (Rp.)	
2 Tebing Tinggi																	
1 Slt.Panjang Kota	11,490	2,203	2,873	74.5%	2,674	-	-	-	1	-	10	-	2,663	Trade	7,236,855	629,839	
2 Slt.Panjang Barat	8,992	1,591	8,992	71.5%	2,495	-	-	-	61	87	33	3	2,311	Trade	5,226,435	581,232	(*)
3 Slt.Panjang Timur	11,683	2,214	2,124	80.8%	2,316	-	120	1	23	5	219	6	1,942	Trade	7,272,990	622,528	
4 Slt.Panjang Sltn	7,370	1,427	4,913	75.5%	2,713	-	-	-	-	-	-	-	2,713	Trade	4,687,695	636,051	
5 Sokop	841	180	42	67.7%	238	-	-	168	-	-	-	-	70	Estate	262,800	312,485	(#)
6 Kedabu Rapat	3,979	743	111	69.7%	538	80	54	358	-	-	-	-	46	Estate	1,423,774	357,822	
7 Tanjung	2,031	370	23	71.0%	831	-	331	361	46	19	16	-	58	Estate	709,013	349,096	
8 Insit	3,080	596	308	71.4%	875	-	85	636	52	8	18	-	76	Estate	1,142,085	370,807	
9 Bungur	3,302	654	94	64.9%	1,920	-	-	1,220	30	400	93	-	177	Estate	1,253,228	379,536	(*)
10 Tlk.Buntal	1,652	300	75	65.7%	562	-	225	235	-	27	-	-	75	Estate	574,875	347,987	
11 Lemang	3,936	759	123	74.3%	675	-	-	506	-	-	-	-	169	Estate	1,454,434	369,521	
12 Repan	1,906	371	159	66.5%	470	-	-	378	-	25	-	-	67	Estate	541,660	284,187	(#)
13 Sungai Cina	2,603	494	186	70.6%	1,125	583	-	415	40	-	-	-	87	Paddy	946,628	363,668	
14 Tenan	682	136	85	62.2%	283	-	-	180	25	15	-	-	63	Estate	198,560	291,144	(#)
15 Tg.Medang	2,308	425	96	66.3%	574	-	-	235	30	180	7	-	122	Estate	814,406	352,862	(*)
16 Melai	3,204	625	169	71.0%	1,470	747	-	604	-	26	5	-	88	Paddy	1,197,656	373,800	
17 Tg.Gadai	1,285	246	214	68.1%	255	-	-	224	-	12	-	-	19	Estate	471,398	366,847	
18 Sonde	1,712	321	90	63.7%	504	-	-	315	-	115	-	-	74	Estate	468,660	273,750	(*) (#)
19 Lukun	1,944	391	108	73.2%	490	-	-	450	-	25	-	-	15	Estate	606,539	312,006	(#)
20 Sungai Tohor	2,916	559	81	68.5%	1,106	-	275	650	25	20	50	-	86	Estate	1,081,386	370,846	
21 Anak Setatah	1,070	220	129	65.0%	559	245	45	106	25	60	15	-	63	Paddy	321,200	300,187	(*) (#)
22 Alai	4,480	881	118	75.6%	1,554	-	250	1,085	-	20	-	-	199	Estate	1,768,608	394,779	
23 Penyagun	1,465	301	133	66.4%	325	-	-	298	-	-	-	-	27	Estate	494,393	337,470	
24 Kayu Ara	864	188	51	69.8%	297	-	68	120	-	64	30	-	15	Estate	274,480	317,685	(*) (#)
25 Tg.Sari	762	139	191	70.7%	306	-	92	201	-	-	3	-	10	Estate	202,940	266,325	(#)
26 Banglas	6,067	1,136	202	75.4%	2,782	-	-	1,625	80	262	12	-	803	Estate	2,487,840	410,061	(*)
27 Bokor	2,629	558	263	72.3%	1,220	-	48	648	-	6	78	-	440	Estate	1,120,185	426,088	
28 Sesap	350	66	88	63.7%	107	-	-	95	-	-	-	-	12	Estate	84,315	240,900	(#)
29 Segomeng	1,037	213	130	72.3%	369	75	-	219	-	-	-	-	75	Estate	330,416	318,627	(#)
30 Topang	2,486	455	166	65.3%	508	-	-	422	-	-	-	-	86	Estate	871,894	350,722	
31 Alah Air	5,520	998	690	72.2%	999	-	69	220	30	60	-	-	620	Trade	2,003,485	362,950	(*)
32 Bantar	2,569	479	257	67.5%	563	-	30	360	-	78	-	-	95	Estate	961,593	374,306	(*)
33 Tg.Peranap	1,408	277	64	66.5%	356	25	-	250	-	28	-	-	53	Estate	556,078	394,942	
34 Tg.Samak	6,405	1,181	97	64.9%	1,380	-	-	975	-	50	30	-	325	Estate	2,694,156	420,633	(*)
35 Beting	990	202	124	75.4%	514	-	161	227	27	40	2	-	57	Estate	221,190	223,424	(*) (#)
36 Tg.Kedabu	3,402	538	43	67.8%	717	-	60	355	50	70	115	-	67	Estate	1,030,943	303,040	(*) (#)

Remarks : (*) Fishermen in the Desa were 30 and over. (#) Per Capita Net Production of desa was lower than the poverty line (US$ 160).

Sources : Desa Reconstruction Office of Kabupaten Bengkalis

Table 1.19 Socio-Economic Index of Villages in Kab. Bengkalis (1991) (3/6)

Kecamatan/Desa	Population	Number of households	Inhbt. Density (p/km2)	Ratio of age 10 - 55	Work Force by Industry: Total	Paddy	Farming	Estate	Livestock	Fishery	Small Indus.	Large Indus.	Trade	Desa Type	Net Production: Total amou (x Rp. 100	Per capita (Rp.)	
3 Merbau																	
1 Teluk Belitung	3,808	784	190	69.0%	822	-	-	281	15	51	37	-	438	Trade	1,638,120	430,179	(*)
2 Mengkirau	1,624	298	62	72.7%	536	-	-	334	23	43	23	1	112	Estate	598,235	368,371	(*)
3 Mengkopot	1,589	336	41	65.9%	440	-	185	215	-	13	-	-	27	Estate	521,220	328,018	
4 Bandul	2,795	526	233	67.5%	759	-	125	455	43	28	30	1	77	Estate	1,439,925	515,179	
5 Kudap	2,380	398	190	78.6%	707	-	-	416	84	92	15	4	96	Estate	871,620	366,227	(*)
6 Dedap	2,011	442	201	73.7%	645	-	-	613	-	15	-	-	17	Estate	806,650	401,119	
7 Tanjung Padang	1,829	259	61	83.5%	578	-	150	398	-	6	-	-	24	Estate	458,623	250,751	(#)
8 Baran Melintang	1,881	341	188	65.7%	445	-	112	272	34	14	-	-	13	Estate	622,325	330,848	
9 Semukut	2,255	409	282	71.6%	655	-	65	527	-	25	5	-	33	Estate	746,425	331,009	
10 Centai	2,342	437	260	73.3%	1,076	45	66	783	98	36	-	-	48	Estate	638,020	272,425	(*) (#)
11 Lukit	1,341	249	42	64.4%	333	47	-	191	15	10	11	-	59	Estate	363,540	271,096	(#)
12 Pelantai	2,540	438	254	79.3%	555	-	-	378	26	50	-	-	101	Estate	719,415	283,234	(*) (#)
13 Bagan Melibur	1,940	392	41	62.5%	376	-	-	250	-	101	-	-	25	Estate	500,780	258,134	(*) (#)
14 Renak Dungun	1,341	253	84	79.0%	393	-	125	160	55	-	-	-	53	Estate	332,442	247,906	(#)
15 Kuala Merbau	2,520	438	140	73.4%	525	-	-	376	-	118	-	-	31	Estate	959,220	380,643	(*)
16 Meranti Bunting	1,512	303	126	61.6%	566	-	-	510	-	33	-	-	23	Estate	497,678	329,152	(*)
17 Selat Akar	1,965	319	58	67.4%	694	-	-	381	63	187	37	11	15	Estate	465,740	237,018	(*) (#)
18 Teluk Ketapang	1,443	295	80	66.9%	819	-	358	243	79	40	22	-	77	Farmir	430,700	298,475	(*) (#)

Remarks : (*) Fishermen in the Desa were 30 and over. (#) Per Capita Net Production of desa was lower than the poverty line (US$ 160).

Sources : Desa Reconstruction Office of Kabupaten Bengkalis

Table 1.19 Socio-Economic Index of Villages in Kab. Bengkalis (1991) (4/6)

Kecamatan/Desa	Population	Number of households	Inhbt. Density (p/km2)	Ratio of age 10 - 55	Work Force by Industry: Total	Paddy	Farming	Estate	Livestock	Fishery	Small Indus.	Large Indus.	Trade	Desa Type	Net Production: Total amo (x Rp. 100	Per capita (Rp.)	
4 Bukit Batu																	
1 Sungai Pakning	5,529	1,097	369	70.7%	1,208	-	-	-	-	35	175	-	998	Trade	3,603,385	651,725	(*)
2 Lubuk Muda	3,041	581	127	70.8%	744	-	227	321	-	25	15	-	156	Estate	1,366,358	449,312	
3 Bukit Batu	909	163	45	71.1%	305	-	59	164	-	-	38	-	44	Estate	258,233	284,085	(#)
4 Buruk Bakul	791	135	99	67.3%	207	-	-	140	-	30	8	-	29	Estate	247,100	312,389	(*) (#)
5 Tenggayun	1,525	291	76	69.6%	372	-	19	287	-	12	-	-	54	Estate	477,768	313,290	(#)
6 Dompas	762	148	127	68.1%	188	-	-	148	-	11	-	-	29	Estate	243,090	319,016	(#)
7 Sukajadi	502	107	20	69.1%	188	61	-	96	-	-	-	-	31	Estate	124,693	248,392	(#)
8 Sepahat	874	164	146	67.2%	202	-	-	135	-	27	15	-	25	Estate	188,559	215,743	(#)
9 Langkat	1,645	347	46	69.2%	600	425	67	30	-	-	-	-	78	Paddy	469,948	285,683	(#)
10 Sungai Selari	2,909	498	145	71.3%	621	-	88	295	-	-	18	-	220	Estate	1,508,850	518,683	
11 Tanjung Belit	1,712	311	68	73.4%	437	280	40	75	-	-	-	-	42	Paddy	597,575	349,051	
12 Temiang	922	175	115	69.1%	302	-	56	186	-	-	-	-	60	Estate	223,563	242,476	(#)
13 Sepotong	1,921	388	192	73.5%	608	-	148	365	-	-	20	-	75	Estate	609,241	317,148	(#)
14 Pangkalan Jambi	777	149	97	72.2%	228	-	55	145	-	-	-	-	28	Estate	247,114	318,036	(#)
15 Sungai Siput	546	105	30	66.8%	245	107	81	40	-	-	-	-	17	Paddy	133,719	244,907	(#)
16 Sejangat	3,449	652	172	70.8%	833	85	498	120	-	-	-	-	130	Farmir	1,070,910	310,499	(#)
17 Lubuk Gaung	2,729	620	61	71.6%	929	582	120	145	-	-	-	-	82	Paddy	892,925	327,199	
18 Api-Api	1,049	207	105	72.1%	313	-	72	198	-	15	7	-	21	Estate	283,331	270,096	(#)
19 Parit I Api-Api	260	51	65	68.5%	79	-	50	17	-	-	-	-	12	Farmir	58,637	225,527	(#)

Remarks : (*) Fishermen in the Desa were 30 and over. (#) Per Capita Net Production of desa was lower than the poverty line (US$ 160).

Sources : Desa Reconstruction Office of Kabupaten Bengkalis

Table 1.19 Socio-Economic Index of Villages in Kab. Bengkalis (1991) (5/6)

Kecamatan/Desa	Population	Number of households	Inhbt. Density (p/km2)	Ratio of age 10 - 55	Work Force by Industry: Total	Paddy	Farming	Estate	Livestock	Fishery	Small Indus.	Large Indus.	Trade	Desa Type	Net Production: Total amou (x Rp. 100	Per capita (Rp.)	
5 Sungai Apit																	
1 Sungai Apit	4,475	936	172	76.4%	1,847	61	484	296	10	20	172	-	804	Trade	2,220,660	496,237	
2 Sungai Kayu Ara	2,211	403	221	77.1%	551	-	-	451	-	40	-	-	60	Estate	882,570	399,172	(*)
3 Tanjung Kuras	2,096	426	116	70.8%	433	20	-	225	-	52	-	-	136	Estate	870,744	415,431	(*)
4 Rempak	3,131	622	78	71.5%	1,166	844	-	172	-	13	-	-	137	Paddy	1,396,235	445,939	
5 Parit I/II	1,018	177	170	67.2%	531	-	217	268	-	-	-	-	46	Estate	355,328	349,045	
6 Pebadaran	275	34	46	63.6%	223	75	45	94	-	-	-	-	9	Estate	62,050	225,636	(#)
7 Sungai Berbari	566	90	103	64.5%	245	109	-	120	-	-	-	-	16	Estate	139,613	246,666	(#)
8 Perincit	680	147	57	70.7%	411	75	50	175	-	48	-	-	63	Estate	201,206	295,891	(*) (#)
9 Benayah	982	218	98	72.3%	416	150	-	210	-	30	-	-	26	Estate	278,495	283,600	(*) (#)
10 Teluk Lanus	309	66	39	67.6%	89	-	75	-	-	6	-	-	8	Farmir	72,270	233,883	(#)
11 Bandar Sungai	2,680	532	61	75.1%	1,023	334	-	525	-	-	14	-	150	Estate	1,067,990	398,504	
12 Sungai Limau	479	97	68	67.0%	163	-	70	80	-	-	-	-	13	Estate	123,917	258,699	(#)
13 Sungai Rawa	1,068	214	107	70.0%	260	-	-	157	-	17	-	-	86	Estate	312,440	292,547	(#)
14 Penyengat	689	128	172	73.9%	250	-	-	160	-	-	-	-	90	Estate	140,160	203,425	(#)
15 Mengkapan	894	184	56	67.0%	563	-	73	430	-	-	-	-	60	Estate	302,220	338,054	
16 Teluk Mesjid	3,566	677	137	79.5%	930	465	-	240	-	53	36	-	136	Paddy	1,111,993	311,832	(*) (#)
17 Dosan	450	113	75	66.7%	109	-	-	92	-	-	-	-	17	Estate	113,424	252,053	(#)
18 Lalang	2,211	436	92	77.8%	484	15	-	338	-	-	-	-	131	Estate	755,915	341,888	
19 Dusun Pusaka	304	58	61	69.4%	204	30	10	150	-	7	-	-	7	Estate	68,803	226,326	(#)
20 Bunga Raya	2,900	595	207	64.6%	1,150	665	67	-	18	10	15	-	375	Paddy	1,085,875	374,440	
21 Jaya Pura	2,826	659	202	76.4%	836	685	8	-	-	-	25	-	118	Paddy	1,082,407	383,017	
22 Jati Baru	2,678	551	191	68.5%	810	527	65	-	-	131	-	-	87	Paddy	1,005,575	375,495	(*)

Remarks : (*) Fishermen in the Desa were 30 and over. (#) Per Capita Net Production of desa was lower than the poverty line (US$ 160).

Sources : Desa Reconstruction Office of Kabupaten Bengkalis

Table 1.19 Socio-Economic Index of Villages in Kab. Bengkalis (1991) (6/6)

Kecamatan/Desa	Population	Number of households	Inhbt. Density (p/km2)	Ratio of age 10 - 55	Work Force by Industry: Total	Paddy	Farming	Estate	Livestock	Fishery	Small Indus.	Large Indus.	Trade	Desa Type	Net Production: Total amo (x Rp. 100)	Per capita (Rp.)	
6 Rupat																	
1 Batu Panjang	2,803	540	280	68.7%	678	25	333	50	-	31	4	-	235	Farmir	886,950	316,429	(*) (#)
2 Tanjung Kapal	3,283	570	109	68.1%	505	-	175	256	-	-	15	-	59	Estate	936,225	285,174	(#)
3 Terkul	2,655	483	156	73.1%	585	75	-	389	-	56	-	-	65	Estate	793,328	298,805	(*) (#)
4 Pergam	1,821	305	152	70.7%	846	-	291	373	-	61	15	-	106	Estate	500,963	275,103	(*) (#)
5 Teluk Lecah	2,998	507	73	68.8%	700	32	-	395	40	75	76	-	82	Estate	832,748	277,768	(*) (#)
6 Hutan Panjang	1,790	281	149	65.6%	291	-	240	-	-	25	-	-	26	Farmir	358,978	200,546	(#)
7 Teluk Rhu	1,391	230	139	67.9%	289	-	-	-	18	220	10	-	41	Fishery	335,800	241,409	(*) (#)
8 Tanjung Medang	1,579	237	197	70.0%	332	-	49	-	-	212	9	-	62	Fishery	405,062	256,531	(*) (#)
9 Pkl.Nyirih	3,078	520	154	73.6%	846	-	495	160	-	31	-	-	160	Farmir	949,000	308,317	(*) (#)
10 Sungai Cingam	1,948	355	162	67.0%	675	-	348	-	86	135	32	-	74	Farmir	534,497	274,382	(*) (#)
11 Makeruh	1,453	224	85	67.7%	300	-	88	-	-	186	-	-	26	Fishery	327,040	225,079	(*) (#)
12 Tanjung Punak	491	85	82	67.4%	146	-	-	75	-	48	12	-	11	Estate	108,588	221,157	(*) (#)
13 Kador	2,075	313	130	65.3%	431	75	-	119	-	190	-	-	47	Fishery	514,103	247,760	(*) (#)
14 Titi Akar	3,781	611	56	70.0%	648	-	-	267	-	325	-	-	56	Fishery	1,003,568	265,424	(*) (#)
7 Dumai Barat																	
1 Laksamana	3,178	596	2,119	69.3%	638	-	-	-	-	-	-	-	638	Trade	2,175,400	684,519	
2 Bukit Timah	4,807	836	240	73.6%	1,360	-	942	-	-	-	-	-	418	Farmir	3,051,400	634,783	
3 Purnama	5,443	1,106	170	80.8%	2,247	-	2,019	-	4	116	-	4	104	Farmir	3,229,520	593,335	(*)
4 Rimba Sekampung	10,233	1,664	2,274	81.3%	2,623	-	-	-	-	-	74	-	2,549	Trade	6,377,280	623,207	
5 Bukit Datuk	13,237	2,559	509	78.5%	5,105	-	10	-	-	-	-	-	5,095	Trade	*********	776,187	
6 Pangkalan Sesai	14,234	2,586	791	68.6%	2,411	-	912	-	-	-	-	-	1,499	Trade	9,910,845	696,280	
8 Dumai Timur																	
1 Dumai Kota	8,294	1,734	1,885	75.7%	1,167	-	-	-	-	-	15	-	1,152	Trade	6,329,100	763,094	
2 Sukajadi	14,589	2,830	5,611	75.9%	6,994	-	-	-	-	-	10	10	6,974	Trade	*********	743,434	
3 Tanjung Palas	3,165	599	144	72.8%	685	-	196	-	-	74	63	-	352	Trade	1,749,086	552,634	(*)
4 Buluh Kasab	8,363	1,687	1,858	73.2%	2,747	-	-	-	-	-	55	8	2,684	Trade	6,157,550	736,285	
5 Teluk Binjai	10,436	2,062	745	69.2%	2,327	-	-	-	-	-	-	10	2,317	Trade	7,526,300	721,186	
6 Jaya Mukti	8,989	1,789	1,798	74.3%	3,960	-	736	-	89	-	5	-	3,130	Trade	6,529,850	726,427	
9 Bukit Kapur																	
1 Bagan Besar	4,761	961	298	69.0%	1,247	-	263	199	-	-	30	-	755	Trade	2,455,355	515,723	
2 Bukit Kapur	5,670	1,110	95	68.1%	1,149	-	929	-	4	-	1	-	215	Farmir	2,633,475	464,458	
3 Teluk Makmur	1,446	287	72	76.9%	449	-	305	75	-	30	-	-	39	Farmir	477,398	330,151	(*)
4 Guntung	577	104	58	70.0%	303	-	210	69	-	-	-	-	24	Farmir	132,860	230,260	(#)
5 Mundam	837	154	105	73.1%	304	-	222	51	-	5	-	-	26	Farmir	196,735	235,048	(#)
9 Pelintung	1,768	341	111	68.0%	819	-	235	455	-	-	-	-	129	Estate	520,673	294,498	(#)

Remarks : (*) Fishermen in the Desa were 30 and over. (#) Per Capita Net Production of desa was lower than the poverty line (US$ 160).

Sources : Desa Reconstruction Office of Kabupaten Bengkalis

Table 1.20 Races in Surveyed Area

Description	Bengkalis		T. Tinggi		Merbau		Bkt Batu		S. Apit		Rupat		Bkt Kapur		Total	
1 Ache	1	1.5%	1	0.9%	-	-	1	2.8%	-	-	-	-	2	11.1%	5	1.4%
2 Batak	-	-	-	-	-	-	-	-	-	-	2	5.6%	-	-	2	0.6%
3 Minangkabau	-	-	-	-	-	-	-	-	-	-	1	2.8%	-	-	1	0.3%
4 Malay	50	75.8%	62	54.9%	44	66.7%	27	75.0%	23	95.8%	19	52.8%	10	55.6%	235	65.5%
5 Bugis	-	-	2	1.8%	-	-	-	-	-	-	-	-	-	-	2	0.6%
6 Chinese	9	13.6%	17	15.0%	10	15.2%	-	-	1	4.2%	5	13.9%	-	-	42	11.7%
7 Indian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8 Others	6	9.1%	28	24.8%	10	15.2%	8	22.2%	-	-	9	25.0%	6	33.3%	67	18.7%
-No Answer	-	-	3	2.7%	2	3.0%	-	-	-	-	-	-	-	-	5	1.4%
Total	66	100.0%	113	100.0%	66	100.0%	36	100.0%	24	100.0%	36	100.0%	18	100.0%	359	100.0%

Source : Result of Socio-economic Survey in Bengkalis (Nov. 1992)

Table 1.21 Religions in Surveyed Area

Description	Bengkalis		T. Tinggi		Merbau		Bkt Batu		S. Apit		Rupat		Bkt Kapur		Total	
1 Islam	53	80.3%	90	79.6%	52	78.8%	36	100.0%	23	95.8%	30	83.3%	18	100.0%	302	84.1%
2 Protestant	3	4.5%	1	0.9%	-	-	-	-	-	-	-	-	-	-	4	1.1%
3 Catholic	1	1.5%	-	-	-	-	-	-	-	-	-	-	-	-	1	0.3%
4 Buddhist	9	13.6%	10	8.8%	12	18.2%	-	-	1	4.2%	6	16.7%	-	-	38	10.6%
5 Others	-	-	12	10.6%	1	1.5%	-	-	-	-	-	-	-	-	13	3.6%
-No Answer	-	-	-	-	1	1.5%	-	-	-	-	-	-	-	-	1	0.3%
Total	66	100.0%	113	100.0%	66	100.0%	36	100.0%	24	100.0%	36	100.0%	18	100.0%	359	100.0%

Source : Result of Socio-economic Survey in Bengkalis (Nov. 1992)

Table 1.22 Present Occupation by Kecamatan and by Sex

Male

	Bengkalis		T. Tinggi		Merbau		B. Batu		Sai Apit		Rupat		B. Kapur		Total	
1 Farmer	12	16.0%	38	25.3%	19	19.6%	16	36.4%	5	13.5%	17	37.8%	15	75.0%	122	26.1%
2 Fisherman	52	69.3%	77	51.3%	57	58.8%	13	29.5%	15	40.5%	13	28.9%	-	-	227	48.5%
3 Laborer	-	-	10	6.7%	5	5.2%	2	4.5%	6	16.2%	3	6.7%	-	-	26	5.6%
4 Service	-	-	1	0.7%	-	-	1	2.3%	1	2.7%	-	-	1	5.0%	4	0.9%
5 Merchant	1	1.3%	6	4.0%	1	1.0%	-	-	4	10.8%	2	4.4%	-	-	14	3.0%
6 Prv. Employee	-	-	3	2.0%	7	7.2%	-	-	1	2.7%	2	4.4%	-	-	13	2.8%
7 Gvrn. Employe	4	5.3%	1	0.7%	-	-	2	4.5%	-	-	3	6.7%	2	10.0%	12	2.6%
8 Soldier	-	-	-	-	-	-	-	-	-	-	-	-	1	5.0%	1	0.2%
9 Self-employed	-	-	3	2.0%	1	1.0%	2	4.5%	-	-	1	2.2%	-	-	7	1.5%
11 Unemployed	-	-	-	-	1	1.0%	3	6.8%	4	10.8%	-	-	-	-	8	1.7%
12 Others	6	8.0%	11	7.3%	6	6.2%	5	11.4%	1	2.7%	4	8.9%	1	5.0%	34	7.3%
- No Answer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	75	100.0%	150	100.0%	97	100.0%	44	100.0%	37	100.0%	45	100.0%	20	100.0%	468	100.0%

Female

	Bengkalis		T. Tinggi		Merbau		B. Batu		Sai Apit		Rupat		B. Kapur		Total	
1 Farmer	44	58.7%	53	63.1%	39	54.9%	11	24.4%	9	27.3%	19	57.6%	16	84.2%	191	54.9%
2 Fisherman	2	2.7%	-	-	5	7.0%	1	2.2%	-	-	1	3.0%	-	-	9	2.6%
3 Laborer	-	-	4	4.8%	4	5.6%	-	-	4	12.1%	-	-	-	-	12	3.4%
4 Service	-	-	-	-	2	2.8%	-	-	-	-	-	-	-	-	2	0.6%
5 Merchant	2	2.7%	10	11.9%	-	-	2	4.4%	-	-	3	9.1%	1	5.3%	18	5.2%
6 Prv. Employee	1	1.3%	-	-	1	1.4%	2	4.4%	-	-	3	9.1%	-	-	7	2.0%
7 Gvrn. Employe	2	2.7%	1	1.2%	-	-	1	2.2%	-	-	1	3.0%	1	5.3%	6	1.7%
8 Soldier	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9 Self-employed	1	1.3%	6	7.1%	2	2.8%	8	17.8%	-	-	-	-	-	-	17	4.9%
11 Unemployed	-	-	3	3.6%	8	11.3%	12	26.7%	19	57.6%	1	3.0%	-	-	43	12.4%
12 Others	11	14.7%	7	8.3%	10	14.1%	8	17.8%	1	3.0%	5	15.2%	1	5.3%	43	12.4%
- No Answer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	63	100.0%	84	100.0%	71	100.0%	45	100.0%	33	100.0%	33	100.0%	19	100.0%	348	100.0%

Total

	Bengkalis		T. Tinggi		Merbau		B. Batu		Sai Apit		Rupat		B. Kapur		Total	
1 Farmer	57	40.7%	91	38.9%	59	34.7%	27	30.3%	15	20.8%	36	46.2%	31	79.5%	316	38.4%
2 Fisherman	55	39.3%	77	32.9%	62	36.5%	14	15.7%	16	22.2%	14	17.9%	-	-	238	29.0%
3 Laborer	-	-	14	6.0%	9	5.3%	2	2.2%	10	13.9%	3	3.8%	-	-	38	4.6%
4 Service	-	-	1	0.4%	2	1.2%	1	1.1%	1	1.4%	-	-	1	2.6%	6	0.7%
5 Merchant	3	2.1%	16	6.8%	2	1.2%	2	2.2%	4	5.6%	5	6.4%	1	2.6%	33	4.0%
6 Prv. Employee	1	0.7%	3	1.3%	8	4.7%	2	2.2%	1	1.4%	5	6.4%	-	-	20	2.4%
7 Gvrn. Employe	6	4.3%	2	0.9%	-	-	3	3.4%	-	-	4	5.1%	3	7.7%	18	2.2%
8 Soldier	-	-	-	-	-	-	-	-	-	-	-	-	1	2.6%	1	0.1%
9 Self-employed	1	0.7%	9	3.8%	3	1.8%	10	11.2%	-	-	1	1.3%	-	-	24	2.9%
11 Unemployed	-	-	3	1.3%	9	5.3%	15	16.9%	23	31.9%	1	1.3%	-	-	51	6.2%
12 Others	17	12.1%	18	7.7%	16	9.4%	13	14.6%	2	2.8%	9	11.5%	2	5.1%	77	9.4%
- No Answer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	140	100.0%	234	100.0%	170	100.0%	89	100.0%	72	100.0%	78	100.0%	39	100.0%	822	100.0%

Remark : Result of Socio-economic Survey carried out by the Team (Nov. 1992)

Table 1.23 Duration of Present Occupation by Kecamatan and by Sex

Male — Unit : Years

	Bengkalis	T. Tinggi	Merbau	B. Batu	Sai Apit	Rupat	B. Kapur	Total
1 Farmer	14.2	10.9	14.1	18.0	7.4	13.8	13.8	13.3
2 Fisherman	16.7	10.7	11.9	11.7	16.6	10.6	-	12.8
3 Laborer	-	4.3	15.4	6.0	2.8	14.3	-	7.4
4 Service	-	2.0	-	5.0	5.0	-	16.0	7.0
5 Merchant	3.5	7.3	8.0	-	22.0	4.5	-	10.9
6 Prv. Employee	-	4.0	10.9	-	5.0	15.5	-	9.6
7 Gvrn. Employee	13.6	3.0	-	13.5	-	7.5	15.5	11.5
8 Soldier	-	-	-	-	-	-	11.0	11.0
9 Self-employed	-	5.5	5.0	3.5	-	20.0	-	6.9
11 Unemployed	-	-	-	-	-	-	-	-
12 Others	13.4	4.5	0.0	18.1	2.0	12.8	15.0	8.5
- No Answer	6.0	-	0.5	-	4.0	-	6.0	1.3
Total	15.5	9.4	9.8	12.9	10.6	12.2	13.6	11.3

Female — Unit : Years

	Bengkalis	T. Tinggi	Merbau	B. Batu	Sai Apit	Rupat	B. Kapur	Total
1 Farmer	15.0	11.4	10.6	15.1	13.8	10.7	10.5	12.3
2 Fisherman	3.5	-	8.5	7.0	-	-	-	6.3
3 Laborer	-	3.5	10.8	-	10.5	-	-	8.2
4 Service	-	-	10.3	-	-	-	-	10.3
5 Merchant	2.3	5.2	-	16.0	-	3.2	2.4	5.6
6 Prv. Employee	3.0	-	0.4	6.0	-	11.3	-	7.1
7 Gvrn. Employee	7.6	4.6	-	16.0	-	9.2	6.0	8.5
8 Soldier	-	-	-	-	-	-	-	-
9 Self-employed	10.0	6.5	0.5	12.5	-	-	-	8.8
11 Unemployed	-	-	-	3.3	-	-	-	0.9
12 Others	4.7	6.8	3.5	4.6	1.0	15.2	-	5.8
- No Answer	-	-	2.7	-	-	-	-	2.0
Total	11.6	9.0	6.4	8.9	4.8	9.5	9.3	8.4

Total

	Bengkalis	T. Tinggi	Merbau	B. Batu	Sai Apit	Rupat	B. Kapur	Total
1 Farmer	14.8	11.2	11.6	16.8	12.4	12.2	12.1	12.7
2 Fisherman	16.3	10.7	11.6	11.4	16.5	9.8	-	12.6
3 Laborer	-	4.0	13.3	6.0	5.9	14.3	-	7.6
4 Service	-	2.0	10.3	5.0	5.0	-	16.0	8.1
5 Merchant	2.7	6.0	4.0	16.0	22.0	3.7	2.4	7.6
6 Prv. Employee	3.0	4.0	9.6	6.0	5.0	13.0	-	8.7
7 Gvrn. Employee	11.6	3.8	-	14.3	-	7.9	12.3	10.5
8 Soldier	-	-	-	-	-	-	11.0	11.0
9 Self-employed	10.0	6.2	2.0	10.7	-	20.0	-	8.3
11 Unemployed	-	-	-	2.7	-	-	-	0.8
12 Others	7.7	5.4	2.2	9.7	1.5	14.1	7.5	7.0
- No Answer	2.0	-	1.7	-	2.0	-	2.0	1.6
Total	13.8	9.2	8.0	10.9	8.1	11.0	11.0	10.0

Remark : Result of Socio-economic Survey carried out by the Team (Nov. 1992)

Table 1.24 Present Occupation of Inhabitant by Desa (1/2)

Desa	Farmer		Fisherman		Laborer		Service		Merchant		Private Company Employee		Govern. Company Employee		Soldier		Self-employed		Un-employed		Others		No Answer		Total	
101 Bengkalis Kota	-	-	6	54.5%	-	-	-	-	-	-	1	9.1%	-	-	-	-	-	-	-	-	4	36.4%	-	-	11	100.0%
107 Pangkalan Batai	6	50.0%	6	50.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	100.0%
111 Ketam Putih	9	81.8%	-	-	-	-	-	-	-	-	-	-	1	9.1%	-	-	-	-	-	-	1	9.1%	-	-	11	100.0%
112 Sebauk	6	50.0%	6	50.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	100.0%
116 Bantan Air	7	35.0%	13	65.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	100.0%
119 Teluk Pambang	7	58.3%	4	33.3%	-	-	-	-	1	8.3%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	100.0%
121 Meskom	3	25.0%	6	50.0%	-	-	-	-	1	8.3%	-	-	-	-	-	-	1	8.3%	-	-	1	8.3%	-	-	12	100.0%
123 Sungai Alam	4	30.8%	2	15.4%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	53.8%	-	-	13	100.0%
124 Kelemantan	2	20.0%	3	30.0%	-	-	-	-	1	10.0%	-	-	2	20.0%	-	-	-	-	-	-	2	20.0%	-	-	10	100.0%
125 Sekodi	7	58.3%	-	-	-	-	-	-	-	-	-	-	3	25.0%	-	-	-	-	-	-	2	16.7%	-	-	12	100.0%
126 Selat Baru	6	40.0%	9	60.0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	100.0%
202 Selatpanjang Ba	-	-	6	50.0%	1	8.3%	-	-	1	8.3%	1	8.3%	-	-	-	-	3	25.0%	-	-	-	-	-	-	12	100.0%
206 Kedabu Rapat	4	28.6%	7	50.0%	-	-	-	-	2	14.3%	-	-	-	-	-	-	1	7.1%	-	-	-	-	-	-	14	100.0%
208 Insit	11	84.6%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	7.7%	-	-	1	7.7%	-	-	13	100.0%
209 Bungur	4	28.6%	7	50.0%	-	-	-	-	1	7.1%	-	-	-	-	-	-	1	7.1%	-	-	1	7.1%	-	-	14	100.0%
210 Teluk Buntal	12	70.6%	4	23.5%	1	5.9%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	100.0%
211 Lemang	-	-	5	83.3%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	16.7%	-	-	6	100.0%
215 Tanjung Medan	3	17.6%	11	64.7%	2	11.8%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5.9%	-	-	17	100.0%
216 Melai	5	41.7%	6	50.0%	1	8.3%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	100.0%
217 Tanjung Gadai	11	84.6%	1	7.7%	-	-	1	7.7%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	100.0%
222 Alai	2	33.3%	-	-	2	33.3%	-	-	2	33.3%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	100.0%
226 Banglas	-	-	6	35.3%	-	-	-	-	1	5.9%	2	11.8%	1	5.9%	-	-	2	11.8%	1	5.9%	4	23.5%	-	-	17	100.0%
230 Topang	12	80.0%	2	13.3%	-	-	-	-	1	6.7%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	100.0%
231 Alah Air	6	37.5%	3	18.8%	2	12.5%	-	-	2	12.5%	-	-	1	6.3%	-	-	-	-	-	-	2	12.5%	-	-	16	100.0%
232 Bantar	-	-	7	53.8%	1	7.7%	-	-	2	15.4%	-	-	-	-	-	-	1	7.7%	1	7.7%	1	7.7%	-	-	13	100.0%
233 Tanjung Perana	-	-	6	66.7%	-	-	-	-	1	11.1%	-	-	-	-	-	-	-	-	1	11.1%	1	11.1%	-	-	9	100.0%
234 Tanjung Samak	12	75.0%	2	12.5%	1	6.3%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	6.3%	-	-	16	100.0%
235 Beting	6	54.5%	1	9.1%	-	-	-	-	1	9.1%	-	-	-	-	-	-	-	-	-	-	3	27.3%	-	-	11	100.0%
236 Tanjung Kedabu	3	23.1%	3	23.1%	3	23.1%	-	-	2	15.4%	-	-	-	-	-	-	-	-	-	-	2	15.4%	-	-	13	100.0%

Source : Result of Socio-economi Survey carried out by the Team (Nov. 1992)

Table 1.24 Present Occupation of Inhabitant by Desa (2/2)

Desa	Farmer		Fisherman		Laborer		Service		Merchant		Private Company Employee		Govern. Company Employee		Soldier		Self-employed		Unemploy		Others		No Answer		Total	
301 Teluk Belitung	1	7.7%	7	53.8%	-	-	-	-	-	-	1	7.7%	-	-	-	-	1	7.7%	-	-	3	23.1%	-	-	13	100.0%
304 Bandul	-	-	5	45.5%	1	9.1%	1	9.1%	-	-	-	-	-	-	-	-	-	-	3	27.3%	1	9.1%	-	-	11	100.0%
305 Kudap	8	57.1%	-	-	2	14.3%	1	7.1%	-	-	1	7.1%	-	-	-	-	-	-	1	7.1%	1	7.1%	-	-	14	100.0%
306 Dedap	14	87.5%	2	12.5%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	100.0%
308 Baran Melintan	7	41.2%	6	35.3%	-	-	-	-	-	-	2	11.8%	-	-	-	-	-	-	2	11.8%	-	-	-	-	17	100.0%
310 Centai	4	30.8%	5	38.5%	1	7.7%	-	-	1	7.7%	-	-	-	-	-	-	2	15.4%	-	-	-	-	-	-	13	100.0%
311 Lukit	9	52.9%	4	23.5%	3	17.6%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5.9%	-	-	17	100.0%
313 Bagan Melibur	5	21.7%	8	34.8%	-	-	-	-	1	4.3%	-	-	-	-	-	-	-	-	2	8.7%	7	30.4%	-	-	23	100.0%
315 Kuala Merbau	6	31.6%	9	47.4%	-	-	-	-	-	-	4	21.1%	-	-	-	-	-	-	-	-	-	-	-	-	19	100.0%
316 Meranti Bunting	2	22.2%	6	66.7%	1	11.1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	100.0%
317 Selat Akar	3	16.7%	10	55.6%	1	5.6%	-	-	-	-	-	-	-	-	-	-	-	-	1	5.6%	3	16.7%	-	-	18	100.0%
401 Sungai Pakning	6	46.2%	2	15.4%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	38.5%	-	-	13	100.0%
402 Lubuk Muda	1	5.6%	5	27.8%	-	-	-	-	-	-	-	-	1	5.6%	-	-	-	-	7	38.9%	4	22.2%	-	-	18	100.0%
403 Bukit Batu	-	-	6	50.0%	-	-	-	-	-	-	-	-	-	-	-	-	5	41.7%	-	-	1	8.3%	-	-	12	100.0%
405 Tenggayun	8	53.3%	-	-	1	6.7%	-	-	-	-	-	-	-	-	-	-	4	26.7%	-	-	2	13.3%	-	-	15	100.0%
411 Tanjung Belit	6	30.0%	-	-	1	5.0%	-	-	1	5.0%	2	10.0%	1	5.0%	-	-	1	5.0%	8	40.0%	-	-	-	-	20	100.0%
419 Parit I Api-Api	6	54.5%	1	9.1%	-	-	1	9.1%	1	9.1%	-	-	1	9.1%	-	-	-	-	-	-	1	9.1%	-	-	11	100.0%
501 Sungai Apit	2	10.0%	4	20.0%	1	5.0%	-	-	1	5.0%	1	5.0%	-	-	-	-	-	-	11	55.0%	-	-	-	-	20	100.0%
502 Sungai Kayu A	-	-	4	15.4%	6	23.1%	1	3.8%	3	11.5%	-	-	-	-	-	-	-	-	12	46.2%	-	-	-	-	26	100.0%
515 Mengkapan	8	61.5%	3	23.1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	15.4%	-	-	13	100.0%
518 Lalang	5	38.5%	5	38.5%	3	23.1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	100.0%
603 Terkul	10	71.4%	1	7.1%	1	7.1%	-	-	2	14.3%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	100.0%
605 Teluk Lecah	3	25.0%	4	33.3%	-	-	-	-	1	8.3%	-	-	2	16.7%	-	-	-	-	-	-	2	16.7%	-	-	12	100.0%
608 Tanjung Medan	7	41.2%	3	17.6%	2	11.8%	-	-	-	-	2	11.8%	1	5.9%	-	-	-	-	1	5.9%	1	5.9%	-	-	17	100.0%
609 Pangkalan Nyiri	8	57.1%	-	-	-	-	-	-	-	-	1	7.1%	-	-	-	-	-	-	-	-	5	35.7%	-	-	14	100.0%
610 Sungai Cingam	7	58.3%	2	16.7%	-	-	-	-	-	-	1	8.3%	-	-	-	-	1	8.3%	-	-	1	8.3%	-	-	12	100.0%
612 Tanjung Punak	1	11.1%	4	44.4%	-	-	-	-	2	22.2%	1	11.1%	1	11.1%	-	-	-	-	-	-	-	-	-	-	9	100.0%
903 Teluk Makmur	9	81.8%	-	-	-	-	1	9.1%	1	9.1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	100.0%
904 Guntung	15	93.8%	-	-	-	-	-	-	-	-	-	-	-	-	1	6.3%	-	-	-	-	-	-	-	-	16	100.0%
909 Pelintung	7	58.3%	-	-	-	-	-	-	-	-	-	-	3	25.0%	-	-	-	-	-	-	2	16.7%	-	-	12	100.0%
Total	****	38.4%	****	29.0%	38	4.6%	6	0.7%	33	4.0%	20	2.4%	18	2.2%	1	0.1%	24	2.9%	51	6.2%	77	9.4%	-	-	822	100.0%

Source : Result of Socio-economi Survey carried out by the Team (Nov. 1992)

Table 1.25 Average Annual Household Income by Occupation and by Kecamatan

Kecamatan	(#)	INCOME (x Rp. 1000)							RATIO OF SELF-CONSUMP.			MAIN	SHARE IN TOTAL INCOME					
		TOTAL	AGRI.	FRSY	FSHRY	TRD	WAGE	OTHR	AGRI.	FRSY	FSHRY	OCCUPATION	AGRI.	FRSY	FSHRY	TRD	WAGE	OTHR
1 Bengkalis	5.9	2,594	769	-	1,381	14	390	46	35.8%	-	26.9%	3 FISHERY	29.7%	-	53.2%	0.5%	15.1%	1.8%
2 Tebing Tinggi	6.3	2,090	779	32	747	197	194	141	6.6%	-	26.4%	1 AGRI.	37.3%	1.5%	35.8%	9.4%	9.3%	6.7%
3 Merbau	5.3	2,413	597	177	1,191	64	402	54	39.3%	43.5%	28.1%	3 FISHERY	24.8%	7.3%	49.4%	2.6%	16.6%	2.2%
4 Bukit Batu	5.4	2,148	674	174	821	23	442	71	37.4%	-	25.1%	3 FISHERY	31.4%	8.1%	38.2%	1.1%	20.6%	3.3%
5 Sungai Apit	5.5	1,755	210	208	688	218	262	170	16.6%	11.5%	12.5%	3 FISHERY	12.0%	11.8%	39.2%	12.4%	14.9%	9.7%
6 Rupat	5.6	1,881	475	78	440	176	547	164	34.4%	19.0%	42.0%	1 AGRI.	25.3%	4.2%	23.4%	9.4%	29.1%	8.7%
9 Bukit Kapur	5.6	1,947	1,048	-	153	30	680	37	35.8%	-	45.6%	1 AGRI.	53.8%	-	7.8%	1.5%	34.9%	1.9%

Source : Result of Socio-economic Survey carried out by the Team (Nov. 1992)

Table 1.26 Average Annual Household Income by Occupation and by Desa (1/2)

DESA	(#)	INCOME (x Rp. 1000)							RATIO OF SELF-CONSUMP.			MAIN	SHARE IN TOTAL INCOME					
		TOTAL	AGRI.	FRSY	FSHRY	TRD	WAGE	OTHR	AGRI.	FRSY	FSHRY	OCCUPATION	AGRI.	FRSY	FSHRY	TRD	WAGE	OTHR
101 Bengkalis Kota	5.5	1,809	-	-	1,809	-	-	-	-	-	46.0%	3 FISHERY	-	-	100.0%	-	-	-
107 Pangkalan Batang	7.0	3,540	840	-	2,700	-	-	-	42.9%	-	20.0%	3 FISHERY	23.7%	-	76.3%	-	-	-
111 Ketam Putih	4.2	1,559	866	-	-	-	622	72	31.1%	-	-	1 AGRI.	55.5%	-	-	-	39.9%	4.6%
112 Sebauk	6.0	2,658	1,284	-	1,207	-	167	-	32.5%	-	40.4%	1 AGRI.	48.3%	-	45.4%	-	6.3%	-
116 Bantan Air	4.0	4,040	840	-	3,200	-	-	-	42.9%	-	25.0%	3 FISHERY	20.8%	-	79.2%	-	-	-
119 Teluk Pambang	5.5	3,760	1,060	-	2,700	-	-	-	35.8%	-	22.2%	3 FISHERY	28.2%	-	71.8%	-	-	-
121 Meskom	5.0	4,001	942	-	2,809	250	-	-	29.2%	-	41.5%	3 FISHERY	23.5%	-	70.2%	6.2%	-	-
123 Sungai Alam	6.0	1,266	565	-	189	-	341	172	29.2%	-	51.5%	1 AGRI.	44.6%	-	14.9%	-	26.9%	13.6%
124 Kelemantan	5.5	1,976	88	-	715	-	1,058	115	85.8%	-	16.1%	5 WAGES	4.4%	-	36.2%	-	53.6%	5.8%
125 Sekodi	6.8	2,073	608	-	106	-	1,299	60	40.5%	-	53.8%	5 WAGES	29.3%	-	5.1%	-	62.7%	2.9%
126 Selat Baru	6.5	3,060	1,020	-	2,040	-	-	-	35.9%	-	19.1%	3 FISHERY	33.3%	-	66.7%	-	-	-
202 Selat Panjang Barat	4.8	2,292	-	-	1,684	45	375	188	-	-	33.8%	3 FISHERY	-	-	73.5%	2.0%	16.4%	8.2%
206 Kedabu Rapat	7.4	2,327	600	-	1,371	240	20	96	8.0%	-	20.6%	3 FISHERY	25.8%	-	58.9%	10.3%	0.9%	4.1%
208 Insit	7.8	2,050	1,425	163	-	-	-	463	-	-	-	1 AGRI.	69.5%	7.9%	-	-	-	22.6%
209 Bungur	6.2	1,879	474	-	1,085	120	-	200	10.0%	-	25.9%	3 FISHERY	25.2%	-	57.7%	6.4%	-	10.6%
210 Teluk Buntal	9.0	2,848	2,061	-	670	-	100	17	-	-	-	1 AGRI.	72.4%	-	23.5%	-	3.5%	0.6%
211 Lemang	4.5	2,430	-	-	2,430	-	-	-	-	-	48.1%	3 FISHERY	-	-	100.0%	-	-	-
215 Tanjung Medang	5.6	1,560	984	-	-	-	576	-	41.5%	-	-	1 AGRI.	63.1%	-	-	-	36.9%	-
216 Melai	8.2	1,255	425	-	629	-	42	159	38.8%	-	31.1%	3 FISHERY	33.9%	-	50.1%	-	3.3%	12.7%
217 Tanjung Gadai	6.0	1,666	1,255	-	308	-	-	104	-	-	-	1 AGRI.	75.3%	-	18.5%	-	-	6.3%
222 Alai	5.2	2,034	600	-	-	810	624	-	40.0%	-	-	4 TRADE	29.5%	-	-	39.8%	30.7%	-
226 Banglas	5.5	3,325	-	-	1,885	1,440	-	-	-	-	30.8%	3 FISHERY	-	-	56.7%	43.3%	-	-
230 Topang	6.5	2,461	1,605	-	248	377	-	231	-	-	-	1 AGRI.	65.2%	-	10.1%	15.3%	-	9.4%
231 Alah Air	6.2	2,009	411	-	732	350	450	67	-	-	-	3 FISHERY	20.4%	-	36.4%	17.4%	22.4%	3.3%
232 Bantar	5.8	2,647	-	180	2,422	-	45	-	-	-	48.9%	3 FISHERY	-	6.8%	91.5%	-	1.7%	-
233 Tanjung Peranap	4.7	1,547	-	-	1,429	29	88	-	-	-	41.4%	3 FISHERY	-	-	92.4%	1.9%	5.7%	-
234 Tanjung Samak	6.5	2,462	1,694	-	312	-	180	276	-	-	-	1 AGRI.	68.8%	-	12.7%	-	7.3%	11.2%
235 Beting	6.2	1,808	521	214	-	275	500	298	-	-	-	1 AGRI.	28.8%	11.8%	-	15.2%	27.6%	16.5%
236 Tanjung Kedabu	5.7	2,265	383	-	850	521	352	158	-	-	-	3 FISHERY	16.9%	-	37.5%	23.0%	15.5%	7.0%

Source : Result of Socio-economic Survey carried out by the Team (Nov. 1992)

Table 1.26 Average Annual Household Income by Occupation and by Desa (2/2)

DESA	(#)	INCOME (x Rp. 1000)							RATIO OF SELF-CONSUMP.			MAIN	SHARE IN TOTAL INCOME					
		TOTAL	AGRI.	FRSY	FSHRY	TRD	WAGE	OTHR	AGRI.	FRSY	FSHRY	OCCUPATION	AGRI.	FRSY	FSHRY	TRD	WAGE	OTHR
301 Teluk Belitung	3.8	3,113	175	-	2,451	-	388	100	42.9%	-	16.3%	3 FISHERY	5.6%	-	78.7%	-	12.4%	3.2%
304 Bandul	4.6	3,768	840	100	1,787	474	552	14	50.0%	50.0%	47.2%	3 FISHERY	22.3%	2.7%	47.4%	12.6%	14.7%	0.4%
305 Kudap	6.0	3,192	1,920	1,272	-	-	-	-	46.9%	45.8%	-	1 AGRI.	60.2%	39.8%	-	-	-	-
306 Dedap	6.0	1,188	888	20	280	-	-	-	48.5%	50.0%	50.0%	1 AGRI.	74.7%	1.7%	23.6%	-	-	-
308 Baran Melintang	5.2	2,925	617	-	1,838	-	470	-	54.6%	-	36.5%	3 FISHERY	21.1%	-	62.8%	-	16.1%	-
310 Centai	5.2	1,413	449	-	608	-	200	156	10.9%	-	25.7%	3 FISHERY	31.8%	-	43.0%	-	14.2%	11.1%
311 Lukit	6.3	1,325	617	47	435	-	148	77	3.3%	27.6%	14.4%	1 AGRI.	46.6%	3.6%	32.8%	-	11.2%	5.8%
313 Bagan Melibur	4.0	3,938	145	-	3,793	-	-	-	13.8%	-	15.5%	3 FISHERY	3.7%	-	96.3%	-	-	-
315 Kuala Merbau	5.5	3,493	518	-	1,340	-	1,517	118	50.2%	-	19.1%	5 WAGES	14.8%	-	38.4%	-	43.4%	3.4%
316 Meranti Bunting	5.8	923	143	196	436	-	75	73	15.7%	27.4%	16.7%	3 FISHERY	15.5%	21.2%	47.2%	-	8.1%	7.9%
317 Selat Akar	4.8	2,921	332	552	1,763	238	36	-	42.2%	46.4%	41.5%	3 FISHERY	11.4%	18.9%	60.4%	8.1%	1.2%	-
401 Sungai Pakning	4.3	1,374	621	-	189	-	559	5	43.0%	-	51.5%	1 AGRI.	45.2%	-	13.7%	-	40.7%	0.4%
402 Lubuk Muda	6.2	2,946	684	276	1,986	-	-	-	50.0%	-	9.4%	3 FISHERY	23.2%	9.4%	67.4%	-	-	-
403 Bukit Batu	4.3	2,818	-	-	2,818	-	-	-	-	-	31.7%	3 FISHERY	-	-	100.0%	-	-	-
405 Tenggayun	6.0	2,214	1,254	10	-	-	890	60	28.0%	-	-	1 AGRI.	56.6%	0.5%	-	-	40.2%	2.7%
411 Tanjung Belit	6.0	2,513	707	792	414	-	312	288	50.0%	-	56.5%	2 FORESTRY	28.1%	31.5%	16.5%	-	12.4%	11.5%
419 Parit I Api-Api	5.2	1,296	536	-	210	140	338	72	23.3%	-	11.8%	1 AGRI.	41.4%	-	16.2%	10.8%	26.1%	5.6%
501 Sungai Apit	5.8	2,188	123	307	1,378	120	60	200	38.1%	-	12.2%	3 FISHERY	5.6%	14.0%	63.0%	5.5%	2.7%	9.1%
502 Sungai Kayu Ara	6.0	2,790	40	420	515	1,020	795	-	50.0%	-	12.6%	4 TRADE	1.4%	15.1%	18.5%	36.6%	28.5%	-
515 Mengkapan	4.5	1,212	405	157	362	-	180	108	9.0%	50.0%	14.3%	1 AGRI.	33.4%	13.0%	29.9%	-	14.8%	8.9%
518 Lalang	5.7	1,176	216	18	438	-	189	316	14.7%	50.0%	12.0%	3 FISHERY	18.3%	1.6%	37.2%	-	16.1%	26.8%
603 Terkul	5.2	1,257	545	116	173	300	111	13	43.1%	13.8%	87.0%	1 AGRI.	43.4%	9.2%	13.7%	23.9%	8.8%	1.0%
605 Teluk Lecah	5.0	2,207	130	16	888	-	1,058	115	90.4%	100.0%	29.9%	5 WAGES	5.9%	0.7%	40.2%	-	48.0%	5.2%
608 Tanjung Medang	8.2	2,271	621	-	429	-	1,221	-	16.2%	-	78.8%	5 WAGES	27.3%	-	18.9%	-	53.8%	-
609 Pangkalan Nyirih	5.7	1,773	839	116	-	-	443	375	23.5%	14.1%	-	1 AGRI.	47.3%	6.5%	-	-	25.0%	21.2%
610 Sungai Cingam	6.2	1,720	610	6	509	-	170	425	43.5%	100.0%	32.8%	1 AGRI.	35.5%	0.3%	29.6%	-	9.9%	24.7%
612 Tanjung Punak	3.6	2,169	59	228	681	840	361	-	52.4%	15.8%	32.3%	4 TRADE	2.7%	10.5%	31.4%	38.7%	16.7%	-
903 Teluk Makmur	5.2	2,091	1,383	-	320	90	292	7	26.9%	-	37.5%	1 AGRI.	66.1%	-	15.3%	4.3%	13.9%	0.3%
904 Guntung	6.7	1,676	1,153	-	32	-	448	43	43.9%	-	100.0%	1 AGRI.	68.8%	-	1.9%	-	26.7%	2.6%
909 Pelintung	5.0	2,073	608	-	106	-	1,299	60	40.5%	-	53.8%	5 WAGES	29.3%	-	5.1%	-	62.7%	2.9%

Source : Result of Socio-economic Survey carried out by the Team (Nov. 1992)

Table 1.27 Annual Average Expenditure of Household by Kecamatan

Unit : Rp. 1000

Kecamatan	Total	Food						Non-food						
		Sub-total	Rice	Meat	Fish	Vegi-table	Others	Sub-total	Tabacco	Cloth-ing	House Rental	Medical care	Educa-tion	Others
1 Bengkalis	2,438	1,483	546	190	512	161	74	954	307	156	3	168	173	147
2 Tebing Tinggi	1,945	1,402	468	204	580	92	59	543	252	108	7	45	102	29
3 Merbau	1,787	1,050	494	78	351	101	26	738	239	206	12	51	89	141
4 Bukit Batu	1,686	1,113	415	124	430	98	47	573	199	171	12	36	116	38
5 Sungai Apit	1,396	936	575	31	266	50	14	460	180	76	0	39	121	44
6 Rupat	1,531	768	284	56	263	100	66	763	234	156	24	59	216	73
9 Bukit Kapur	1,645	1,046	453	133	210	188	63	598	239	163	0	70	54	73

Source : Result of Socio-economic Survey carried out by the Team (Nov. 1992)

Table 1.28 Annual Average Expenditure of Household by Desa (1/2)

Unit : Rp. 1000

Desa	Total	Food						Non-food						
		Sub-total	Rice	Meat	Fish	Vegi-table	Others	Sub-total	Tabacco	Cloth-ing	House Rental	Medical care	Educa-tion	Others
101 Bengkalis Kota	2,988	2,370	365	584	834	313	274	618	270	150	60	48	60	30
107 Pangkalan Batang	2,856	1,624	639	62	654	183	87	1,232	300	292	0	180	220	240
111 Ketam Putih	2,254	2,008	1,643	156	209	0	0	246	144	0	0	90	12	0
112 Sebauk	2,515	1,724	572	414	525	127	87	790	294	235	8	53	190	10
116 Bantan Air	2,914	1,633	460	85	904	139	46	1,281	490	160	0	192	79	360
119 Teluk Pambang	2,586	1,319	344	31	757	128	59	1,267	519	208	0	150	170	220
121 Meskom	2,538	1,610	475	193	652	134	156	928	204	139	0	135	435	15
123 Sungai Alam	1,520	923	435	116	46	327	0	597	150	26	0	104	185	132
124 Kelemantan	2,406	1,313	737	117	229	93	137	1,094	207	0	0	725	162	0
125 Sekodi	1,994	1,334	916	278	58	82	0	660	460	0	0	80	120	0
126 Selat Baru	2,337	1,422	429	291	520	140	43	915	217	233	0	85	99	280
202 Selat Panjang Barat	2,104	1,529	466	208	574	123	156	576	396	59	60	26	35	0
206 Kedabu Rapat	2,248	1,700	717	313	603	45	23	548	102	245	0	35	36	130
208 Insit	1,637	1,150	436	125	428	104	56	487	277	120	0	12	66	12
209 Bungur	1,883	1,309	530	142	557	63	17	574	251	148	0	43	25	107
210 Teluk Buntal	1,779	1,307	415	156	588	90	57	472	307	51	0	12	92	10
211 Lemang	2,372	1,768	414	504	706	61	83	605	462	73	0	42	27	0
215 Tanjung Medang	2,606	1,856	526	141	968	138	83	750	252	88	0	180	216	13
216 Melai	1,573	1,193	566	226	380	21	0	380	204	80	0	12	24	60
217 Tanjung Gadai	1,512	1,106	424	143	403	83	52	406	180	98	0	22	96	10
222 Alai	2,911	1,894	762	183	769	91	89	1,017	302	165	0	102	449	0
226 Banglas	2,500	1,747	578	40	979	140	10	753	381	92	0	93	171	16
230 Topang	2,291	1,638	457	339	592	143	107	653	285	160	0	27	94	87
231 Alah Air	1,644	1,163	322	324	375	85	56	481	216	98	0	6	141	20
232 Bantar	2,299	1,796	663	114	806	150	63	503	238	111	0	44	111	0
233 Tanjung Peranap	1,246	903	183	129	519	73	0	343	180	67	0	49	47	0
234 Tanjung Samak	1,313	961	366	149	326	76	44	352	75	118	0	17	132	10
235 Beting	1,382	962	295	181	349	80	56	421	255	105	0	9	42	10
236 Tanjung Kedabu	1,920	1,403	370	395	457	66	115	517	303	85	60	18	41	10

Source : Result of Socio-economic Survey carried out by the Team (Nov. 1992)

Table 1.28 Annual Average Expenditure of Household by Desa (2/2)

Unit : Rp. 1000

Desa	Total	Food						Non-food						
		Sub-total	Rice	Meat	Fish	Vegi-table	Others	Sub-total	Tabacco	Cloth-ing	House Rental	Medical care	Educa-tion	Others
301 Teluk Belitung	2,538	1,280	464	100	486	225	4	1,258	470	620	43	13	2	109
304 Bandul	1,729	855	356	56	323	92	29	874	222	72	0	99	2	479
305 Kudap	2,313	1,385	621	94	434	124	112	928	158	184	0	163	277	145
306 Dedap	1,549	1,024	702	23	226	67	6	525	378	33	0	19	90	5
308 Baran Melintang	2,005	1,032	319	9	596	105	2	974	230	675	0	32	9	29
310 Centai	1,482	1,122	478	174	427	38	5	361	132	113	0	19	25	72
311 Lukit	1,380	654	430	26	135	42	21	726	255	49	0	49	287	86
313 Bagan Melibur	3,470	1,559	828	40	559	73	60	1,911	576	300	180	15	30	810
315 Kuala Merbau	1,753	1,162	400	60	519	168	15	591	216	292	12	6	34	31
316 Meranti Bunting	811	561	369	35	88	50	18	250	133	33	0	24	22	38
317 Selat Akar	2,125	1,415	630	239	335	164	47	710	27	123	0	143	120	297
401 Sungai Pakning	1,861	1,047	344	102	466	103	32	814	289	138	50	42	229	66
402 Lubuk Muda	1,224	798	351	39	320	57	31	426	166	151	0	13	60	36
403 Bukit Batu	2,240	1,656	398	225	833	156	43	584	195	183	0	86	100	20
405 Tenggayun	1,276	893	382	142	276	70	23	383	204	93	0	18	20	48
411 Tanjung Belit	1,503	1,090	655	52	256	88	39	413	124	62	0	5	222	0
419 Parit I Api-Api	1,934	1,143	348	169	411	105	111	791	213	393	20	46	58	60
501 Sungai Apit	1,495	1,006	523	28	388	58	9	489	179	124	0	6	178	3
502 Sungai Kayu Ara	1,680	1,215	813	23	309	70	0	466	213	59	0	8	185	0
515 Mengkapan	1,046	694	460	24	158	32	20	352	195	66	0	26	26	38
518 Lalang	1,379	843	497	49	229	41	27	536	132	64	0	110	104	126
603 Terkul	1,604	1,080	372	160	367	86	95	524	339	84	0	20	34	47
605 Teluk Lecah	2,031	1,285	517	89	407	137	135	746	96	192	0	56	320	82
608 Tanjung Medang	1,294	345	150	0	110	17	69	949	286	150	40	100	298	75
609 Pangkalan Nyirih	1,395	534	247	0	163	82	41	861	248	172	0	91	258	92
610 Sungai Cingam	1,718	1,086	338	84	465	194	5	632	213	189	0	29	164	37
612 Tanjung Punak	1,142	277	79	0	65	83	50	865	225	150	106	57	222	105
903 Teluk Makmur	2,088	1,314	620	146	183	334	31	775	393	252	0	67	22	41
904 Guntung	1,042	690	340	30	108	125	87	352	140	0	0	25	87	100
909 Pelintung	1,877	1,179	426	224	336	128	65	698	209	252	0	117	48	73

Source : Result of Socio-economic Survey carried out by the Team (Nov. 1992)

Table 1.29 Per Capita Food Consumption by Kecamatan

Unit : kg/Year/Person

Kecamatan	Grain & Cereal	Vegetable	Meat & Poultry	Fish	Others Food
1 Bengkalis	109.4	37.6	9.9	39.3	17.9
2 Tebing Tinggi	101.2	24.8	8.9	55.2	16.8
3 Merbau	117.3	40.5	5.9	46.1	8.7
4 Bukit Batu	107.5	32.9	5.7	41.0	9.9
5 Sungai Apit	132.5	17.6	1.8	33.7	12.3
6 Rupat	67.0	22.0	3.2	27.9	9.6
9 Bukit Kapur	116.5	6.6	12.1	21.4	0.6

(Meat & Poultry in detail)

Unit : kg/Year/Person

Kecamatan	Total	Beef	Pork	Chicken	Other Meat
1 Bengkalis	9.9	0.9	1.5	7.2	0.3
2 Tebing Tinggi	8.9	0.4	2.1	6.0	0.4
3 Merbau	5.9	0.1	2.6	3.2	0.0
4 Bukit Batu	5.7	1.3	0.0	4.4	0.0
5 Sungai Apit	1.8	0.0	0.0	1.8	0.0
6 Rupat	3.2	0.2	0.1	3.1	0.0
9 Bukit Kapur	12.1	4.7	2.5	4.9	0.0

(Fish in detail)

Unit : kg/Year/Person

Kecamatan	Total	Fresh	Dried & Salted	Canned	Other Processed
1 Bengkalis	39.3	24.0	14.1	0.9	0.2
2 Tebing Tinggi	55.2	34.7	17.9	2.2	0.4
3 Merbau	46.1	32.7	13.2	0.6	0.6
4 Bukit Batu	41.0	28.1	12.4	0.4	0.0
5 Sungai Apit	33.7	21.3	10.8	0.8	0.8
6 Rupat	27.9	15.6	11.9	1.3	0.0
9 Bukit Kapur	21.4	5.2	15.4	0.8	0.0

Source : Result of Socio-economic Survey in Bengkalis (Nov. 1993)
Remark : Volume of fish was converted into weight of whole frsh fish.

Table 1.30 Per Capita Food Consumption by Desa

Unit:kg/Year/Person

	Desa	Rice	Vegi.	Meat	Fish	Others
101	Bengkalis Kota	109.9	40.9	26.3	2.0	24.9
107	Pangkalan Batang	131.4	26.3	1.9	1.0	30.0
111	Ketam Putih	0.0	312.9	3.9	5.0	0.0
112	Sebauk	141.4	27.1	18.9	5.0	14.0
116	Bantan Air	99.7	21.1	4.3	4.0	26.9
119	Teluk Pambang	89.2	26.1	1.8	5.0	25.3
121	Meskom	139.8	24.8	10.5	1.0	38.4
123	Sungai Alam	118.6	67.3	11.8	6.0	0.0
124	Kelemantan	68.1	43.5	8.7	4.0	0.0
125	Sekodi	95.0	22.0	14.3	6.0	0.0
126	Selat Baru	100.8	29.2	6.2	4.0	13.9
202	Selatpanjang Barat	120.3	45.6	9.0	5.0	4.6
206	Kedabu Rapat	135.3	21.2	11.7	6.0	10.1
208	Insit	88.5	18.4	4.6	6.0	10.1
209	Bungur	116.8	17.8	4.7	4.0	3.5
210	Teluk Buntal	67.9	8.2	4.6	5.0	22.6
211	Lemang	121.7	78.2	15.0	2.0	56.3
215	Tanjung Medang	131.0	42.8	16.7	7.0	19.8
216	Melai	99.4	12.5	6.5	6.0	0.0
217	Tanjung Gadai	94.6	13.1	5.7	6.0	8.9
222	Alai	169.4	22.2	6.3	5.0	28.2
226	Banglas	110.0	44.9	0.9	6.0	0.3
230	Topang	93.0	19.4	14.3	6.0	13.2
231	Alah Air	70.1	10.7	12.2	6.0	41.1
232	Bantar	139.9	54.5	2.9	6.0	1.1
233	Tanjung Peranap	55.8	17.9	9.1	5.0	0.0
234	Tanjung Samak	78.0	13.7	5.7	6.0	18.1
235	Beting	69.0	11.1	7.8	6.0	31.6
236	Tanjung Kedabu	84.8	8.0	14.9	4.0	55.9
301	Teluk Belitung	114.2	25.1	13.1	3.0	39.1
304	Bandul	123.7	14.7	3.0	4.0	7.4
305	Kudap	108.5	15.2	14.0	4.0	12.8
306	Dedap	135.2	12.4	1.7	6.0	0.9
308	Baran Melintang	98.6	33.4	3.9	3.0	0.0
310	Centai	119.3	11.1	6.6	6.0	8.7
311	Lukit	95.0	7.5	1.0	6.0	3.5
313	Bagan Melibur	165.8	34.3	2.1	3.0	4.0
315	Kuala Merbau	114.9	135.5	3.5	4.0	6.1
316	Meranti Bunting	105.6	13.5	2.4	6.0	8.0
317	Selat Akar	124.5	142.3	13.9	4.0	12.1
401	Sungai Pakning	118.5	22.5	4.0	3.0	5.8
402	Lubuk Muda	86.4	19.3	1.9	6.0	9.8
403	Bukit Batu	108.8	30.1	12.8	4.0	9.8
405	Tenggayun	86.5	53.9	6.2	3.0	12.1
411	Tanjung Belit	141.5	30.9	2.7	6.0	12.3
419	Parit I Api-Api	103.5	40.8	6.6	4.0	9.8
501	Sungai Apit	100.3	23.8	2.3	6.0	13.8
502	Sungai Kayu Ara	156.9	29.2	1.4	6.0	0.0
515	Mengkapan	144.8	8.8	1.2	6.0	24.0
518	Lalang	126.6	11.7	2.2	6.0	9.7
603	Terkul	93.4	31.1	10.2	3.0	26.9
605	Teluk Lecah	131.1	0.0	5.1	5.0	3.3
608	Tanjung Medang	28.0	2.2	0.0	6.0	13.0
609	Pangkalan Nyirih	64.1	24.3	0.0	5.0	8.7
610	Sungai Cingam	81.2	43.1	4.1	5.0	0.0
612	Tanjung Punak	17.4	24.5	0.0	6.0	2.2
903	Teluk Makmur	139.9	0.0	24.3	5.0	0.0
904	Guntung	94.1	8.7	2.9	6.0	1.7
909	Pelintung	119.5	10.1	9.0	4.0	0.0

Source : Result of Socio-economic Field Survey (Nov. 1992)

Table 1.31 Revenue & Operation Cost of Fishery Activity (1/3)

Boat type	Fishing gear	DESA	GT	Fish Catch (ton)	Gross Profit	Selling Amount (Rp.1000)	Ope. Cost	Boat Main.	Fishing gear	Fuel &oil	Water &food	Wages	Others
1	1 Beach Seine	206 Kedabu Rapat	-	1.5	960	1,000	40	15	25	-	-	-	-
1	1 Beach Seine	402 Lubuk Muda	0.7	1.1	3,615	3,675	60	60	-	-	-	-	-
1	1 Beach Seine	610 Sungai Cingam	-	1.8	2,800	2,852	52	-	52	-	-	-	-
1	1 Beach Seine	612 Tanjung Punak	-	1.8	2,800	2,852	52	-	52	-	-	-	-
1	3 Drift Gill Net	107 Pangkalan Batang	0.5	1.4	1,668	2,160	492	120	360	-	12	-	-
1	3 Drift Gill Net	112 Sebauk	0.5	1.2	2,085	2,400	315	200	115	-	-	-	-
1	3 Drift Gill Net	123 Sungai Alam	1.0	1.8	935	2,320	1,385	10	1,200	175	-	-	-
1	3 Drift Gill Net	126 Selat Baru	0.2	0.8	1,220	1,260	40	10	10	-	20	-	-
1	3 Drift Gill Net	206 Kedabu Rapat	-	1.3	1,048	1,123	75	30	45	-	-	-	-
1	3 Drift Gill Net	216 Melai	-	1.3	1,065	1,170	105	60	45	-	-	-	-
1	3 Drift Gill Net	217 Tanjung Gadai	0.5	0.4	834	923	89	-	89	-	-	-	-
1	3 Drift Gill Net	226 Banglas	1.0	1.9	3,569	3,675	106	60	30	-	16	-	-
1	3 Drift Gill Net	230 Topang	0.5	0.3	453	528	75	-	75	-	-	-	-
1	3 Drift Gill Net	304 Bandul	0.5	0.4	702	782	80	-	80	-	-	-	-
1	3 Drift Gill Net	310 Centai	-	1.3	1,161	1,195	34	14	20	-	-	-	-
1	3 Drift Gill Net	316 Meranti Bunting	-	0.4	618	648	30	20	10	-	-	-	-
1	3 Drift Gill Net	402 Lubuk Muda	0.6	0.4	1,082	1,152	70	70	-	-	-	-	-
1	3 Drift Gill Net	403 Bukit Batu	0.5	1.3	2,290	2,600	310	190	120	-	-	-	-
1	3 Drift Gill Net	609 Pangkalan Nyirih	1.0	1.8	935	2,320	1,385	10	1,200	175	-	-	-
1	3 Drift Gill Net	903 Teluk Makmur	0.5	0.8	856	1,166	310	10	300	-	-	-	-
1	4 Encicling Gill N	111 Ketam Putih	0.5	4.6	4,790	5,069	279	-	277	-	2	-	-
1	4 Encicling Gill N	125 Sekodi	0.4	1.5	2,135	2,320	185	5	180	-	-	-	-
1	4 Encicling Gill N	216 Melai	-	1.1	848	905	58	20	38	-	-	-	-
1	4 Encicling Gill N	301 Teluk Belitung	1.0	2.1	2,289	2,550	261	77	167	-	17	-	-
1	4 Encicling Gill N	308 Baran Melintang	1.0	1.4	1,398	1,650	253	98	75	-	80	-	-
1	4 Encicling Gill N	612 Tanjung Punak	0.5	4.6	4,790	5,069	279	-	277	-	2	-	-
1	4 Encicling Gill N	904 Guntung	0.4	1.5	2,135	2,320	185	5	180	-	-	-	-
1	5 Tramel net	403 Bukit Batu	0.5	1.9	3,365	3,800	435	240	75	-	-	-	120
1	9 Drift Long Line	216 Melai	-	0.7	450	560	110	60	50	-	-	-	-
1	10 Set Long Line	216 Melai	-	0.9	715	750	35	18	18	-	-	-	-
1	10 Set Long Line	301 Teluk Belitung	1.0	1.4	2,075	2,200	125	40	45	-	40	-	-
1	10 Set Long Line	317 Selat Akar	0.5	2.0	1,570	1,600	30	3	20	-	7	-	-
1	10 Set Long Line	403 Bukit Batu	0.5	1.2	2,125	2,400	275	150	125	-	-	-	-
1	11 Pole and Line	502 Sungai Kayu Ara	0.3	0.4	689	720	32	-	-	30	2	-	-

Remark : Boat Type ; (1) Non-powered (2) Outboard Engine (3) Inboard Engine
Source : Result of Socio-economic Interview Survey carried out by the Team (Nov. 1992)

Table 1.31 Revenue & Operation Cost of Fishery Activity (2/3)

Boat type	Fishing gear	DESA	Fish GT Catch (ton)	Gross Profit	Selling Amount (Rp.1000)	Ope. Cost	Boat Main.	Fishing gear	Fuel &oil	Water &food	Wages	Others
1	16 Other Trap	310 Centai	-	1.0	790	860	70	35	23	-	-	-	13
1	16 Other Trap	402 Lubuk Muda	0.8	0.4	1,060	1,080	20	20	-	-	-	-	-
1	16 Other Trap	501 Sungai Apit	0.3	0.3	1,068	1,086	18	18	-	-	-	-	-
1	20 Gombang	111 Ketam Putih	0.3	1.0	20	122	102	2	100	-	-	-	-
1	20 Gombang	124 Kelemantan	0.4	1.4	1,580	1,922	342	20	320	-	2	-	-
1	20 Gombang	125 Sekodi	0.3	1.7	1,296	2,085	790	393	393	-	5	-	-
1	20 Gombang	202 Selat Panjang Barat	0.5	1.4	1,439	1,551	112	55	42	-	16	-	-
1	20 Gombang	226 Banglas	0.6	1.3	1,336	1,499	164	75	49	-	39	-	-
1	20 Gombang	232 Bantar	0.6	3.7	1,415	1,541	126	67	51	-	8	-	-
1	20 Gombang	233 Tanjung Peranap	0.4	0.9	883	1,019	136	70	57	-	8	-	-
1	20 Gombang	234 Tanjung Samak	0.5	1.4	1,742	1,872	130	-	130	-	-	-	-
1	20 Gombang	304 Bandul	0.5	1.0	911	917	7	-	7	-	-	-	-
1	20 Gombang	311 Lukit	-	0.4	607	672	65	23	43	-	-	-	-
1	20 Gombang	316 Meranti Bunting	-	1.3	569	625	56	30	26	-	-	-	-
1	20 Gombang	317 Selat Akar	0.4	1.0	-80	80	160	60	100	-	-	-	-
1	20 Gombang	608 Tanjung Medang	0.3	1.7	1,296	2,085	790	393	393	-	5	-	-
1	20 Gombang	609 Pangkalan Nyirih	0.3	1.0	20	122	102	2	100	-	-	-	-
1	20 Gombang	610 Sungai Cingam	0.5	1.0	1,456	1,616	160	60	100	-	-	-	-
1	20 Gombang	904 Guntung	0.4	1.5	1,605	1,983	378	12	364	-	2	-	-
1	22 Pengri	111 Ketam Putih	0.5	1.1	1,035	1,192	158	-	155	-	3	-	-
1	22 Pengri	123 Sungai Alam	0.4	1.9	2,064	2,204	140	5	134	-	2	-	-
1	22 Pengri	210 Teluk Buntal	0.5	0.7	1,376	1,464	88	-	88	-	-	-	-
1	22 Pengri	232 Bantar	0.5	9.6	2,338	2,448	110	-	60	-	50	-	-
1	22 Pengri	518 Lalang	-	0.5	599	648	49	23	26	-	-	-	-
1	22 Pengri	608 Tanjung Medang	0.5	1.0	1,426	1,556	130	10	120	-	-	-	-
1	22 Pengri	609 Pangkalan Nyirih	0.4	2.1	2,276	2,420	144	3	138	-	2	-	-
1	22 Pengri	612 Tanjung Punak	0.5	1.1	1,035	1,192	158	-	155	-	3	-	-
1	24 Kiso	125 Sekodi	0.5	0.8	2,774	2,934	160	60	100	-	-	-	-
1	24 Kiso	209 Bungur	-	0.6	800	865	65	24	41	-	-	-	-
1	24 Kiso	608 Tanjung Medang	0.5	0.8	2,774	2,934	160	60	100	-	-	-	-
2	10 Set Long Line	903 Teluk Makmur	8.0	2.0	1,006	1,200	194	25	155	11	0	-	3
2	16 Other Trap	209 Bungur	1.0	5.0	3,170	4,500	1,330	100	150	780	-	-	300

Remark : Boat Type ; (1) Non-powered (2) Outboard Engine (3) Inboard Engine

Source : Result of Socio-economic Interview Survey carried out by the Team (Nov. 1992)

Table 1.31 Revenue & Operation Cost of Fishery Activity (3/3)

Boat type		Fishing gear		DESA	GT	Fish Catch (ton)	Gross Profit	Selling Amount (Rp.1000)	Ope. Cost	Boat Main.	Fishing gear	Fuel &oil	Water &food	Wages	Others
3	3	Drift Gill Net	101	Bengkalis Kota	4.2	2.9	5,308	8,310	3,002	200	559	776	112	1,056	300
3	3	Drift Gill Net	112	Sebauk	2.0	0.8	1,424	2,100	676	127	189	338	22	-	-
3	3	Drift Gill Net	116	Bantan Air	0.8	1.0	2,563	3,600	1,037	360	360	306	11	-	-
3	3	Drift Gill Net	121	Meskom	1.4	1.6	2,258	4,033	1,776	172	228	342	31	960	43
3	3	Drift Gill Net	126	Selat Baru	0.7	1.0	704	1,440	736	100	100	450	11	-	75
3	3	Drift Gill Net	202	Selat Panjang Barat	5.0	2.0	2,916	4,557	1,640	50	300	471	29	750	40
3	3	Drift Gill Net	206	Kedabu Rapat	5.0	10.0	4,890	9,500	4,610	50	35	725	-	3,500	300
3	3	Drift Gill Net	215	Tanjung Medang	3.0	11.0	8,223	17,464	9,241	500	288	5,110	31	2,400	912
3	3	Drift Gill Net	226	Banglas	1.0	1.4	1,482	3,600	2,118	60	50	792	16	1,200	-
3	3	Drift Gill Net	232	Bantar	3.0	2.0	2,826	5,228	2,402	88	288	648	64	1,290	25
3	3	Drift Gill Net	306	Dedap	3.0	4.8	4,048	9,600	5,552	210	2,600	1,776	-	840	126
3	3	Drift Gill Net	313	Bagan Melibur	3.7	4.2	3,985	5,767	1,781	193	133	758	117	493	87
3	3	Drift Gill Net	315	Kuala Merbau	4.0	1.8	1,930	3,000	1,070	120	120	490	40	200	100
3	3	Drift Gill Net	317	Selat Akar	1.2	1.2	1,117	2,006	890	130	104	603	-	-	53
3	3	Drift Gill Net	402	Lubuk Muda	1.0	1.5	3,282	3,750	468	60	4	404	-	-	-
3	3	Drift Gill Net	903	Teluk Makmur	4.0	2.0	-783	6,400	7,183	800	5,400	936	32	-	15
3	4	Encicling Gill N	313	Bagan Melibur	2.5	2.9	2,912	4,500	1,588	140	130	848	100	270	100
3	5	Tramel net	403	Bukit Batu	2.0	0.9	1,695	3,500	1,805	200	92	198	135	1,080	100
3	8	Other Lift Net	305	Kudap	7.0	4.5	881	1,360	479	-	150	64	30	100	135
3	8	Other Lift Net	502	Sungai Kayu Ara	1.0	1.1	3,061	3,380	319	53	-	266	-	-	-
3	9	Drift Long Line	206	Kedabu Rapat	60.0	60.0	1,000	12,000	11,000	100	150	1,960	90	7,200	1,500
3	9	Drift Long Line	313	Bagan Melibur	4.0	0.9	956	2,200	1,244	90	160	524	50	420	-
3	10	Set Long Line	101	Bengkalis Kota	1.0	1.5	2,149	3,750	1,601	150	65	306	20	960	100
3	10	Set Long Line	112	Sebauk	0.8	0.8	1,499	2,000	501	90	85	306	20	-	-
3	10	Set Long Line	116	Bantan Air	0.8	2.9	2,674	3,840	1,166	450	390	306	20	-	-
3	10	Set Long Line	119	Teluk Pambang	1.4	2.0	2,122	3,024	902	360	216	306	20	-	-
3	10	Set Long Line	304	Bandul	1.3	1.1	-	1,080	1,080	80	120	810	-	-	70
3	10	Set Long Line	308	Baran Melintang	1.5	1.4	1,415	2,800	1,385	180	200	435	60	360	150
3	10	Set Long Line	317	Selat Akar	2.0	6.0	1,614	2,100	487	100	300	20	-	62	5
3	10	Set Long Line	515	Mengkapan	1.0	0.7	1,234	1,750	516	90	100	306	20	-	-
3	16	Other Trap	209	Bungur	1.0	8.0	730	4,000	3,270	120	200	650	-	1,800	500
3	20	Gombang	126	Selat Baru	0.7	1.7	1,029	2,400	1,371	200	200	900	11	-	60
3	20	Gombang	215	Tanjung Medang	3.0	2.5	5,786	12,500	6,714	500	360	2,590	24	2,400	840
3	20	Gombang	317	Selat Akar	2.4	4.0	1,104	2,080	976	115	350	448	-	39	24
3	26	Kiso	226	Banglas	1.0	0.1	300	300	-	-	-	-	-	-	-

Remark : Boat Type ; (1) Non-powered (2) Outboard Engine (3) Inboard Engine

Source : Result of Socio-economic Interview Survey carried out by the Team (Nov. 1992)

Table 1.32 Gross Profit Ratio & Composition of Operation Cost in Fishery Act (1/3)

Boat type		Fishing gear		DESA	GT	Fish Catch (ton)	Gross Profit	Selling Amount (Rp.1000)	Ope. Cost	Gross Profit Ratio	Composition of Operation Cost (%)					
											Boat Maint.	Fishing gear	Fuel &oil	Water $food	Wages	Others
1	1	Beach Seine	206	Kedabu Rapat	-	1.5	960	1,000	40	96.0%	37.5%	62.5%	-	-	-	-
1	1	Beach Seine	402	Lubuk Muda	0.7	1.1	3,615	3,675	60	98.4%	100.0%	-	-	-	-	-
1	1	Beach Seine	610	Sungai Cingam	-	1.8	2,800	2,852	52	98.2%	-	100.0%	-	-	-	-
1	1	Beach Seine	612	Tanjung Punak	-	1.8	2,800	2,852	52	98.2%	-	100.0%	-	-	-	-
1	3	Drift Gill Net	107	Pangkalan Batang	0.5	1.4	1,668	2,160	492	77.2%	24.4%	73.2%	-	2.4%	-	-
1	3	Drift Gill Net	112	Sebauk	0.5	1.2	2,085	2,400	315	86.9%	63.5%	36.5%	-	-	-	-
1	3	Drift Gill Net	123	Sungai Alam	1.0	1.8	935	2,320	1,385	40.3%	0.7%	86.6%	12.6%	-	-	-
1	3	Drift Gill Net	126	Selat Baru	0.2	0.8	1,220	1,260	40	96.8%	25.0%	25.0%	-	50.0%	-	-
1	3	Drift Gill Net	206	Kedabu Rapat	-	1.3	1,048	1,123	75	93.3%	40.0%	60.0%	-	-	-	-
1	3	Drift Gill Net	216	Melai	-	1.3	1,065	1,170	105	91.0%	57.1%	42.9%	-	-	-	-
1	3	Drift Gill Net	217	Tanjung Gadai	0.5	0.4	834	923	89	90.4%	-	100.0%	-	-	-	-
1	3	Drift Gill Net	226	Banglas	1.0	1.9	3,569	3,675	106	97.1%	56.6%	28.3%	-	15.1%	-	-
1	3	Drift Gill Net	230	Topang	0.5	0.3	453	528	75	85.8%	-	100.0%	-	-	-	-
1	3	Drift Gill Net	304	Bandul	0.5	0.4	702	782	80	89.8%	-	100.0%	-	-	-	-
1	3	Drift Gill Net	310	Centai	-	1.3	1,161	1,195	34	97.2%	40.7%	59.3%	-	-	-	-
1	3	Drift Gill Net	316	Meranti Bunting	-	0.4	618	648	30	95.4%	66.7%	33.3%	-	-	-	-
1	3	Drift Gill Net	402	Lubuk Muda	0.6	0.4	1,082	1,152	70	93.9%	100.0%	-	-	-	-	-
1	3	Drift Gill Net	403	Bukit Batu	0.5	1.3	2,290	2,600	310	88.1%	61.3%	38.7%	-	-	-	-
1	3	Drift Gill Net	609	Pangkalan Nyirih	1.0	1.8	935	2,320	1,385	40.3%	0.7%	86.6%	12.6%	-	-	-
1	3	Drift Gill Net	903	Teluk Makmur	0.5	0.8	856	1,166	310	73.4%	3.2%	96.8%	-	-	-	-
1	4	Encicling Gill N	111	Ketam Putih	0.5	4.6	4,790	5,069	279	94.5%	-	99.4%	-	0.6%	-	-
1	4	Encicling Gill N	125	Sekodi	0.4	1.5	2,135	2,320	185	92.0%	2.7%	97.3%	-	-	-	-
1	4	Encicling Gill N	216	Melai	-	1.1	848	905	58	93.6%	34.8%	65.2%	-	-	-	-
1	4	Encicling Gill N	301	Teluk Belitung	1.0	2.1	2,289	2,550	261	89.8%	29.7%	63.9%	-	6.4%	-	-
1	4	Encicling Gill N	308	Baran Melintang	1.0	1.4	1,398	1,650	253	84.7%	38.6%	29.7%	-	31.7%	-	-
1	4	Encicling Gill N	612	Tanjung Punak	0.5	4.6	4,790	5,069	279	94.5%	-	99.4%	-	0.6%	-	-
1	4	Encicling Gill N	904	Guntung	0.4	1.5	2,135	2,320	185	92.0%	2.7%	97.3%	-	-	-	-
1	5	Tramel net	403	Bukit Batu	0.5	1.9	3,365	3,800	435	88.6%	55.2%	17.2%	-	-	-	27.6%
1	9	Drift Long Line	216	Melai	-	0.7	450	560	110	80.4%	54.5%	45.5%	-	-	-	-
1	10	Set Long Line	216	Melai	-	0.9	715	750	35	95.3%	50.0%	50.0%	-	-	-	-
1	10	Set Long Line	301	Teluk Belitung	1.0	1.4	2,075	2,200	125	94.3%	32.0%	36.0%	-	32.0%	-	-
1	10	Set Long Line	317	Selat Akar	0.5	2.0	1,570	1,600	30	98.1%	10.0%	66.7%	-	23.3%	-	-
1	10	Set Long Line	403	Bukit Batu	0.5	1.2	2,125	2,400	275	88.5%	54.5%	45.5%	-	-	-	-
1	11	Pole and Line	502	Sungai Kayu Ara	0.3	0.4	689	720	32	95.6%	-	-	95.2%	4.8%	-	-

Remark : Boat Type ; (1) Non-powered (2) Outboard Engine (3) Inboard Engine

Source : Result of Socio-economic Interview Survey carried out by the Team (Nov. 1992)

Table 1.32 Gross Profit Ratio & Composition of Operation Cost in Fishery Activity (2/3)

Boat type	Fishing gear	DESA	GT	Fish Catch (ton)	Gross Profit	Selling Amount (Rp.1000)	Ope. Cost	Gross Profit Ratio	Composition of Operation Cost (%)					
									Boat Maint.	Fishing gear	Fuel &oil	Water $food	Wages	Others
1	16 Other Trap	310 Centai	-	1.0	790	860	70	91.9%	50.0%	32.1%	-	-	-	17.9%
1	16 Other Trap	402 Lubuk Muda	0.8	0.4	1,060	1,080	20	98.1%	100.0%	-	-	-	-	-
1	16 Other Trap	501 Sungai Apit	0.3	0.3	1,068	1,086	18	98.3%	100.0%	-	-	-	-	-
1	20 Gombang	111 Ketam Putih	0.3	1.0	20	122	102	16.4%	2.0%	98.0%	-	-	-	-
1	20 Gombang	124 Kelemantan	0.4	1.4	1,580	1,922	342	82.2%	5.8%	93.6%	-	0.6%	-	-
1	20 Gombang	125 Sekodi	0.3	1.7	1,296	2,085	790	62.1%	49.7%	49.7%	-	0.6%	-	-
1	20 Gombang	202 Selat Panjang Barat	0.5	1.4	1,439	1,551	112	92.8%	49.0%	37.1%	-	13.9%	-	-
1	20 Gombang	226 Banglas	0.6	1.3	1,336	1,499	164	89.1%	45.9%	30.1%	-	24.1%	-	-
1	20 Gombang	232 Bantar	0.6	3.7	1,415	1,541	126	91.9%	53.1%	40.3%	-	6.6%	-	-
1	20 Gombang	233 Tanjung Peranap	0.4	0.9	883	1,019	136	86.7%	51.7%	42.2%	-	6.1%	-	-
1	20 Gombang	234 Tanjung Samak	0.5	1.4	1,742	1,872	130	93.1%	-	100.0%	-	-	-	-
1	20 Gombang	304 Bandul	0.5	1.0	911	917	7	99.3%	-	100.0%	-	-	-	-
1	20 Gombang	311 Lukit	-	0.4	607	672	65	90.3%	34.6%	65.4%	-	-	-	-
1	20 Gombang	316 Meranti Bunting	-	1.3	569	625	56	91.0%	53.6%	46.4%	-	-	-	-
1	20 Gombang	317 Selat Akar	0.4	1.0	-80	80	160	-100.0%	37.5%	62.5%	-	-	-	-
1	20 Gombang	608 Tanjung Medang	0.3	1.7	1,296	2,085	790	62.1%	49.7%	49.7%	-	0.6%	-	-
1	20 Gombang	609 Pangkalan Nyirih	0.3	1.0	20	122	102	16.4%	2.0%	98.0%	-	-	-	-
1	20 Gombang	610 Sungai Cingam	0.5	1.0	1,456	1,616	160	90.1%	37.5%	62.5%	-	-	-	-
1	20 Gombang	904 Guntung	0.4	1.5	1,605	1,983	378	80.9%	3.2%	96.2%	-	0.6%	-	-
1	22 Pengri	111 Ketam Putih	0.5	1.1	1,035	1,192	158	86.8%	-	98.4%	-	1.6%	-	-
1	22 Pengri	123 Sungai Alam	0.4	1.9	2,064	2,204	140	93.6%	3.6%	95.2%	-	1.2%	-	-
1	22 Pengri	210 Teluk Buntal	0.5	0.7	1,376	1,464	88	94.0%	-	100.0%	-	-	-	-
1	22 Pengri	232 Bantar	0.5	9.6	2,338	2,448	110	95.5%	-	54.5%	-	45.5%	-	-
1	22 Pengri	518 Lalang	-	0.5	599	648	49	92.5%	46.2%	53.8%	-	-	-	-
1	22 Pengri	608 Tanjung Medang	0.5	1.0	1,426	1,556	130	91.6%	7.7%	92.3%	-	-	-	-
1	22 Pengri	609 Pangkalan Nyirih	0.4	2.1	2,276	2,420	144	94.1%	2.3%	96.1%	-	1.6%	-	-
1	22 Pengri	612 Tanjung Punak	0.5	1.1	1,035	1,192	158	86.8%	-	98.4%	-	1.6%	-	-
1	24 Kiso	125 Sekodi	0.5	0.8	2,774	2,934	160	94.5%	37.5%	62.5%	-	-	-	-
1	24 Kiso	209 Bungur	-	0.6	800	865	65	92.5%	36.5%	63.5%	-	-	-	-
1	24 Kiso	608 Tanjung Medang	0.5	0.8	2,774	2,934	160	94.5%	37.5%	62.5%	-	-	-	-
2	10 Set Long Line	903 Teluk Makmur	8.0	2.0	1,006	1,200	194	83.9%	12.9%	80.0%	5.7%	0.1%	-	1.3%
2	16 Other Trap	209 Bungur	1.0	5.0	3,170	4,500	1,330	70.4%	7.5%	11.3%	58.6%	-	-	22.6%

Remark : Boat Type ; (1) Non-powered (2) Outboard Engine (3) Inboard Engine

Source : Result of Socio-economic Interview Survey carried out by the Team (Nov. 1992)

Table 1.32 Gross Profit Ratio & Composition of Operation Cost in Fishery Activity (3/3)

Boat type		Fishing gear		DESA	GT	Fish Catch (ton)	Gross Profit	Selling Amount (Rp.1000)	Ope. Cost	Gross Profit Ratio	Composition of Operation Cost (%) Boat Maint.	Fishing gear	Fuel &oil	Water $food	Wages	Others
3	3	Drift Gill Net	101	Bengkalis Kota	4.2	2.9	5,308	8,310	3,002	63.9%	6.7%	18.6%	25.9%	3.7%	35.2%	10.0%
3	3	Drift Gill Net	112	Sebauk	2.0	0.8	1,424	2,100	676	67.8%	18.7%	28.0%	50.1%	3.2%	-	-
3	3	Drift Gill Net	116	Bantan Air	0.8	1.0	2,563	3,600	1,037	71.2%	34.7%	34.7%	29.5%	1.1%	-	-
3	3	Drift Gill Net	121	Meskom	1.4	1.6	2,258	4,033	1,776	56.0%	9.7%	12.8%	19.3%	1.8%	54.1%	2.4%
3	3	Drift Gill Net	126	Selat Baru	0.7	1.0	704	1,440	736	48.9%	13.6%	13.6%	61.1%	1.5%	-	10.2%
3	3	Drift Gill Net	202	Selat Panjang Barat	5.0	2.0	2,916	4,557	1,640	64.0%	3.0%	18.3%	28.7%	1.8%	45.7%	2.4%
3	3	Drift Gill Net	206	Kedabu Rapat	5.0	10.0	4,890	9,500	4,610	51.5%	1.1%	0.8%	15.7%	-	75.9%	6.5%
3	3	Drift Gill Net	215	Tanjung Medang	3.0	11.0	8,223	17,464	9,241	47.1%	5.4%	3.1%	55.3%	0.3%	26.0%	9.9%
3	3	Drift Gill Net	226	Banglas	1.0	1.4	1,482	3,600	2,118	41.2%	2.8%	2.4%	37.4%	0.8%	56.7%	-
3	3	Drift Gill Net	232	Bantar	3.0	2.0	2,826	5,228	2,402	54.1%	3.6%	12.0%	27.0%	2.7%	53.7%	1.0%
3	3	Drift Gill Net	306	Dedap	3.0	4.8	4,048	9,600	5,552	42.2%	3.8%	46.8%	32.0%	-	15.1%	2.3%
3	3	Drift Gill Net	313	Bagan Melibur	3.7	4.2	3,985	5,767	1,781	69.1%	10.9%	7.5%	42.6%	6.5%	27.7%	4.9%
3	3	Drift Gill Net	315	Kuala Merbau	4.0	1.8	1,930	3,000	1,070	64.3%	11.2%	11.2%	45.8%	3.7%	18.7%	9.3%
3	3	Drift Gill Net	317	Selat Akar	1.2	1.2	1,117	2,006	890	55.7%	14.6%	11.6%	67.8%	-	-	6.0%
3	3	Drift Gill Net	402	Lubuk Muda	1.0	1.5	3,282	3,750	468	87.5%	12.8%	0.7%	86.4%	-	-	-
3	3	Drift Gill Net	903	Teluk Makmur	4.0	2.0	-783	6,400	7,183	-12.2%	11.1%	75.2%	13.0%	0.4%	-	0.2%
3	4	Encicling Gill N	313	Bagan Melibur	2.5	2.9	2,912	4,500	1,588	64.7%	8.8%	8.2%	53.4%	6.3%	17.0%	6.3%
3	5	Tramel net	403	Bukit Batu	2.0	0.9	1,695	3,500	1,805	48.4%	11.1%	5.1%	11.0%	7.5%	59.8%	5.5%
3	8	Other Lift Net	305	Kudap	7.0	4.5	881	1,360	479	64.8%	-	31.3%	13.4%	6.3%	20.9%	28.2%
3	8	Other Lift Net	502	Sungai Kayu Ara	1.0	1.1	3,061	3,380	319	90.6%	16.7%	-	83.3%	-	-	-
3	9	Drift Long Line	206	Kedabu Rapat	60.0	60.0	1,000	12,000	11,000	8.3%	0.9%	1.4%	17.8%	0.8%	65.5%	13.6%
3	9	Drift Long Line	313	Bagan Melibur	4.0	0.9	956	2,200	1,244	43.5%	7.2%	12.9%	42.1%	4.0%	33.8%	-
3	10	Set Long Line	101	Bengkalis Kota	1.0	1.5	2,149	3,750	1,601	57.3%	9.4%	4.1%	19.1%	1.2%	60.0%	6.2%
3	10	Set Long Line	112	Sebauk	0.8	0.8	1,499	2,000	501	75.0%	18.0%	17.0%	61.1%	4.0%	-	-
3	10	Set Long Line	116	Bantan Air	0.8	2.9	2,674	3,840	1,166	69.6%	38.6%	33.4%	26.2%	1.7%	-	-
3	10	Set Long Line	119	Teluk Pambang	1.4	2.0	2,122	3,024	902	70.2%	39.9%	23.9%	33.9%	2.2%	-	-
3	10	Set Long Line	304	Bandul	1.3	1.1	-	1,080	1,080	-	7.4%	11.1%	75.0%	-	-	6.5%
3	10	Set Long Line	308	Baran Melintang	1.5	1.4	1,415	2,800	1,385	50.5%	13.0%	14.4%	31.4%	4.3%	26.0%	10.8%
3	10	Set Long Line	317	Selat Akar	2.0	6.0	1,614	2,100	487	76.8%	20.6%	61.7%	4.0%	-	12.7%	1.0%
3	10	Set Long Line	515	Mengkapan	1.0	0.7	1,234	1,750	516	70.5%	17.4%	19.4%	59.3%	3.9%	-	-
3	16	Other Trap	209	Bungur	1.0	8.0	730	4,000	3,270	18.3%	3.7%	6.1%	19.9%	-	55.0%	15.3%
3	20	Gombang	126	Selat Baru	0.7	1.7	1,029	2,400	1,371	42.9%	14.6%	14.6%	65.6%	0.8%	-	4.4%
3	20	Gombang	215	Tanjung Medang	3.0	2.5	5,786	12,500	6,714	46.3%	7.4%	5.4%	38.6%	0.4%	35.7%	12.5%
3	20	Gombang	317	Selat Akar	2.4	4.0	1,104	2,080	976	53.1%	11.8%	35.9%	45.9%	-	3.9%	2.5%
3	26	Kiso	226	Banglas	1.0	0.1	300	300	-	100.0%	-	-	-	-	-	-

Remark : Boat Type ; (1) Non-powered (2) Outboard Engine (3) Inboard Engine

Source : Result of Socio-economic Interview Survey carried out by the Team (Nov. 1992)

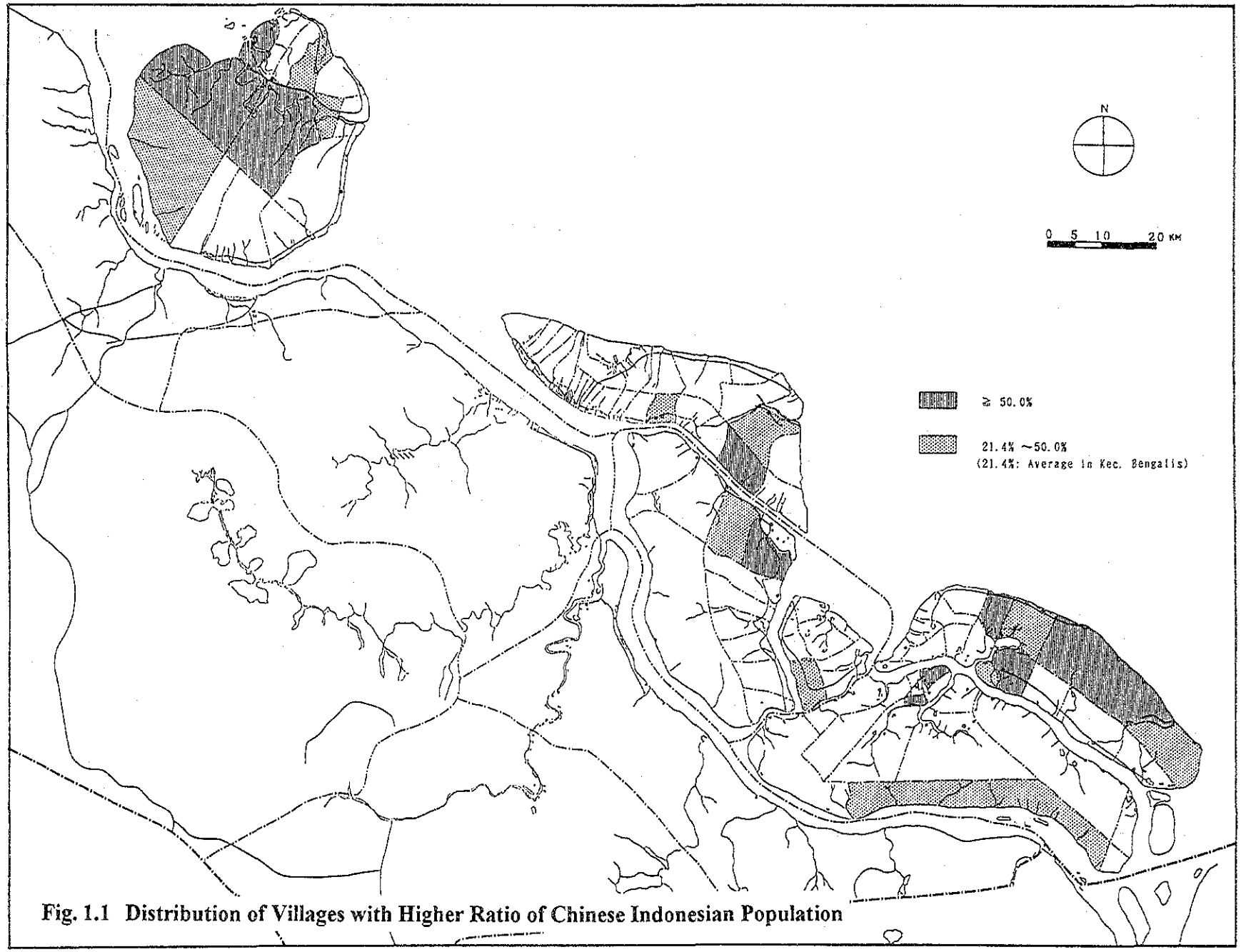

Fig. 1.1 Distribution of Villages with Higher Ratio of Chinese Indonesian Population

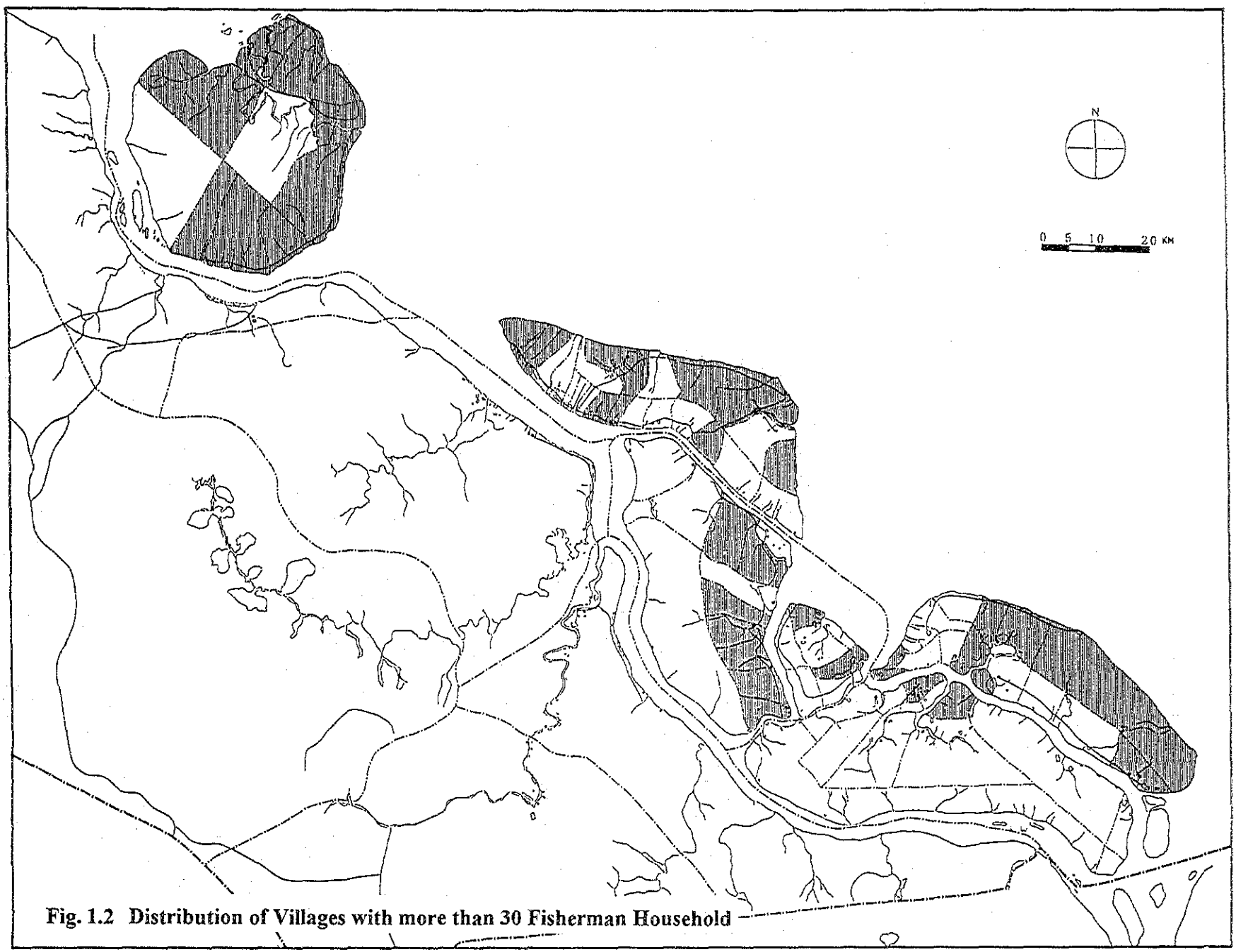

Fig. 1.2 Distribution of Villages with more than 30 Fisherman Household

Fig. 1.3 Distribution of Villages indicating per Capita Net Income below USS 160

Fig. 1.4 Land Use Map Planned by BAPPEDA in Kec. Bengkalis

2. Fish Production and Environment of Fishing Grounds

2. Fish Production and Environment of Fishing Grounds

2.1 Fishery Development Plan 57

2.1.1 Goals, policies, and strategy of REPELITA V (1989-1993) 57

2.1.2Fisheries Development Plan in Riau Province 58

2.2 Fishery Resources 59

2.3 Fishing Environment of Riau Province 62

2.3.1 Weather conditions 62

2.3.2 Ocean conditions 63

2.4 Summary of Fisheries Activities in Riau Province 64

2.4.1 Trend of Fish Catch 64

2.4.2 Trend of Number of Fishing Boats in Marine Fisheries 65

2.4.3 Major Fish Type of Fish Catch 65

2.4.4 Major Fishing Methods 66

2.4.5 Population of Fishermen 66

2.5 Outline of Fishing Activities in Kab. Bengkalis 66

2.5.1 Trend of Fish Production 66

2.5.2 Trend of Number of Fishing Boats in Marine Fisheries 67

2.5.3 Major Fishing Methods 67

2.5.4 Population of Fishermen 68

2.6 Outline of Fishing Activities in the Study Area 68

2.6.1 Major Fishing Methods 68

2.6.2 Location of Fishing Grounds 70

2.6.3 Trends in Fish Catch by Season, Fishing Method and Fish Species 72

2.6.4 Income Distribution Between Fishermen and Boat Owners 73

2.6.5 Field Survey Findings on Actual Conditions in Fish Production 74

2.7 Constraints of Existing Fisheries in the Study Area 77

2.8 Important Factors Regarding Selection of Model Site 78

Tables & Figures

Table 2.1 Outline of Fishery Development Project in Riau Province 80

Table 2.2 Annual Landings and CPUE of Demarsal Fish in Malacca Strait 80

Table 2.3 Fishery Resources and Potential in the Malacca Strait 80

Table 2.4 CPUE of Pelagic Fish in Malacca Strait (1969～1990) 81
Table 2.5 Annual Raindays in Riau Province (1986～1990) 81
Table 2.6 Monthly Raindays in Riau Province (1990) 81
Table 2.7 Amount of Rainfall by Regency (1990) 82
Table 2.8 Prevailing Direction of Wind Velocity
in Pakanbaru Municipality, 1990 82
Table 2.9 Fish Production by Regency in Riau Province (1991) 82
Table 2.10 Change of Marine Fishery Production
in Riau Province(1987～1991) 83
Table 2.11 Change of Marine Fish Production
in Riau Province (1987～1991) 83
Table 2.12 Change of Marine Crustacean Production
in Riau Province(1987～1991) 83
Table 2.13 Change of Marine Mollusc Production
in Riau Province(1987～1991) 83
Table 2.14 Change of Freshwater Fishery Production
in Riau Province(1987～1991) 84
Table 2.15 Change of Freshwater Fish Production
in Riau Province(1987～1991) 84
Table 2.16 Change of Freshwater Crustacean Production
in Riau Province(1987～1991) 84
Table 2.17 Number of Fishing Boat (Non-powered boat)
in Riau Province (1/4) 85
Table 2.17 Number of Fishing Boat (Out-board)
in Riau Province (2/4) 85
Table 2.17 Number of Fishing Boat (In-boar <5GT)
in Riau Province (3/4) 85
Table 2.17 Number of Fishing Boat (In-board >5GT)
in Riau Province (4/4) 85
Table 2.18 Production Volume of Marine Fisheries
in Riau Province by Speaces by Kabupaten in 1991 86
Table 2.19 Marine Fishery Production
by Kabupaten by Fishing Gear(1991) 87
Table 2.20 Number of Fishermen's Household by Kabupaten
by Size of Fishing Boat 87
Table 2.21 Fish Production by Kecamatan
in Kab. Bengkalis (1991) 87
Table 2.22 Annual Marine Fisheries Production
in Kec.Bengkalis (1987～1991) 88
Table 2.23 Annual Inland Fishery Production
in Kab. Bengkalis (1987～1991) 88
Table 2.24 Number of Fishing Boat by Kecamatan
in Kab. Bengkalis (1991) 89
Table 2.25 Change of Number of Fishing Baot by Kecamatang
in Kab. Bengkalis (1987～1991) 89
Table 2.26 Change of Number of Fishing Gear by Kecamatang
in Kab. Bengkalis (1987～1991) 90

Table 2.27 Number of Fishermen's Household by Kecamatan in Kab. Bengkalis (1991) 91
Table 2.28 Average Catch by Gill Net with Powered Boat in 1992 92
Table 2.29 Average Catch by Set long line with Non powered Boat in 1992 92
Table 2.30 Average Catch Volume of First Class Fish by Gill Net in 1992 92
Table 2.31 Average Catch by Gombang in 1992 92
Table 2.32 Composition of Gombang Catch in Kec.Bengkalis/B.Batu in 1992 ... 92
Table 2.33 Composition of Gombang Catch in Kec.T.Tinggi/Merbau in 1992 ... 92
Table 2.34 Composition of Gombang Catch in Kec.Dumai/Rupat in 1992 92
Table 2.35 Number of Interviewee by Boat Ownership by Desa 93
Table 2.36 Fishing Style of Interviewee whose Average Catch is More Than 1,000kg/operation 94
Table 2.37 Condition of Ice for Catches by Fishing Gear (1/2) Non Powered Boat 94
Table 2.37 Condition of Ice for Catches by Fishing Gear (2/2) Powered Boat 94
Table 2.38 Reason not to Use Ice (1/2) Non Powered Boat 95
Table2.38 Reason not to Use Ice (2/2) Powered Boat 95
Table 2.39 Unloading Site Selection by Kecamatan (1/2) Non Powered Boat ... 95
Table 2.39 Unloading Site Selection by Kecamatan (2/2) Powered Boat 95
Table 2.40 Selection of Wholesaler (1/2) Non Powered Boat 96
Table 2.40 Selection of Wholesaler (2/2) Powered Boat 96
Table 2.41 Type of Wholesaler by Fishing Gear (1/2) Non Powered Boat 96
Table 2.41 Type of Wholesaler by Fishing Gear (2/2) Powered Boat 97
Table 2.42 Recognition of Fishing Lows 97

Fig. 2.1 Number of Fishing Boat and Fishermen in Malacca Strait 98
Fig. 2.2 Number of Fishing Gear and Fish Catch in Malacca Strait 98
Fig. 2.3 Annual Fish Catch per Fishing Unit in Malacca Strait 99
Fig. 2.4 Number of Fishing Boat and Fishermen of Riau Province in Malacca Strait 99
Fig. 2.5 Number of Fishing Gear and Fish Catch of Riau Province in Malacca Strait 100
Fig. 2.6 Annual Fish Catch per Fishing Unit of Riau Province in Malacca Strait 100
Fig.2.7 Main Fishing Ground by Fishing Gear 101

Appendix 1. Average Catch of Powered Boat by Area By Fishing Gear 102
Appendix 2. Average Catch of Non Powered Boat by Area By Fishing Gear 103

2. Fish Production and Environment of Fishing Grounds

2.1 Fishery Development Plan

2.1.1 Goals, policies, and strategy of REPELITA V (1989-1993)

(1) Basic policy on natural resources and environmental protection of REPELITA V

REPELITA V is the last stage of the First Long-term Development Plan (25 years) and its goal is economic improvement. Its basic policy is inherited from REPELITA IV and its goals are to improve the life of the populace and to build a strong economic foundation for the next stage of development.

In addition, the condition for economic growth achievement requires natural resource management that insures sustainable development of natural resources, in accordance with the stance that natural resources and the environment are assets to be inherited by the next generation.

Chapter 8 of REPELITA V entitled, "Protection of Natural Resources and the Environment", stipulates that the basic policy of environmental protection measures is rooted in sustainable development and an outline of the basic policy is given below.

- By protecting the abilities and functions of the ecosystem, its sustainability will be improved.
- Technology which will ensure sustainable development of natural resources will be used as much as possible.
- In sectors other than natural resources and environment, sustainable development measures will be adopted, irrespective of duration or region.
- The supply and sustainability of natural resources by the ecosystem will be protected and its functions will be preserved and improved.
- Conservation measures will be based on the functions and abilities of the ecosystem and its processes will be utilized.

(2) Goals, policies, and strategy in fishery development

An outline of the goals targeted in REPELITA V for fishery study is given below.

- Fisheries will provide a source of food for the populace, particularly animal protein.
- A source of hard currency will be procured by promoting aquaculture in coastal, brackish water, and fresh water areas.
- A source of hard currency will be provided by strengthening fishing within the EEZ and offshore waters.
- Protection and guidance measures for petty aquaculture operators and fishermen will be strengthened, in order to raise fishermen income levels and to develop the coastal communities.