6.4 OVERVIEW

6.4.1 West Kalimantan

The Province of West Kalimantan has a land area of 146,807 km2, out of which 91,211 km2 is utilized for forestry, 23,245 km2 cultivated for agriculture, and 20,440 km2 being inland open water surface. The western rim of the province faces the Natuna Sea and the Kalimantan Strait which are surrounded by the Islands of Belitung and Banka in the south, the Lingga Islands on the west and the Anambas Islands and the Natuna Islands in the north. This part of the sea covers an area of approximately 160,000 Km2, slightly larger than the land area of the province and is made up of a relatively shallow water-mass of the archipelagic sea. The sea coast stretches over a distance of 1,163 km from north to south.

Nearly one third of the coastal area of the province in its south-western part is marshy swamp land covered with thick mangrove-type vegetation. Those low and wet coastal areas which are scarcely inhabited have been left undeveloped and are hardly accessible from any populated transport point inland.

The area of the inland open water surface that accounts for 16% of the province's total land area is almost as large as the cultivated land area for agriculture. The River of Kapuas, the longest river in the whole of Indonesia and the most representative feature of the province, flows down through the province from east to west over the distance of almost 1,200 km, the same length as that of the province's sea coast. This Kapuas River and other rivers, together with a number of inland lakes, form the vast expanse of inland open water surface upon which highly productive activities of fishing and aquaculture thrive.

(1) Fisherman and Fish Farmers

The population of the province to-date is estimated to be 3,650,000 with the number of fishermen and fish farmers in their respective sub-sectors as of 1996 are:

Marine Fishery	26,800		
Inland Open Water Fishery	27,400		
Aquaculture	52,800	Total	107,000

While the fishermen in the marine fishery sub-sector are almost fully engaged in fishing activities, the fishermen in the inland open water fishery sub-sector are almost fully engaged in fishing activities only during the dry season of the year, or for four months in a year. During the rainy season river water currents are too strong and swift to conduct fishing in rivers using small canoc or perahu type fishing crafts with small-scale gill nets, thereby compelling the

fishermen in the inland open water fishery to look for alternate jobs on land to serve as casual laborers in forestry or agriculture.

The fish farmers in aquaculture, the great majority being in "Kolam" or fresh-water fish pond culture, also serve as agricultural farmers or casual laborers most of the time. This is because the current fresh-water fish pond culture operations are carried out on a small-scale, extensive manner, taking six months to one year for fish to grow up to marketable sizes. Therefore, the fish farmers have to keep working in other jobs to sustain their livelihood until the harvest time often working as agricultural farmers or laborers and making fish culture as their subsidiary subsistence activity.

(2) Production Levels

The fisheries sector of the province is characterized by the activities in the substantially large inland open water fishery sub-sector which contributes one quarter of the province's total fisheries production. However, the production of both the inland open water fishery and the marine fishery sub-sectors had leveled off over the past seven years or so at the level attained in 1990. The fish capture efforts represented by the size of the fishing fleet force and by the number of households and other entities undertaking fishing activities in these two sub-sectors has been maintained at a consistent level or rather strengthened slightly, over the past several years. Judging from this situation, it may be said that the production in recent years in these two sub-sectors has followed a declining trend.

In the aquaculture sub-sector, production, which accounts only for less than 3% of the province's total fisheries production in 1996, has shown a steady increase reflecting substantial expansion in the water surface area utilized in fish farming. Investment of further capital in this sub-sector by the private sector and input of additional labor manpower are expected to enhance further growth in the aquaculture production.

In the landings of fish catches from the sea, many species of fish of a wide variety, both pelagic and demersal, are found. One matter that draws particular concern with the landings of marine fish at any fish landing center is the dominant presence of juvenile or very young fishes of high-value species such as "bawal putih," "tenggiri," "kurisi," etc. One other matter of concern is that no particular species of fish is found in dominance to show any regional feature to characterize the province's marine fisheries. To the contrary, however, the fish catches from the inland open water fishery comprise relatively few dominant species of fish such as "mas" and "jerawat" (species of carp), "toman" and "gabus" (species of snakehead), "mujair" and "nila" (tilapia species of African origin), "belida", and "patin" (catfish), all of them being strong, carnivorous fishes.

Activities in the inland open water fishery include the capture of live aquarium fish for export. The inland open water surface in the Kapuas Hulu district, particularly the waters of Lake Sentaram, is known as the habitat for both common and rare species of aquarium fish. There are some species of fish that are found only in the waters of Lake Sentaram and not elsewhere throughout the country. Local fishermen in the area catch these aquarium fish alive and sell then to traders, specialized in export of live aquarium fish. It is learned that a few species of aquarium fish commonly found in the lakes and the adjoining rivers could be captured in the order of hundreds a day and sold at Rp.50 or so per piece. The statistics on the export trade of fisheries products show that several hundred thousand pieces of aquarium fish have been exported out of the province yearly, to Singapore mostly.

The landing of fish catches by the fishing fleets of the marine fishery sub-sector are made quite evenly in the three districts along the coast, slightly more (about 24,000 tons in 1996) in the Pontianak districted the Pontianak City, and, quite evenly (about 20,000 tons each in 1996) in the other two districts, namely, Sambas in the north and Ketapang in the south.

As for the inland open water fishery, over 60% of this sub-sector's production is raised in the furthermost inland district of Kapuas Hulu. This district is the least populated amongst the six districts of the province but has the largest (almost 30%) area of inland open water-surface.

The aquaculture in the province has not been well developed into full commercial operations. According to the statistical information available, the aquaculture production turned out less than 3% of the total provincial fisheries production in 1996. It has been steadily growing in the past two years, particularly with opening of tambak in the Kabupatens Sambas and Ketapang, the latter Kabupaten having the largest tambak area. The fresh-water pond fish culture that is conducted in extensive to semi-intensive manners is growing at a relatively higher rate in the three coastal Kabupatens. The Kabupaten Kapuas Hulu has the smallest area of fish ponds statistically, but it has been observed that all along the Kapuas River and branch rivers as well as in the surrounding areas of inland lakes, very small scale, household-based fish culture activities, which may be considered as household subsistence fish farms, have been carried out, utilizing mostly natural fresh-water ponds or dug-out pools. In these small-scale, household-based fish farming, the fish farmers are not entirely dependent on fish farming but are also engaged in a variety other work for their livelihoods such as capturing fish in open waters, cultivating land around their houses for growing crops mostly for their own consumption or working as casual laborers in forestry, plantations or other areas.

The small scale, subsistence fish farming in this manner must have been conducted for some years without being monitored and production from these subsistence operations may not have been reflected on the statistics. However, the volume of production from subsistence fish

farming is considered quite substantial and may be extended to small-scale commercial operations, if there is any effective support in the meeting of financial needs (not necessarily in big way) or in the supply of fish fries and seedlings, or in distribution and marketing of harvested fish.

(3) Marine Fishing Equipment

Fishing vessels in the marine fishery are of smaller tonnage classes, and many non-powered vessels are still in common use. There were 58 motorized fishing vessels over and above 20-GT. out of a total of 1,332 motorized vessels. However, even the inboard engine-equipped fishing vessels are smaller and less powerful compared to fishing vessels coming out to this area from other provinces. Purse seine nets are common for larger-tonnage, motorized fishing vessels but gill nets are the most common fishing gears for any type of fishing vessels. Long line gears are also used for catching demersal fish such as "ikan merah". It is reported that bottom trawl gears are also commonly used with by-catch excluding devices but trawlers are rarely seen at fish landing centers.

(4) Marine Fishing Grounds

The fishing grounds off the coast of the province are also frequented by fishing vessels from Banka, Belitong or ports along the northern coast of Java. There are also a substantial number of Thai-registered fishing vessels, which are chartered and operated by Indonesian fishing companies based in Java, conducting intensive fishing activities in the waters of the Natuna Sea, a substantial part of which has been considered as EEZ waters and not archepelagic waters. It is learned that this part of EEZ waters in the Natuna Sea has now been turned into part of archipelagic waters where only Indonesian-registered fishing vessels can conduct fishing. However, there have been many of fishing vessels from Thailand and Malaysia which have been carrying on fishing in this EEZ area where foreign fishing vessels had been permitted until mid 1996 under licenses granted with the payment of access fees. This is now no longer effective and only those foreign-registered fishing vessels under a charter arrangement can operate fishing in EEZ waters. However, the licenses for this charter arrangement will be withdrawn by the end of 1999 and from Year 2000, no foreign-registered fishing vessels of any status will be permitted to operate in any part of the Indonesian waters, irrespective of EEZ or archipelagic waters.

As a matter of fact, the resources in this part of the sea have been intensively exploited for many years by foreign fishing fleets and although this change in the fisheries resource management policy will certainly favor the locally based fishing fleets, the resources within and around the Natuna Sea are believed to have been over-exploited. It is also reported that the fishing vessels

based at ports in West Kalimantan are not so competitive as those coming from other provinces and lose out on the same fishing grounds.

(5) Inland Fishing Equipment

For inland open water fisheries, a great majority of fishing vessels are jukung or perahu type non-motorized boats in the minimal size range. Most of these small fishing crafts come out for fishing, single-handed or with two fishermen, and the volume of fish catches by these jukung or perahu is very small. These small fishing crafts can not stand rough weather or the swift flow of the river current during the rainy season. Gill nets, either floating or set, are the most common fishing method.

(6) Ports and Markets

In the whole of West Kalimantan, there are two fishing ports of "Pantai" class at Pemangkat and Teluk Batang, and 42 TPIs (Tempat Pelelangan Ikan). At almost every river mouth along the coast of the province, there is a fish landing place and at most of the towns and large villages along the Kapuas River and other rivers. The Pemangkat Fishing Port is supposed to be most active but the volume of fish has been 2,000 to 2,500 tons a year (increasing to 3,500 tons in 1996), but the statistics show that the volume of fish landed at Teluk Batang in 1994 was only 130 tons.

Many of the TPIs along the river bank are made up of simple pontoons of logs and planks which are connected to the shore by simple wooden staircases and plank gangways which are not well secured. The difference in the water levels of the river flow during the rainy season and the dry season reaches almost ten meters and particularly during the dry season, fishermen toil up and down steep staircases with loads of fish and other goods on their shoulders.

The infrastructure and facilities in support of activities in fishing marketing and in servicing the fishing vessels, fishing ports and TPIs are, generally speaking, of minimal standards and improvement and upgrading of the infrastructure and facilities, particularly with the objectives of improvement of fish quality preservation and hygienic conditions in fish handling, is much needed. However, no matter in the marine fishery sub-sector or in the inland open water fishery sub-sector, the fishing activities are of very small-scale and not showing any concentration at any point of strategy. The fishing activities are wide spread and the landings of fish catches at any one fish landing place are in small volumes. The consumption market is also diverse and spread over a large area. The absence of inter-linking transport access also jeopardizes the concentration of any activities at any transfer points. These situations are reflected in the smaller volumes of fish landings at many small landing points. Therefore, any

improvement or upgrading of infrastructure and facilities will have to be on a small scale to avoid under-utilization.

(7) Fish Consumption

The consumption of fish in the province is averaged out to be approximately 23 kgs/year per capita but in any fish producing district, it rises. For instance, the per capita fish consumption in the Kabupaten Kapuas Hulu, where 61% of the provincial production of inland open water fishery takes place, is reported to be as high as 42 kgs/year. This unevenly distributed fish consumption pattern of the province may be interpreted as indicating restrictive marketing of fishery products probably owing to the lack of transport infrastructure and distribution means.

6.4.2 Central Kalimantan

The Province of Central Kalimantan shares with its neighboring Province of West Kalimantan, many common characteristics in land structure. Central Kalimantan has a land area of 153,800 km2, out of which the inland open water surface covers 22,936 km2. Both the land area and inland water surface area of the Central Kalimantan are almost same as for the West Kalimantan.

While West Kalimantan has the Kapuas River and the Sentaram Lake, the Central Kalimantan has eleven long rivers and over 200 inland lakes. All the rivers, including the two longest Barito River (900 km) and Katingan River (650 km), flow across the land expanse of this province from north to south to the Java Sea which borders the province's southern boundary.

The coastline extends from east to west over the distance of 750 km, a little shorter than that of the other province, and nearly all the coastal areas have been left undeveloped or underdeveloped until recent years. Probably this is attributed to the fact that nearly all along the coastline of Central Kalimantan, the coastal areas are low brackish-water marshes thickly covered with mangrove-type vegetation and hardly accessible from any populated centers of human activities. At several places along the coast and some distance up the rivers, local centers of socio-economic activities such as Pangkalanbun, Kumai, Sampit and Kuala Kapuas to name a few, have been opened and are developing as gateways for inter-insular traffic of people and commodities. However, the east-west inter-linking roads, directly serving these gateways through the coastal areas, are yet to be developed and the absence of direct access to the sea coast from inland centers of traffic, other than river water-way, is one of the major elements for these coastal areas remaining underdeveloped or undeveloped.

The area of the inland open water surface which accounts for 15% of the province's total land area is almost as large as the cultivated land area for agriculture. The total length of the eleven major rivers in this province runs up to over 4,000 km compared with the length of the sea coast

of 750 km and from this fact alone, the very extensive activities in the inland open water fishery can be imagined.

(1) Fisherman and Fish Farmers

The population of the province to-date is estimated to be 1,596,000 and the numbers of fishermen and fish farmers in respective their sub-sectors as of 1994 are*[1]:

Marine Fishery	12,548	
Inland Open Water Fishery	38,522	Total 51,700
Aquaculture	(?)	

The work pattern of the fishermen in various sub-sectors is identical to that in West Kalimantan. The fishermen in the marine fishery sub-sector are almost fully engaged in fishing while the inland open water fishermen and the fish farmers work more frequently in other sectors during the rainy season of the year.

The fishing vessels and the fishing activities in this province are also identical to those observed in West Kalimantan and the number and scale of fishing vessels, gears, etc. are smaller and less efficient than those in West Kalimantan except in the inland open water fishery where there are far more fishermen and fishing crafts to reflect the much larger production of the inland open water fishery sub-sector.

(2) Aquaculture

The aquaculture of the province is now initiating development. The brackish-water tambak have started to develop in the coastal area of the western-most district of the Kabupaten West Kotawaringin, up to 300 hectares to-date, for black tiger prawn and some milkfish culture. Yet, this is only a very tiny part of the coastal mangrove area of 84,000 hectares that have been surveyed and are believed to have good prospects for development into tambaks for prawn and milkfish culture. (The total area for this type of development is said to be 350,000 hectares.)

Kolam culture is developing too. The provincial statistics record that 295 ha of ponds have been opened up by the end of 1995, while some 15,000 units of karamba have been utilized for rearing carp- and catfish-types of fresh-water fish species along the river banks. Mina padi is also being extended in a smaller scale. However, no aquaculture production has been recorded in the official statistics until 1994.

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*[1] (Note; There are certain discrepancies in the numbers of fishermen in sub-sectors between the statistics compiled by provincial authorities and those shown in the national statistics. The above numbers are quoted from the Fisheries Statistics of Indonesia 1994. The number of fish farmers is recorded as nil in the national statistics and no number for this is available in the provincial report. As there are records of aquaculture production, as well as the area of aquaculture, recorded in the statistics and as the aquaculture activities have actually been listed observed, there should have been a few thousand fish farmers in the province.)

(3) Production

The fisheries sector of the province is, characterized by the activities in the inland open water fishery sub-sector which turns out production as large as the production of the marine fishery sub-sector. The total production for the province totaled 92,230 tons in 1994, up from the previous year's 84,000 tons and stayed at 92,000 tons in 1995. However, the production in most recent years in both the inland open water fishery and the marine fishery sub-sectors appears to have leveled off and it is not known whether production will further grow or decline in the next few years.

The production in the aquaculture sub-sector is still very minimal, although there must have been a sizable volume of production in subsistence fishing and fish farming that have not been well monitored. The provincial fisheries authorities are now striving to develop aquaculture through the research and production of fish fries and seedlings, as well as through extension services to educate fish farmers. These efforts will certainly result in building up a sound and sustainable aquaculture industry very soon if any assistance in funds etc. is added to the efforts.

It was observed that there have been many studies and much research undertaken by the fisheries authorities at the provincial and district levels in their efforts in aquaculture development,. It was very impressive to note that a number of development plans have been studied and drawn up into proposals for implementation at the provincial or district levels. These proposals should be studied and considered for integration into the plans to be proposed in the current study, if appropriate.

(4) Aquarium Fish Capture

In the province of Central Kalimantan, there are activities in capturing live aquarium fish alive for export trading. The capture and export trading of "botia" (clown loach), for instance, is commonly practiced and the inland lake waters in certain areas in this province is noted for resources of precious species of aquarium fish like arwana and "beta" (fighting fish). Recent surveys of the area are yet to come up with findings of new species that have been unknown to the world. It is therefore felt that certain measures for protecting and conserving the resources of these precious species from extinction as well as preservation of the environmental conditions will be essential. At the same time efforts for culture of these aquarium fish species within a contained scale will extend the scope of aquaculture operations beneficial to fish farmers.

(5) Consumption

It is worth noting that the production in the East Kabupaten Kotawaringin from both the marine and the inland open water fisheries are substantially higher than that in other kabupatens, while

the Kabupaten Barito Selatan has relatively high inland open water fishery production. This East Kabupaten Kotawaringin is also noted for the highest fish consumption exceeding 49 kgs/capita per year. On the other hand, in the Kabupaten Kapuas, where the population almost equals that of the East Kabupaten Kotawaringin, the fish consumption is less than one half of the East Kabupaten Kotawaringin. This may indicate the presence of certain problems in fish distribution and marketing in this district. The Kabupaten Kapuas has the backing of a large urban consumer market in Banjarmasin which also serves as a seaward gateway for inter-insular trading. It also has an export-oriented fish processing industry. However, the East Kabupaten Koatawaringin does not have any such outlet on seaward gateway frontier-insular distribution and marketing, except in Sampit. The Sampit Port serves as a gateway for trading out of the province, but it is not so advantageous because of its geographical location. There is no fish processing, too.

(6) Marine Fishing Equipment

Fishing vessels in the marine fishery are of smaller tonnage classes, and many non-powered vessels are still in common use. There were 58 motorized fishing vessels over and above 20-GT. out of a total of 1,332 motorized vessels. However, even those inboard engine-equipped fishing vessels are still smaller and less powerful compared with those coming out to this area from other provinces.

The fishing grounds off the coast of the province are also frequented by fishing vessels from ports along the northern coast of Java. The Java Sea is already noted for its resources being over-exploited, or, rather depleted and the fishing vessels from Java spend a month or longer cruising around in fishing across the Java Sea to the coastal waters off the coast of the Central Kalimantan. Some of them are even accompanied by carrier vessels that collect fish from catcher vessels.

(7) Facilities and Infrastructure

The fisheries-supporting infrastructure and facilities have not well developed in this province, although there is in this province a "pantai" class fishing port at Hantipan which is constructed in a similar design as for the Pemarnngkat Fishing Port but not utilized at the moment. There are also three fish landing centers (PPIs) at Kumai, Sampit and Pegatan (see attached map). How these PPIs are utilized is not confirmed. In the East Kabupaten Kotawaringin, where the highest fisheries production is raised, the fish landing place is constructed at Sampit, about 70 km up the river, even for marine fishing vessels to sail up the river. This Kabupaten should have developed a fish landing place at a place along the coast but with the absence of good access able road links the landing place and market places make the establishment of a fishing

port difficult. Therefore, the establishment of a landing place along the coast should be implemented with the development of an access able road network for fish distribution and marketing.

Several small-scale fish landing places are established along the river banks in various districts but here again, the inland open water fishing activities in minimal artisanal scales do not show any concentration but are scattered all over. Particularly in Central Kalimantan, human habitat, centers for trading and other socio-economic activities have developed along the major rivers, forming independent spheres of human life at each river. The traffic up and down the stream has developed spontaneously over a distance of several hundred kilometers, but each socio-economic sphere along a river appears to be of its own world without any linkage developing between the spheres of one river and another. For this reason, it is absolutely essential to establish an east-west linkage across the entire land area of the province for development of any industrial sectors including fisheries. Any hasty development of industrial activities without first establishing such linkage with marketing outlets may result in the disturbance of the economy of a restricted river sphere.

Ap. Table 6.1 Average Per Capita Consumption of Calories and Protein by Commodity Group 1993

COMMODITY GRP	NATIONAL	%	DI YOGYAKARTA (Lowest)	%	CENTRAL SULAWESI (Highest)	%	WEST KALIMANTAN	%	CENTRAL KALIMANTAN	%
(CALORIE - Kcal)										
Cereals	1210.42	64.41	951.18	56.33	1245.06	59.92	1298.98	66.20	1335.96	65.58
Tubers	93.70	4.99	100.24	5.94	231.82	11.16	77.67	3.96	64.34	3.16
Fish	40.14	2.14	8.90	0.53	108.16	5.21	59.51	3.03	73.17	3.59
Meat	20.91	1.11	25.82	1.53	11.11	0.53	30.92	1.58	36.32	1.78
Eggs and Milk	27.79	1.48	33.90	2.01	17.84	0.86	24.36	1.24	26.83	1.32
Vegetables	37.75	2.01	45.60	2.70	25.98	1.25	32.87	1.68	34.83	1.71
Legumes	51.07	2.72	77.42	4.58	25.01	1.20	28.05	1.43	22.53	1.11
Fruits	37.83	2.01	43.58	2.58	48.13	2.32	33.22	1.69	43.25	2.12
Oil and Fat	212.49	11.31	226.92	13.44	221.09	10.64	197.49	10.07	187.78	9.22
Beverage Stuuf	94.17	5.01	78.73	4.66	106.31	5.12	148.90	7.59	167.85	8.24
Spices	27.54	1.47	62.24	3.69	18.86	0.91	14.32	0.73	23.82	1.17
Other Foof Items	15.71	0.84	24.98	1.48	9.54	0.46	11.00	0.56	9.61	0.47
Prepared Food	9.47	0.50	9.05	0.54	8.42	0.41	4.67	0.24	10.79	0.53
Alcoholic Beverage	0.14	0.01	0.09	0.01	0.38	0.02	0.14	0.01	0.12	0.01
Tobaco and Betelnut	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	1879.13	100	1688.65	100	2077.71	100	1962.10	100	2037.20	100

COMMODITY GRP	NATIONAL	%	DI YOGYAKARTA (Lowest)	%	CENTRAL SULAWESI (Highest)	%	WEST KALIMANTAN	%	CENTRAL KALIMANTAN	%
(PROTEIN - Gram)										
Cereals	23.26	51.13	18.13	45.69	24.69	47.15	24.64	53.07	25.28	49.68
Tubers	0.81	1.78	0.80	2.02	0.86	1.64	0.73	1.57	0.62	1.22
Fish	7.26	15.96	1.62	4.08	18.34	35.03	10.64	22.92	13.82	27.16
Meat	1.40	3.08	1.75	4.41	0.72	1.38	1.58	3.40	1.74	3.42
Eggs and Milk	1.67	3.67	2.11	5.32	0.88	1.68	1.43	3.08	1.54	3.03
Vegetables	2.63	5.78	3.28	8.27	1.93	3.69	2.54	5.47	2.46	4.83
Legumes	4.97	10.93	8.06	20.31	1.85	3.53	2.01	4.33	1.97	3.87
Fruits	0.43	0.95	0.50	1.26	0.56	1.07	0.39	0.84	0.53	1.04
Oil and Fat	0.71	1.56	1.10	2.77	1.03	1.97	0.55	1.18	0.53	1.04
Beverage Stuuf	0.79	1.74	0.50	1.26	0.71	1.36	0.89	1.92	0.92	1.81
Spices	0.84	1.85	0.75	1.89	0.41	0.78	0.66	1.42	0.97	1.91
Other Foof Items	0.53	1.17	0.91	2.29	0.22	0.42	0.28	0.60	0.33	0.65
Prepared Food	0.19	0.42	0.17	0.43	0.16	0.31	0.09	0.19	0.18	0.35
Alcoholic Beverage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tobaco and Betelnut	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	45.49	100	39.68	100	52.36	100	46.43	100	50.89	100

Notes:
1. The fish consumption is expressed in the forms of calories consumption by food item and of daily protein intake by origin.
2. The Sulawesi Tenggara Province is the province where the highest per capita fish consumption is recorded whereas the D I Yogyakarta is the province where the fish consumption shows the lowest.
3. Both the provinces of Kalimantan Barat and Kalimantan Tengah show fish consumption at a much higher level than the national average .
4. The population is estimated as 3,658,000 for the Kalimantan Barat Province and 1,596,000 for the KalimantanTengah respectively as of 1996.

Source: Consumption of Calories and Protein of Indonesia and Provinces 1993, Biro Pusat Statistik, Jakarta

Ap. Table 6.2 Summary of Fishing Efforts and Production for Fisheries Sector - West Kalimantan 1990-1996

	1990	1991	1992	1993	1994	1995	1996
Fisheries Production							
Marine	64,488	63,537	65,049	64,717	62,578	62,777	64,902
Inland Open Water	22,528	24,044	24,048	22,962	24,115	21,451	21,989
Aquaculture	597	706	859	1,369	1,570	1,840	2,444
Total	87,613	88,287	89,956	89,048	88,263	86,068	89,335
Fish Capture Efforts							
Fishing Vessels							
Marine	5,429	5,148	5,326	5,322	5,489	5,435	5,487
Inland Open Water	(?)	8,852	8,242	8,052	8,333	7,710	8,314
Total	(?)	14,000	13,568	13,374	13,822	13,145	13,801
Fishing Entities							
Marine	5,036	5,587	5,516	4,990	5,019	5,360	5,384
Inland Open Water	5,988	7,877	7,140	6,888	7,267	6,853	7,175
Aquaculture	4,381	4,347	14,651	14,883	17,125	16,084	15,896
Total	15,405	17,811	27,307	26,761	29,411	28,297	28,455
Area for Aquaculture							
Tambak	46	32	217	239	225	228	442
Kolam	753	777	808	740	1,150	1,200	1,269
Sawa/Mina Padi	0	13	0	0	23	18	18
Keramba	0	0	0	0	1	1	1
Total	799	822	1,025	979	1,399	1,447	1,730

Unit: Metric tons for production, ha for area and numbers for vessels and fishermen/farmers.

Source: (1) Buku Tahunan Statistik Perikanan 1995/6, Dinas Perikanan Provinsi Tingkat I, Kalimantan Barat.
(2) Fisheries Statistics of Indonesia, 1990/6, DGF.

Abbreviations: RTP = Rumah Tengga Perikanan - Household Fishing Industry
PP = Perusahaan Perikanan - Fishery Business

Ap. Table 6.3 Summary of Fishing Efforts and Production for Fisheries Sector - Central Kalimantan 1990-1996

	1990	1991	1992	1993	1994	1995	1996
Fisheries Production							
Marine	40,633	41,915	41,683	43,346	46,900	48,234	
Inland Open Water	44,793	42,115	42,090	36,911	45,339	43,555	
Aquaculture	0	0	0	0	0	943	
Total	85,426	84,030	83,773	80,257	92,239	92,732	
Fish Capture Efforts							
Fishing Vessels							
Marine	(?)	2,466	4,117	3,665	2,835	4,208	
Inland Open Water	26,717	29,409	22,825	20,055	19,961	16,800	
Total	26,717	31,875	26,942	23,720	22,796	21,008	
Fishing Entities							
Marine	2,466	2,466	4,292	3,838	4,063	4,373	
Inland Open Water	26,717	29,675	24,145	13,791	17,584	17,774	
Aquaculture	0	0	0	0		1,029	
Total	29,183	32,141	28,437	17,629	21,647	23,176	
Area for Aquaculture							
Tambak	0	0	0	0	180	230	
Kolam	0	0	0	0	285	295	
Sawa/Mina Padi	0	0	0	0	5	0	
Keramba	0	0	0	0	0	*525	

* Unit: Cubic meters

Unit: Metric tons for production, ha for area and numbers for vessels and fishermen/farmers.

Source: (1) Buku Tahunan Statistik Perikanan 1995/6, Dinas Perikanan Provinsi Tingkat I, Kalimantan Tengah.
(2) Fisheries Statistics of Indonesia, 1990/6, DGF.

Abbreviations: RTP = Rumah Tengga Perikanan
PP = Perusahaan Perikanan

Ap. Table 6.4 Basic Statistical Information on Fisheries Sector - West Kalimantan 1994-1996

	1990	1991	1992	1993	1994	1995	1996
Total F'men/Petani Ikan	34,855	38,092	37,082	33,546	34,044	35,703	(?)
Total Fishing Vessels	(?)	14,000	13,378	13,374	13,822	13,145	13,801
Total Production	87,613	88,287	89,956	89,048	88,263	86,068	89,355
Perikanan Laut							
Production	64,488	63,537	65,049	64,717	62,578	62,777	64,902
Kapal2 Total	5,429	5,148	5,326	5,322	5,489	5,435	5,487
RTP/PP	5,036	5,587	5,516	4,990	5,019	5,360	5,384
Perikanan Umum							
Production	22,528	24,044	24,048	22,962	24,115	21,451	21,989
Kapal2 Total	(?)	8,852	8,242	8,052	8,333	7,710	8,314
RTP/PP	5,988	7,877	7,140	6,888	7,267	6,853	7,175
Budidaya							
Prod. Tambak	50	38	67	315	529	660	974
Kolam	547	668	801	937	785	793	1,060
Sawa/MP	0	0	0	6	1	19	12
Keramba	0	0	40	53	152	303	418
Total	597	706	908	1,311	1,457	1,775	2,464
Area for Aquaculture							
Tambak	46	32	217	239	225	228	442
Kolam	753	777	808	740	1,150	1,200	1,269
Sawa/Mina Padi	0	13	0	0	23	18	18
Keramba	0	0	2	0	1	1	1
RTP/PP							
Tambak	9	155	478	306	404	405	415
Kolam	4,353	4,133	14,173	14,577	15,986	14,459	14,471
Sawa/Mina Padi	0	0	0	0	25	25	15
Keramba	19	59	0	0	710	1,195	995
Total	4,381	4,347	14,651	14,883	17,125	16,084	15,896

Unit: Metric tons for production, ha for area and numbers for vessels and fishermen/farmers.

Source: (1) Buku Tahunan Statistik Perikanan 1995/6, Dinas Perikanan Provinsi Tingkat I, Kalimantan Barat.
(2) Fisheries Statistics of Indonesia, 1990/6, DGF.

Abbreviations: RTP = Rumah Tengga Perikanan
PP = Perusahaan Perikanan

Ap. Table 6.5 Basic Statistical Information on Fisheries Sector - Central Kalimantan 1990-1996

	1990	1991	1992	1993	1994	1995	1996
Total F'mer/Petani Ikan	10,013	10,013	17,490	15,640	12,548	18,740	(?)
Total Fishing Vessels	(?)	31,875	26,942	23,720	22,796	21,008	
Total Production	85,426	84,030	83,773	80,257	92,239	92,732	
Perikanan Laut							
Production	40,633	41,915	41,683	43,346	46,900	48,234	
Perahu/Kapal (NP)	(?)	1,622	2,339	2,009	1,487	2,084	
(MT)	(?)	0	0	0	0	0	
(E)	(?)	844	1,778	1,656	1,348	2,124	
Kapal2 Total	(?)	2,466	4,117	3,665	2,835	4,208	
RTP/PP	2,466	2,466	4,292	3,838	4,063	4,373	
Perikanan Umum							
Production	44,793	42,115	42,090	36,911	45,339	43,555	
Perahu/Kapal (NP)	26,180	28,356	21,585	19,740	18,754	15,675	
(MT)	0	0	0	0	0	0	
(E)	537	1,053	1,240	315	1,207	1,125	
Kapal2 Total	26,717	29,409	22,825	20,055	19,961	16,800	
RTP/PP	26,717	29,675	24,145	13,791	17,584	17,774	
Budidaya							
Prod. Tambak	0	0	0	0	0	10	
Kolam	0	0	0	0	0	428	
Sawa/M Paddi	0	0	0	0	0	0	
Keramba	0	0	0	0	0	504	
Total	0	0	0	0	0	1,775	
Area for Aquaculture							
Tambak	0	0	0	0	180	230	
Kolam	0	0	0	0	285	295	
Sawa/Mina Padi	0	0	0	0	5	0	
Keramba	0	0	0	0	0	525	
RTP/PP							
Tambak	0	0	0	0		79	
Kolam	0	0	0	0		590	
Sawa/Mina Paddi	0	0	0	0		0	
Keramba	0	0	0	0		360	
Total	0	0	0	0		1,029	

Unit: Metric tons for production, ha for area and numbers for vessels and fishermen/farmers.

Source: (1) Buku Tahunan Statistik Perikanan 1995/6, Dinas Perikanan Provinsi Tingkat I, Kalimantan Tengah.
(2) Fisheries Statistics of Indonesia, 1990/6, DGF.

Abbreviations: RTP = Rumah Tengga Perikanan
PP = Perusahaan Perikanan

CHAPTER 7

MINING

CHAPTER 7 MINING

7.1 ISSUES

Both Provinces have deposits and exploitable reserves of various sizes in class A, class B, and class C minerals. [1] However, apart from illegal small scale placer gold mining activities, there is apparently only one large scale project for bauxite development at Tayan [2], which is under some sort of serious consideration. Other plans in West Kalimantan, for example, include coal deposits (Sintang regency), feldspar deposits (Sanggau regency), and kaolin and quartz (in the Sambas and Ketapang regencies) [3]).

The past structural and past performance analyses of the mining subsector illustrates, that, though still relatively small in terms of absolute size, the subsector's importance has increased in both West and Central Kalimantan in terms of share in the regional economy and overall employment generation. Real growth of mining subsector output has, though from a very small base, exceeded GRDP growth in both Provinces. The major issues for the development of the mining subsector in the Study Area from a short- to long-term perspective are :

- Potential land-use overlapping and land-use conflicts resulting from uncoordinated and conflicting granting of concessions, licenses, special purpose zoning by the Government (such as conservation zones) and so on with existing or planned concession areas granted either in the field of mining, forestry and/or plantation concessions
- Potential land-use conflicts between large scale concessions and existing and/or planned smallholder schemes 4)

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[1] Indonesia's basic law on the general mining sector and related laws and regulations divide metallic and non-metallic mineral resources into three principal categories. Class A or so called strategic minerals comprise : oil; liquid bitumen; earth wax; natural gas; solid bitumen; asphalt; anthracite; coal, young coal; uranium; radium; thorium and other radioactive minerals; cobalt; nickel and tin. Class B mineral, which are referred to as "vital minerals", comprise : iron; mangan; molibdenit; chrome; wolfram; vanadium; titan; bauxite; copper; lead; zing; gold; platinum; silver; mercury; diamonds; antimony; bismuth; rhutenium; cerium and other rare metals; beryllium; corundum; zircon; quartz crystal; kriolit; flourspar; barite; iodine; brom; chloride and sulfur. All other minerals not covered under either category A or B are classified as class C minerals. This classifications determines the regulatory framework for investment licensing, whether private sector capital is allowed, and other important rules and regulations.

[2] See text further below.

[3]) The metallic and non-metallic mineral resources in both Provinces are quite well documented by the Provincial authorities.

[4]) The basic mining law as well as forestry and plantation development related schemes not only allow explicitly, but in some cases require implementation of smallholder schemes, for example in the case of palm oil plantation

- Illegal gold-mining with severe long-term environmental and health consequences caused by uncontrolled mercury pollution
- Absence of a cohesive mining subsector strategy, which would compliment and support the overall development direction of the Study Area
- Lack of an adequate physical infrastructure, which would support mining sector development. Some of the potential private sector projects, for example in the fields of clay and quartz sand, do not progress, inter alia, because roads and other infrastructure are inadequate to support such development, thereby placing the burden of infrastructure development on private investors, which in turn may render the investment financially unfeasible.

development. Insufficient delineation of landuse and concession areas may turn into a source of serious conflict, as the case of illegal gold mining illustrates.

7.2 DEVELOPMENT OBJECTIVES

Both Provinces of the Study Area have not yet exploited, to the extent possible and recommendable under the "Kalimantan System" approach, the mining sector's potential contribution to the areas' development through the systematic exploitation of the area's large scale and small scale mining potential.

A key concern in any mining subsector development direction and strategy formulation should be that it should be complimentary to and in harmony with the "Kalimantan System" approach adopted throughout this study. The overall development objective for the mining subsector of both Provinces as a whole is defined therefore as

DEVELOPMENT OBJECTIVE

Promote mining subsector development only within the context of the "Kalimantan System" thereby contributing to local employment creation and generation of foreign exchange earnings.

It is anticipated that implementation of the mining subsector action program will make a direct and measurable contribution to the following more operational targets of the subsector action plan :

7.2.1 Employment and Income Generation in both, Rural and Urban Areas.

Rationale. The existing small and medium scale, in particular non-metallic, mineral resources constitute an important source not only for employment generation, but also for supplying localized and regionalized markets with input material, in particular for the local/regional construction industry. There is also sufficient evidence for larger scale deposits, which may be sufficient in size to supply international markets (for example clay), and or close trans-border markets (for example Singapore or Brunei, for which a product example would be granite)

7.2.2 Support the Development of a More Diversified Construction Sector.

Rationale. Though the absolute population size of the Study Area is not that big, and the urban structure in the Study Area is characterized by only relatively small to medium sized towns, there is some minimal potential for a viable construction sector in particular for housing, road construction, irrigation and drainage construction, and so on. There is likewise potential demand for upper-end market construction material products in Singapore, Sarawak (Malaysia) and Brunei

7.2.3 Small Scale Productive Use of the Existing Resource Base.

Rationale. It is unclear, whether the potential for smallholder mining (except in gold) has been realized to the extent possible. Smallholder mining may provide a reasonable basis for supporting rural area income and create additional rural employment.

7.3 OPERATIONAL OBJECTIVES AND MAJOR COMPONENTS OF THE SUBSECTOR ACTION PLAN

In line with the development needs of the Study Area as a whole, the mining sector action plan should be aimed at two direct operational level objectives :

Operational Development Objective 1

A systematic development approach of the mining subsector, which is in line with an overall balance of the "Kalimantan System", while at the same time contributing reasonably to income and employment creation.

Operational Development Objective 2

Development efforts should strike at and attempt to maintain a balance between egological and landscape aspects of the Kalimantan System, and small versus large scale, in particular open pitch mining.

As is the case for other elements of this master plan, an overall holistic approach is likely to be the most suitable approach for mining subsector development. This is particularly true due to its strong potential impact on the environment. Hence, individual projects should be subjected to severe cost-benefit considerations. The sector action plan would typically center around two components :

Component 1

Policy sector plan component, in particular a suitable and well balanced policy objective and instrument mix.

Component 2

An appropriate cooperation and delivery mechanism between the public and private sector as distinct from mere investment (public or private sector) promotion, including suitable appraisal and monitoring mechanisms.

Achievement of the development objective and more operational targets would typically entail implementation of activity blocks resulting in the following outputs :

7.3.1 Phase 1 of the Subsector Action Plan Implementation

There is a dire need to undertake an in-depth review of the overall policy and enabling environment relevant to mining subsector activities. Aspects, which need particular and thorough attention are a redefinition of the basic philosophy underlying any policy in this sector, roles and responsibilities of the public and private sectors, revenue and tax sharing within the

context of decentralization efforts, ministerial roles and responsibilities, and very importantly so environmental protection and ecological system's maintenance. Principal outputs should therefore be :

7.3.2 Relevant to Component 1 :

Initiated by the Provincial authorities, draft of a revised basic legal framework (basic mining law). The new draft should address, in a well balanced manner between national and regional level interests, in particular a basic philosophy of mining activities (national energy security issues, classification of minerals, national level versus regional level interests); principal ownership rights; principal regulatory issues, including the roles and responsibilities of the public and private sectors; and revenue and levy sharing between the national and regional levels, and the roles of smallholder and large-scale mining activities, and

A comprehensive and consistent mining subsector strategy at provincial level, which is firmly embedded in maintaining the "Kalimantan System". The basic strategy and its individual objectives should pay particular attention to solving existing and/or potential land-use conflicts between the forestry, plantation and mining subsectors, land entitlements and rights of indigenous people; an impartial review of on-going and planned investment activities with a view to rationalize such activities in line with the new strategy[5]

7.3.3 Relevant to Component 2 :

Basics of a revised institutional support and monitoring infrastructure, including hard- and software aspects of such a structure.

The above mentioned steps and outputs would be needed as inputs into defining any other consistent activities and outputs to be determined for implementation under phases 2 and 3 of the subsector action program.

[5] Such a review may include review of existing licenses as regards their legitimacy.

7.4 EXISTING CONDITIONS

Mining subsector development has played only a marginal role over the past two and a half decades in the economic activities of both Provinces. In fact, mining sector output accounted for 1.2% of GRDP in West and about 2.1% in Central Kalimantan. [6] However, while the absolute size of mining sector output has been and remains small, there is a distinct difference between West and Central Kalimantan in the structure of the mining subsector. There is no exploitation of either petroleum or natural gas in both Provinces, but non-natural gas accounted for roughly 28% of mining subsector output in West and some 79% of that in Central Kalimantan. [7] In order words, metallic and non-metallic mineral activities are so far in deed marginal (with the exception of currently illegal small gold mining activities).

This lack of output remains somewhat unexplained given the not unimportant area already under concession or under consideration for mining concession. Table 7.4.1 summarizes the status as of September 1997 of concessions in Central Kalimantan, while Figure 7.4.1 identifies the rough location of the areas under consideration. Table. 7.4.2 provides an overview on the metallic and non-metallic mineral deposits as estimated by the Provincial authorities in West Kalimantan.

Table 7.4.1 Area in Central Kalimantan under Consideration for Mining License

Number of Companies	License Application	Total Area under License Consideration
20 Companies	All in 1996	1,705,333 ha

Source : JICA Study Team compilation, based on Provincial data.

[6] On an accumulated basis over the period 1993 to 1997 and on a constant 1993 price basis.
[7] The same comment as under 5) applies.

Table. 7.4.2 Estimated Mineral Deposits in West Kalimantan

(Unit : as indicated)

Class "A" Minerals	Class "B" Minerals	Class "C" Minerals
1.) Coal = 181,653,975 tons	1.) Iron = 224 ton	1.) Kaolin = 317,048,857 ton
2.) Oil & gas = 109.69 Mio. STMB	2.) Mangan = 2,415,935 ton	2.) Felspar = 2,233,667 ton
3.) Uranium = Undetermined	3.) Bauxite = 895,743,918 ton	3.) Sand = 5,410,484,720 ton
	4.) Lead = 106,120 ton	4.) Granite = 1,565 mio. ton
	5.) Zink = 35,064 ton	5.) Sandstone = 110 bio.ton
	6.) Gold = Undetermined *)	6.) Trakhit = 97,976,641 ton
	7.) Mercury = 5,306,283 ton	7.) Mika = 514 ton
	8.) Barit = 100 ton	8.) Quartz Sand = 633 mio. ton
	9.) Diamond = Undetermined *)	9.) Andesit = 1,040 mio ton
	10.) Peat = 12,577,145,000 ton	10.) Basalt = 451,526,359 ton
		11.) Amethyst = 8,668 ton
		12.) Limestone = 30 mio. ton

Source : JICA Study Team, based on Provincial data.

Notes : *) The Provincial data quote for gold" 590,905,997 ton. What is meant here is likely gold containing material. The data quote for "diamond" 6,281,683, and again what is meant here is likley to be diamond containing material.

Figure 7.4.2 identifies the concession areas for oil and gas exploration activities in Central Kalimantan. Figure 7.4.3 identifies the type and location of anomalies in Central Kalimantan. Figure 7.4.4 shows the rough location of class "A" and "B" minerals in West Kalimantan. Box 7.4.1 discusses key features of the bauxite mining project in Tayan, West Kalimantan.

Figure 7.4.1 Central Kalimantan Concession Areas

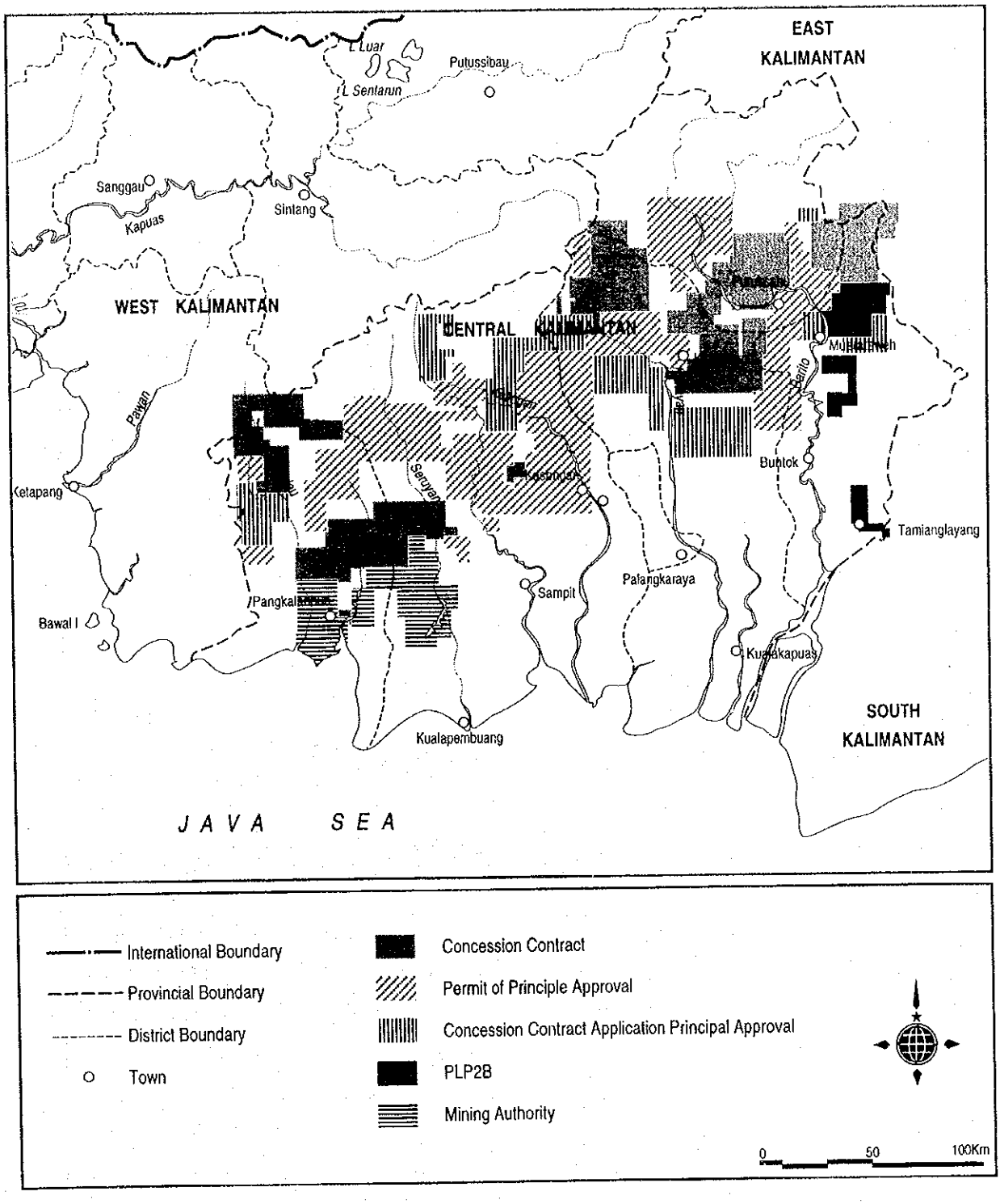


Figure 7.4.1 Central Kalimantan Concession Areas

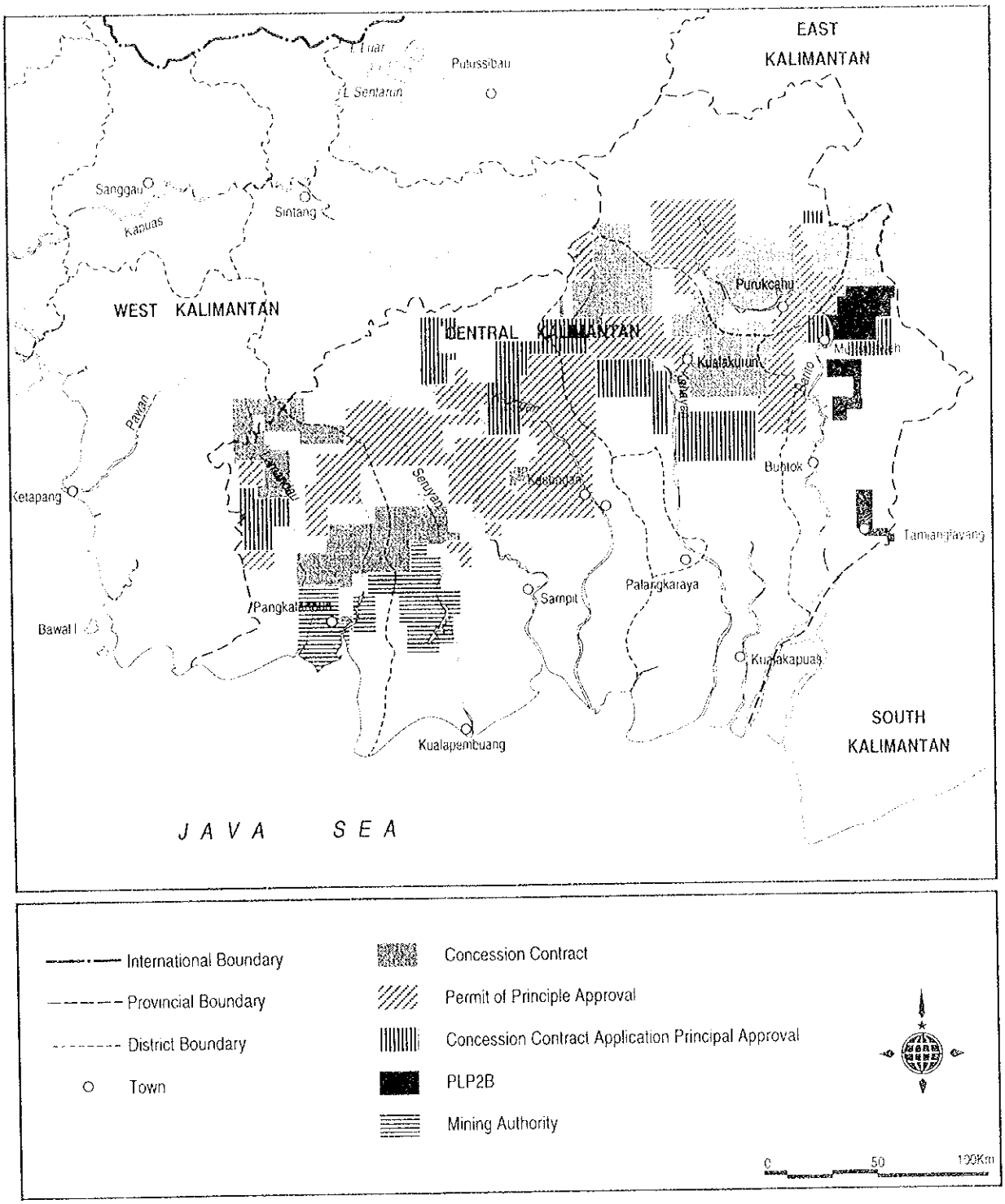


Figure 7.4.2 Oil & Gas Exploration Concession Areas in Central Kalimantan

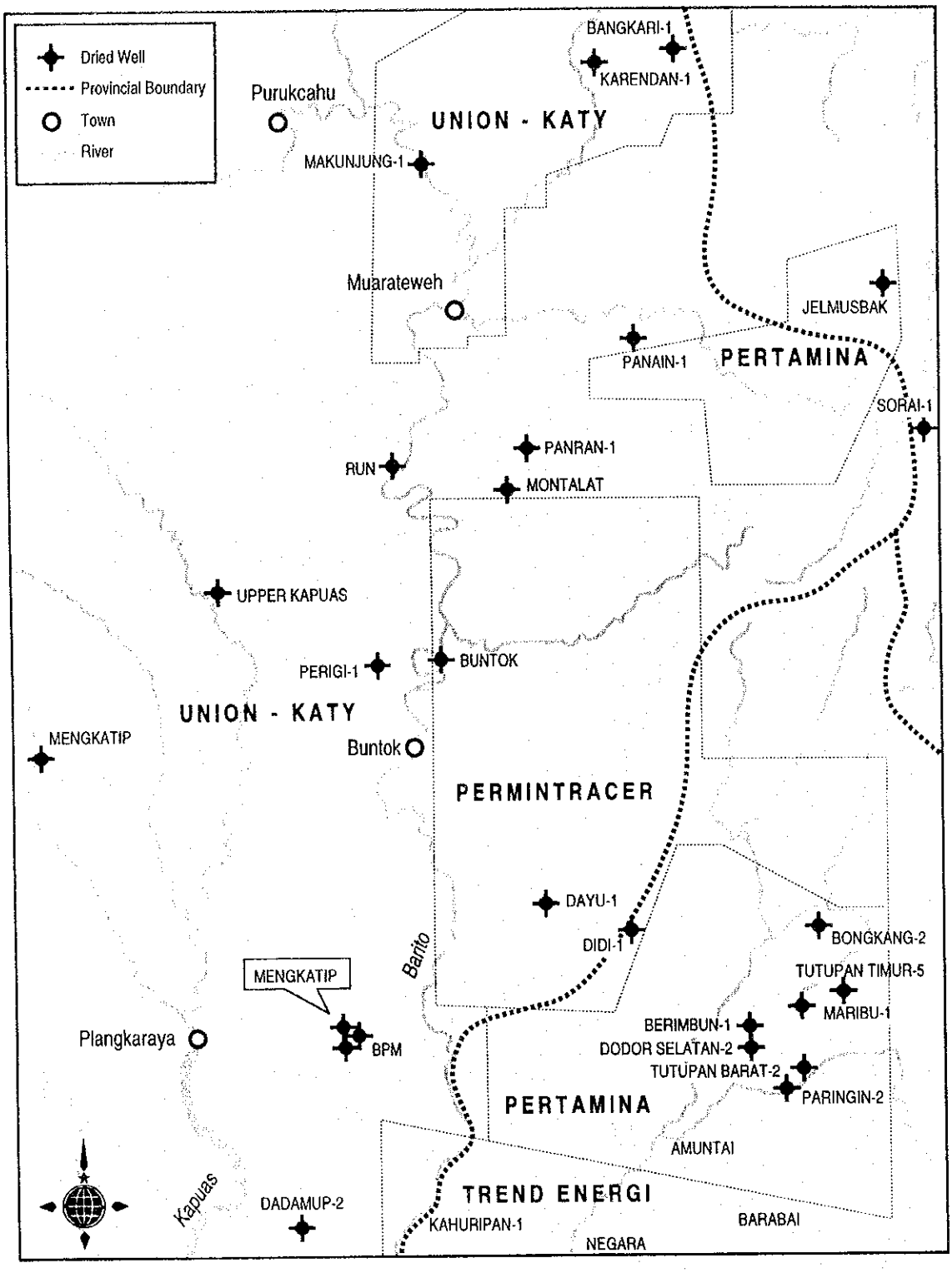
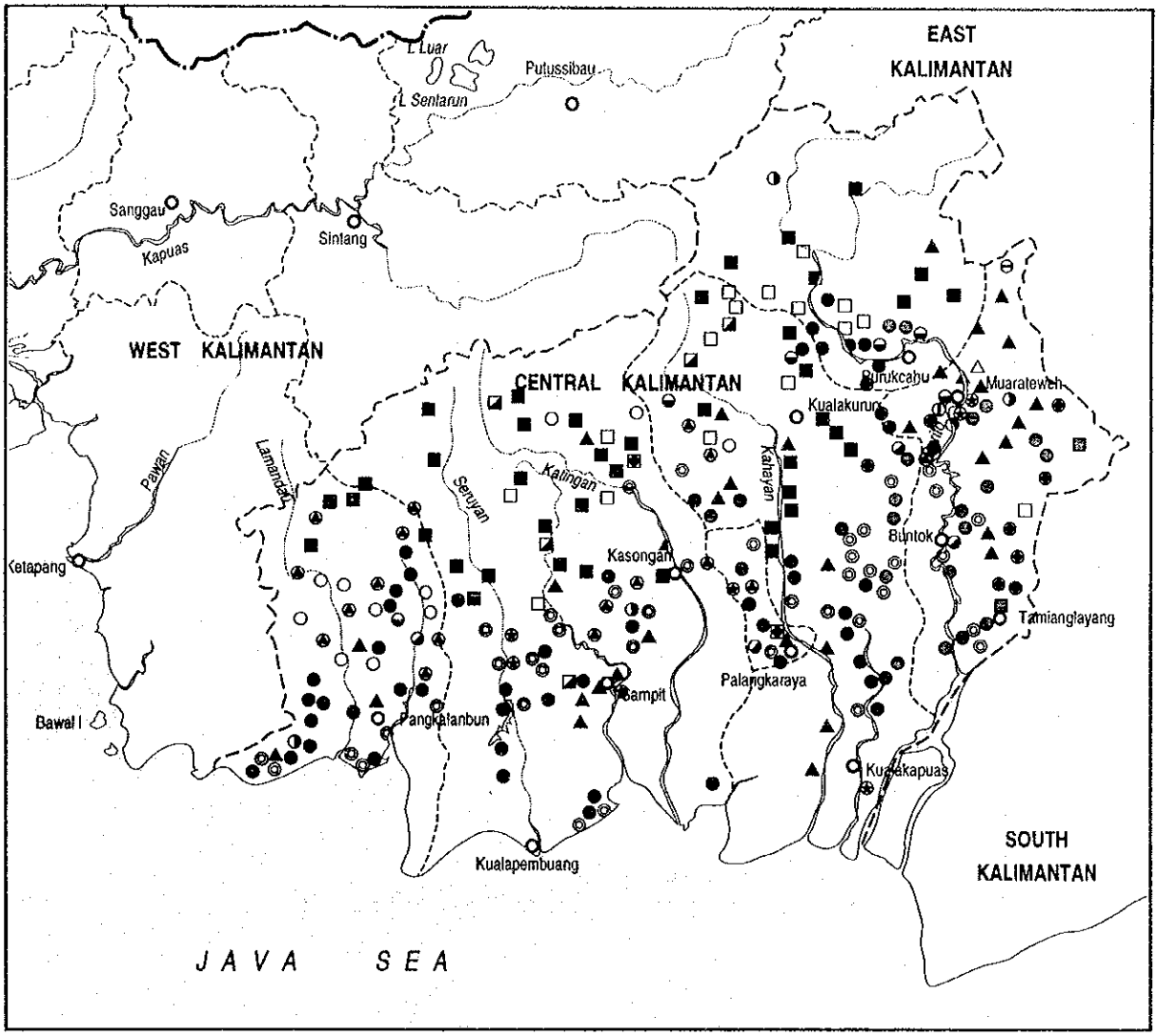


Figure 7.4.3 Location of Anomalies in Central Kalimantan



Legend

- International Boundary
- Provincial Boundary
- District Boundary
- Town

A. Hydro Carbon

- Oil and Gas
- Coal
- Peat

Metal

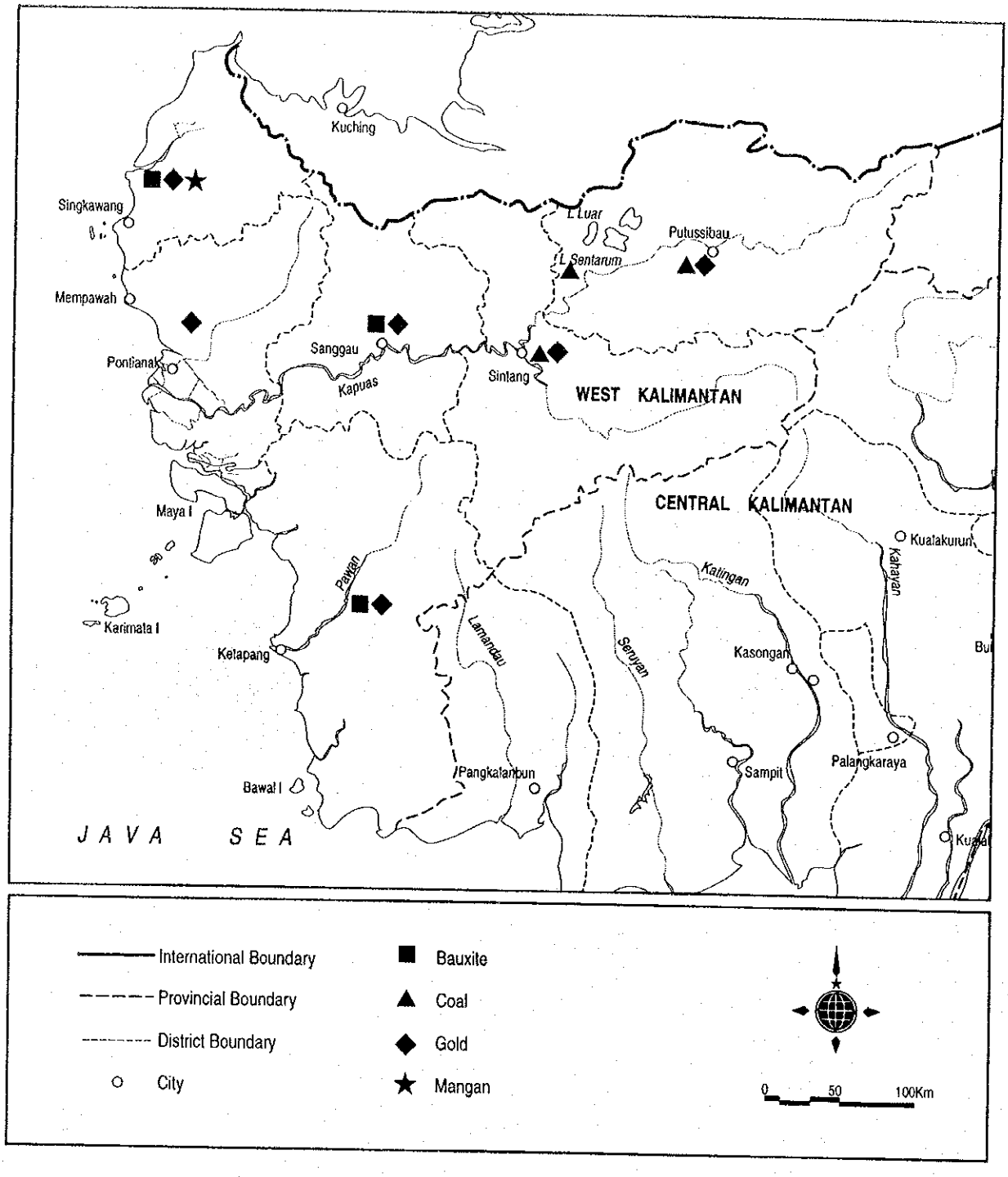
- Scondary Gold
- Primary Gold
- Iron Shale
- Lead
- Antimony
- Mercury
- Copper

Non-metal

- Diamond
- Quartz Crystal
- Quartz Sand
- Mica
- Posphate
- Benignit
- Kaoline
- Limestone
- Crush Stone
- Slate
- Clay
- Young Stone

0 50 100Km

Figure 7.4.4 Location of Class A and B Minerals in West Kalimantan



Box 7.4.1 Bauxite Development at Tayan, West Kalimantan

The bauxite development project at Tayan, West Kalimantan, in under consideration in the KAPET (strategic development area) Sanggau. A report released by Cipta Karya [8] presents alumina industry in Tayan as a key strategic industry in the development of KAPET Sanggau. Potential Japanese investors together with the state-owned mining company PT Aneka Tambang have are supposedly close to finalizing a study on bauxite exploitation and alumina production.

The study investigates two alternatives, namely (1) production of alumina, which is used in chemical industries, and (2) production of smelter grade aluminum. The underlying rough "bills of quantities" are : about 800,000 tons of bauxite for some 300,000 tons of alumina; or about 2.5 million tons of bauxite for about 900,000 of smelter grade alumina. It is estimated that production of chemicalgrade alumina would require a total investment of about US dollar 200 million (creating about 500 jobs in direct employment), while investment requirements for the production of smelter grade alumina would require roughly US dollar one billion (creating about 800 jobs in direct employment). According to PT Aneka Tambang, the study concludes that the production of chemical grade alumina would be more viable from an economic point of view. However, it appears that the GOI prefers the production of smelter grade alumina.

Regardless of which of the two technical alternatives are eventually selected for implementation, the following supporting facilities would need to be put in place :

(1) Upgrading (pavement) of the road section between Tayan and Pontianak to facilitate transport of input material, supplies and workers. It is assumed that the alumina itself would be transported to Pontianak by ship on the Kapuas River

(2) Electricity supply of 20MW according to the Cipta Karya report

(3) Water supply of some 5 million cubic meter to be taken from the Kapuas river. The water is needed for washing bauxite; and

(4) Regular dredging of the Kapuas River to enable ship transport of the alumina.

In addition, facilities, such as schools, hospitals, accommodation, and recreational facilities would have to be established for servicing the large work force.

Realization of this project is, however, uncertain at the moment, due to Indonesia's difficult economic situation and the lack of adequate public funds.

[8] Directorate of Urban-Rural Development; General Directorate of Cipta Karya; Public Information Department; "Master Plan of Developing Prospective Area of Sanggau, West Kalimantan.

CHAPTER 8

MANUFACTURING

CHAPTER 8 MANUFACTURING

8.1 ISSUES

Both Provinces have a manufacturing structure, which is highly concentrated on resource based processing, overwhelmingly so in wood processing and here plywood manufacturing; and to a much lesser extent in palm oil, and rubber processing, with very little or no relevant levels of horizontal and/or vertical integration. There is no other relevant modern sector base, or the base does not carry sufficient critical mass (that is, it is marginal in terms of economic size and therefore impact on either employment or real subsector growth) in all strategic lines of manufacturing (that is ISIC codes 35 to 39). [1] Subsequently, manufacturing subsector growth performance and employment levels are a direct function of plantation and forest concession exploitation levels and/or enlargements. In other words, if the resource base grows at a given pace, so does, in principle, the processing establishments, and vice versa. Given the projected situation for logging in the coming five to ten years and in particular thereafter, the wood-processing based industrial scale industry has already to be classified as an industry in "severe crisis and absolute decline", with all its implications for the very base of manufacturing in both Provinces, as well as its employment implications. This line-of-industry is in deer need of a comprehensive structural adjustment package. Furthermore, the scope and depth of manufacturing in the resource based manufacturing establishments is relative shallow (unsophisticated primary processing steps, involving low-level outdated technologies). While there are concentration points of manufacturing activities, there seems to be no "center of gravitation", which would combine favorable externalities with a supportive infrastructure and synergies.

In other words, the manufacturing sector in both Provinces, though somewhat impressive in pure numerical past real growth performance and absolute employment absorption, is, in essence, no industrial scale manufacturing sector in a true comprehensive sense, which will be sustainable over the long-term perspective. There are quite a number of resource-based "island" type of processing units (either plantation or forest based), and strategic lines-of-manufacturing are almost absent, which makes the processing industry very vulnerable to the import of parts/components and spare parts from either Java (on which some 70% of Indonesia's manufacturing industry is located), or from abroad. The scope and intensity of linkages

[1] ISIC is the acronym for "International Standard Industrial Classification".

between the primary and manufacturing sectors comes very close to resembling the "colonial model".

The major issues to be addressed by the action program for manufacturing subsector development in both Provinces are therefore :

Issues 1

A completely rudimentary manufacturing subsector structure reflecting the historical development path of manufacturing being developed downstream either in order to exploit forest resources, or in response to "plantation development" in palm oil, rubber, and to a much smaller degree other agricultural products. The intense linkage between "plantations" and first level processing of plantation outputs resembles strongly the late "colonial model".

Issues 2

The insufficient levels of infrastructure across the board in support of manufacturing (industrial use water supply, electricity supply, industrial wastewater treatment, road or other transport access).

Issue 3

The fragmented and disbursed urban center/market structure with its fairly limited consumer market sizes, which impedes on large industrial-scale manufacturing of light consumer goods geared at mainly local/regional markets.

Issue 4

The almost total absence of lines-of-manufacturing in such areas as metal working, machinery (both electrical and non-electrical) as either spare-parts, components, and or build-up units manufacturers. The lack of such lines-of manufacturing has created the need for processing industries to import spare-parts and machinery either form abroad, or from Java. [2].

Issue 5

The subsequently relatively small enterprise base of medium to larger-size (in terms of output and/or employment) production units, with a vast number of SME's and microenterprises with absolutely no economies-of-scale, and supply to strictly local demand/markets only.

[2] There are, of course, individual smaller size manufacturing units in some of these lines-of-industry. However, it must be noted that the existence of individual units does not constitute a viable structure. In addition, the overall performance capacity and capability of these units is somewhat unclear.

Issue 6

The low level of process and product technology across the board. Noteworthy in this context is the overall low level of labor productivity, and the significant differential between West and Central Kalimantan.

Issue 7

The underdeveloped status of the regional financial support infrastructure.

Issue 8

The long term declining perspectives for wood processing industry, due to the absolute and relative (in relation to installed capacities) depletion of forest resources, which makes this subsector an immediate "severe crisis" sector, with its highly significant implications for employment/unemployment and its social consequences.

Issue 9

The across the board low level of value added content.

Issues 10

The absence of clear manufacturing agglomeration centers with favorable externalities (infrastructure, institutional support, and so on), which would create certain synergy effects, comprise a minimum of "economic mass", and reduce therefore potentially producer cost.

Issue 11

The not yet realized potential (though there have been and there are attempts to do so) for exploiting fully comparative advantages deriving from exchange rate adjustments (for example, cheaper Indonesian labor cost and reduced investment cost as compared to Malaysia), and other cross-border potentials in terms of labor or capital, in particular between Indonesia and Malaysia.

Issue 12

A not fully conducive policy-mix, though not ill-intended, carries severe repercussions for certain sectors of the existing processing industry (for example palm oil processing industry).

These general clusters of problem issues are presently aggravated by the impact of the economic crisis, the most serious of which are :

- Exorbitant price increases for spare parts and other imported parts, components and inputs, due to the drastic devaluation of the Rupiah and the volatility of daily exchange rate movements [3]
- The effects of an increasingly depleting forest resource base with its impact on capacity utilization factors in particular in the plywood processing industry [4] , and
- Interruptions in raw-material input supply in particular in the agro- and plantation based processing industry.

[3] Such volatility has calmed down to a certain decree as of August, 1998, with the Rupiah moving against the US dollar in a much smaller band after having appreciated against the US dollar from about Rp. 13,500 to about Rp. 10,500. However, minor accidents in the social arena, such as violent unrest, could result quickly in increased volatility again.

[4] There are some 16 plywood processing units in West and some six units in Central Kalimantan. It has to be noted here that process flexibility in plywood factories is very narrow due to the machinery and equipment installed. It is technically not possible to, for example, to switch easily to smaller diameter logs.

8.2 OBJECTIVES

Long-term viable development of the provincial regional economies will hardly be possible without developing a manufacturing base, which is structurally balanced and sustainable in terms of processing/supply capacities and demand/market parameter. It will be essential in the medium- to long-term to focus development attempts at balancing :

- modern, large-scale sector manufacturing with small scale manufacturing activities
- heavily natural resource dependent manufacturing (in terms of requirements of land resources needed and their scale) with what can be achieved with smaller scale land parcels (if the processing is natural resource based), and
- low technology, low value added with high technology (and/or scientific oriented) high value added manufacturing activities.

The fundamental development objective for the manufacturing subsector in both Provinces is established as:

DEVELOPMENT OBJECTIVE

Fostering of a long-term viable and sustainable industrial manufacturing structure, which is not exclusively based on a depleting resource base, or competing land use, and which is integrated, to the extent possible, with the domestic and regional (Malaysia) and international markets.

It is essential that the manufacturing subsector action plan attempts not only to reorient the manufacturing structure away from its prevailing monostructural composition toward a more future oriented structure, but also away from its exclusive dependence on non-sustainable levels of natural resource exploitation, in particular forest resources. This will entail focused and concentrated efforts, in view of the many substantial constraints. The main are : lack of sufficient provincial level capital and a "future oriented" entrepreneurial class, relatively low levels of skills among the labor force and an inadequate educational and vocational training and general support structure, and lack of a clear manufacturing development philosophy or concept at policy level.

The medium- to long-term development of such a manufacturing structure, which sort of "fits" the Kalimantan System, constitutes a formidable challenge and is not achievable over the short term.

8.3 STRATEGIES, OPERATIONAL OBJECTIVES AND MAJOR COMPONENTS OF THE SECTOR ACTION PLAN

In response to the development needs of the Study Area, the following more operational oriented development objectives of the manufacturing subsector action plan are defined as :

Operational Development Objective 1

This development objective is of immediate short-term concern. It is geared at the formulation and realization of a structural adjustment policy (objectives and instrument mix) for (a) forest-based manufacturing, in particular, the plywood industry, and (b) for agro based and food processing industry.

The second, third and fourth main operational development objectives are by nature medium- to long-term oriented. They are defined as :

Operational Development Objective 2

To foster the development of a manufacturing structure, which corresponds to the Kalimantan System approach, is well balanced in terms of backward and forward linkage, intersectoral integration, scale of processing, magnitude of raw material use, and so on.

Operational Development Objective 3

Establish a minimum of two manufacturing agglomeration centers in the form of industrial areas, industrial estates or combined manufacturing & trading zones, not only in order to create minimum critical manufacturing mass, but also to establish the groundwork for linking the area from a long term perspective with Sarawak, Malaysia.

Operational Development Objective 4

Harvest the long term potential for connecting the coastal area around Pontianak or further north to the oil & gas development on Natuna Island in the form of a service provider center (either as a pure service and recreational center, or as a combined service manufacturing support service provider.

The action program should generate the following outputs :

8.3.1 Phase 1 of Subsector Action Plan Implementation

(1) Structural Adjustment Program Relevant to Woodprocessing/Plywood Manufacturing

A prepared crisis & structural adjustment program for the wood-processing industry, in particular, but not limited to plywood manufacturing enterprises. This should be done with the following targets in mind (but again not necessarily be limited to these outputs) :

(Output 1) An impartial "impact & damage assessment" in terms of economic and social consequences caused by the industry's declining trend. Minimum parameter for such assessment must be (i) an in-depth assessment of the current performance and future performance perspectives of the complete enterprise base (that is 16 units in West and six units in Central Kalimantan) with a view to arrive at a long-term assessment of the subsector's viability. Such an assessment, which must be based on primary evidence of factory performance, is an essential input into the formulation of an appropriate structural adjustment policy framework

(Output 2) identification of the quantitative interrelationship between the existing and planned forest resource base with the existing and planned processing capacity, as well as existing and likely market developments. Given the sensitive situation of the forest resource base and the overwhelming importance of the plywood processing industry, it is essential to arrive at an unbiased view of the future potential sustainable material balance between forest resources and plywood and wood processing capacity, and

(Output 3) identification of the impact caused by the declining wood processing, in particular plywood manufacturing industry on the general economic and social spheres. This should comprise employment or unemployment effects; number of households affected, including their socio-economic features; regional distribution of such impact; and asset holders (company owners) attitudes and strategies.

It has to be stressed again that such adjustment program will have to be embedded firmly into a sober assessment of natural forest resources (existing versus planned/recommended land use; exploitable resource levels, industrial use plantation schemes, and so on), and, based thereon, an approach to guarantee sustainable levels of natural and artificial forest resource exploitation. A pure micro-economic approach, which accepts individual investment project profitability as main decision criteria, is inappropriate for a future oriented policy formulation.

(2) Structural Adjustment and Development Program Relevant to Agrobased and Food Processing Manufacturing

The Study Area has been, in general, a food deficient area, in particular in rice. Provincial level policy makers concerned with agricultural policies place great emphasize on agricultural sector development toward food self-sufficiency, and those dealing with industrial policy on the development of food processing and agrobased manufacturing. However, as has been

observed already for the forest and wood based manufacturing sector, the potential scope and depth of food processing and agro based manufacturing in the Study Area will depend primarily on the size and productivity of the area, which can (soil suitability) and will be devoted to food and non-plantation product related productive purposes. Scarce suitable land resources are now subject to competing land use for agricultural, plantation, or mining purposes. Decisions on land use appear to be adopted without proper appraisal of underlying cost-benefit relations. For example, one issue is, whether farmers of the Study Area can continue to buy say rice from cash income generated from work on palm oil plantations after they have submitted all or some of their productive lands, on which they would otherwise produce paddy or other food crops, for oil palm plantation development.

It is therefore essential to prepare a "structural adjustment and development program" for the food-processing and agro based industry. This should be done with the following targets in mind (but again not necessarily be limited to these targets alone) :

(Output 1) An impartial assessment of competing land-uses, including their inherent cost-benefit implications, with emphasize on the potential for primary sector food production and, based on this, the potential for developing an agro based and food processing industry. Minimum parameter for such assessment must be : (i) an impact appraisal of the cost/benefit relations between competing land uses (food crops versus reforestation versus plantation crops versus mining [the latter, only if applicable]); (ii) based on the results of such a cost-benefit comparison, arrive at a long-term assessment of the food crop producing primary sector, and therefore any food and agro based manufacturing industry, which would be piggybacked on the primary sector. Such an assessment is an essential input into the formulation of an appropriate structural adjustment and development policy framework, and

(Output 2) Identification of the quantitative interrelationship between the existing and planned food producing resource base with the existing and planned food and agro based processing capacity, as well as existing and likely market developments. Given the sensitive situation of the land resource base and the overall importance of food self-sufficiency levels, it is essential to arrive at an unbiased view of the future potential sustainable material balance between food producing land resources and food processing capacity.

(3) Medium to Long-term Manufacturing Perspective Plan

This output to be prepared in the short-term should be undertaken at least along four digit ISIC code levels. The perspective plan, which should likewise be embedded in an overall "Kalimantan System" approach, should address, but not be limited to the following output parameter :

(Output 1) A basket of lines-of-industry, product ranges/groups or individual products, for which the Study Area constitutes a "most favorable" manufacturing, and therefore, investment location. They key here will be a suitable definition of classification criteria, not necessarily based on either "comparative advantage" and/or resource cost considerations. For example, forest based products may enjoy their "comparative advantage" only, because of the strong undervaluation of the natural resource "forest". Strong potential candidates at subsector level are :

- Oleochemical products
- Rubber based products
- Pulp and paper
- Agro-based products of all kinds, and
- Other wood-based products (except plywood).

(Output 2) A reviewed and adjusted "policy-instrument-mix" in line with such classification

(Output 3) A redefined "incentive system" geared at attracting domestic and foreign investment at an accelerated scale [5]

(Output 4) A redefined industry related location policy (in the simple sense of factory site distribution over space within the "Kalimantan System") , including potential relocation issues.

(4) Establishment of Manufacturing Agglomeration Centers

A decided type, scale and location of manufacturing agglomeration centers either in the form of designated industrial areas, industrial estates, and/or industrial estates with a free trade zone. The proposed spatial structure plan in combination with the suggested development direction of the Study Area suggest at present a least four potential locations. They are (no order of priority is implied) :

West Kalimantan : The Coastal Industrial Zone (with Singkawang and Mempawah as urban centers

West Kalimantan : The Pontianak Urban and Industrial Development Zone

[5] This is an intrinsically difficult subject, which can not be addressed in detail in this study. Under the current system and approach, Provinces in Indonesia have relatively little leverage in adding or adjusting incentives granted to domestic or foreign investors at national level. In addition, this subject is closely intertwined with general decentralization issues. The point to be made here, however, is that there are ample examples for a different approach. For example, in Germany or the USA, federal states have their own promotional bodies and quite some leverage in granting special incentives to investors. While this has resulted in some duplication of promotional structures (in the case of Germany for example), it has also resulted in healthy levels of competition among individual federal states in investment attraction.

West Kalimantan : The Entikong Border Free Trade & Processing Zone, and

Central Kalimantan : The Pangkalanbun Kumai Urban and Industrial Development Zone.

(5) Human Resource Development (HRD)

A manpower and skill requirement development plan. Development of the Study Area can in the medium- to long-term not rely on its pool of "cheap labor". Cheap labor cost is not necessarily any more a decisive investment location factor. In addition, the Study Area suffers from a sizable pool of semi-skilled and skilled labor so essential for smooth factory operations (people of certain even basic skills are presently "imported" from mainly Java). The plan should be prepared in close cooperation with the private sector (follow the Singapore model) identifying manpower skill requirements for the existing and targeted industries, and matching those requirements with the necessary changes in the human resource development structure (institutional and software wise). The sort of predictable result (namely a complete mismatch between existing skill training offered versus skills required) is likely to entail fundamental adjustments in the supporting institutional infrastructure (for example establishment of new or complimentary vocational skill upgrading institutions, and so on).

(6) Policy Environment

Established procedural and other safeguards in the overall licensing process, which foster open and fair markets and competition.

(7) Physical Infrastructure Development

Identified infrastructure development requirements needed to support the manufacturing sector's path, estimated budget requirements, and identified financing resource, including potential areas for private sector participation.

(8) Environmental Monitoring and Pollution Control

A strengthened system for industrial pollution monitoring and control, and strict enforcement of rules.

In general, the provincial authorities need to take a more pro-active approach under a closer "partnership" between the public and private sectors.

8.3.2 Phase 2 and 3 of Subsector Action Plan Implementation

The basic assumption for these two phases is that the economic crisis will have been overcome, and that the economy is back on a growth track, though maybe at a lower growth performance level than before. The principal development issues in these phases are to pursue the full realization of the manufacturing sector's potential as identified during Phase 1. One issue of concern for long-term manufacturing subsector development are the possibilities to link manufacturing development in the Study Area with potentials outside of the Study Area. Two obvious directions in this context are cross border links to Sarawak (Malaysia) and oil & gas developments around Natuna Island. Box 8.4.1 summarizes the basic concept and features of the Natuna Island development scheme. Figure 8.4.1 shows the location of Natuna Island relative to the Study Area, and Figure 8.4.2 the spatial structure plan for Natuna Island.

8.4 EXISTING CONDITIONS

The dynamic performance analyses of the manufacturing subsector covering the past 14 years illustrates, that the subsector's importance has increased in West and Central Kalimantan's regional economies in terms of its share and overall employment generation. Real growth (on a constant 1983 price base) of manufacturing subsector output has exceeded GRDP output growth in both Provinces. The share of the manufacturing subsector in West Kalimantan's total GRDP has increased from 14.0% in 1983 to 19.5% in 1997, but only from 10.0% in 1983 to 11.7% in 1997 in Central Kalimantan. Employment accounted in 1995 for 5.0% and 4.0% of total manufacturing employment, respectively.

Box 8.4.1 Key Features of Natuna Island Development

Background

The development of Natuna Island, which belongs administratively to Riau Province, was approved as a KAPET (Integrated Economic Development Zone) by Presidential Decree No. 14 of October, 1996. The island comprises an area of some 160,000 ha, and it has presently a population of about 30 thousand people. The main source of the population's income is currently from fisheries. The gas fields east to the Island are currently under development in close cooperation with Singapore, which will be supplied by pipeline from these fields. The development committee of the island (BP3-Natuna) was established in BPPT.

Basic Concept

Due to the geographical proximity (relative to other locations) of West Kalimantan, Natuna Island development as a KAPET should offer, in principal, opportunities for the Study Area's business community to participate in the island's development. While the details of Natuna Island development remain unclear due to the current crisis and its implications on the Government's development budget, there should be potential for West Kalimantan to function as a supporting service center, or a combined service/manufacturing. Potential areas could be : (i) supply of labor; (ii) supply of food; (iii) supply of trade, transport, health and educational services; (iv) supply of construction material; (v) supply of logistics for oil & gas exploration, drilling, and (vi) exploitation; and recreational facilities.

However, for the above to materialize, West Kalimantan should be included in formal terms in the development concept, and the services offered by West Kalimantan should be competitive with other potential locations.

However, in case of both Provinces the absolute fragility of the manufacturing subsector comes to light when investigating the system of structural linkages between the primary sector, which constitutes the raw-material input base, and the horizontal and vertical structural features of the manufacturing base itself. Figure 8.4.3 illustrates, in a schematic manner, such interrelationships and features.

Key features of the manufacturing subsector structure are summarized as :

- Both Provinces have a manufacturing structure, which is highly concentrated on resource based processing, in particular wood, palm oil, and rubber processing, with very little or no relevant levels of horizontal and/or vertical integration
- There is no relevant base, or the base does not carry sufficient critical mass, in all strategic lines of manufacturing (that is ISIC codes 35 to 39)

Figure 8.4.1 Location of Natuna Island and Major Ports in West Kalimantan

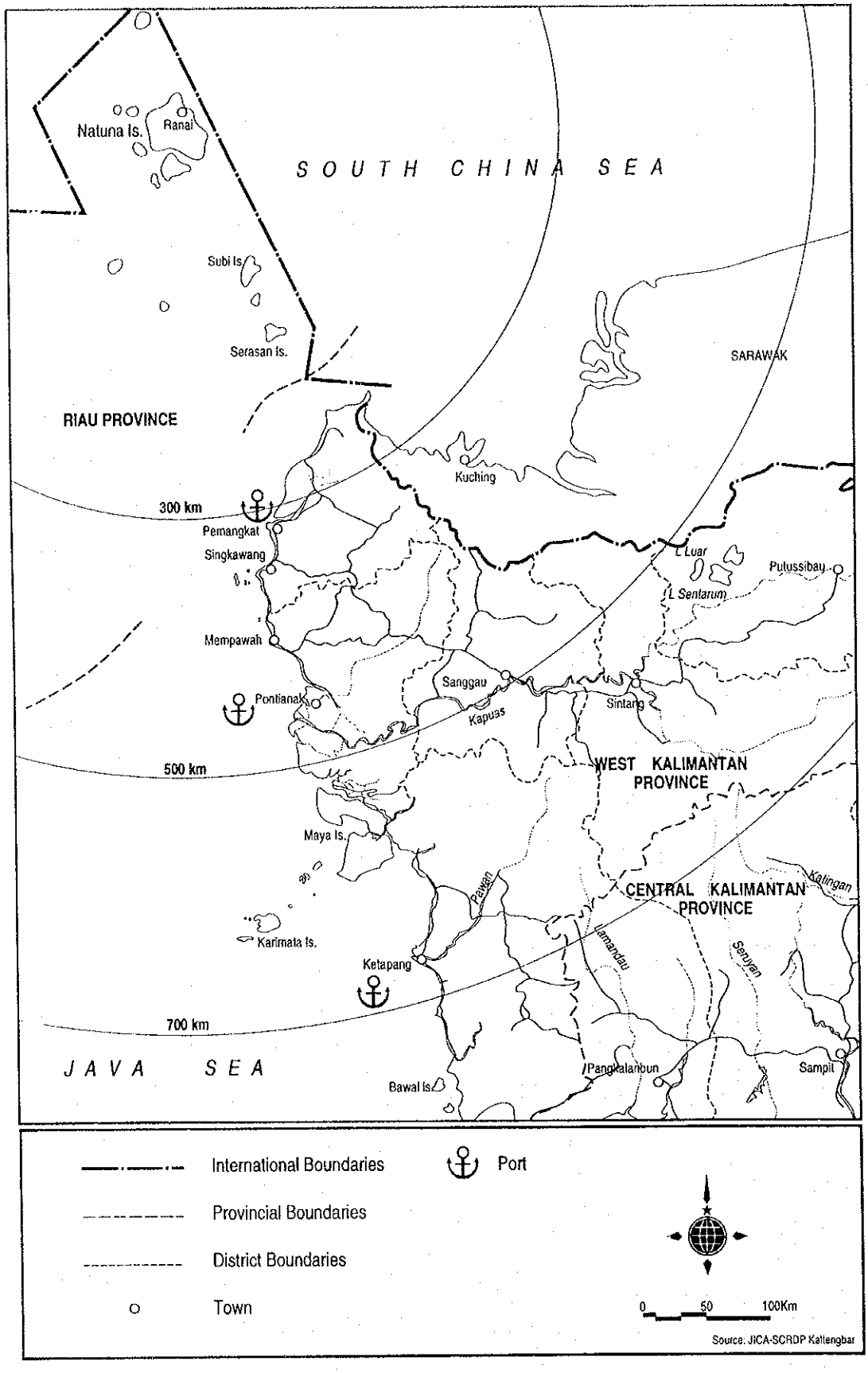
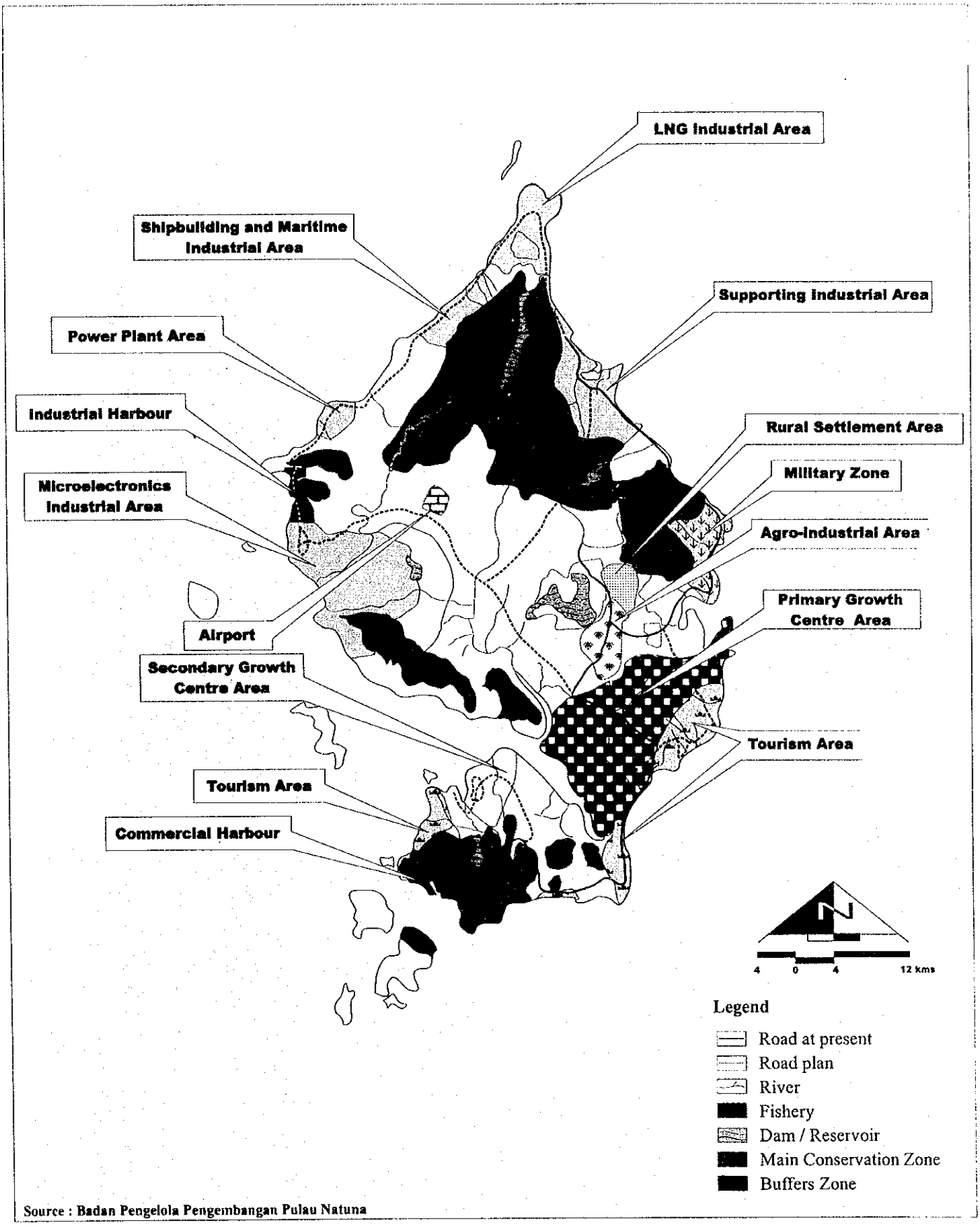
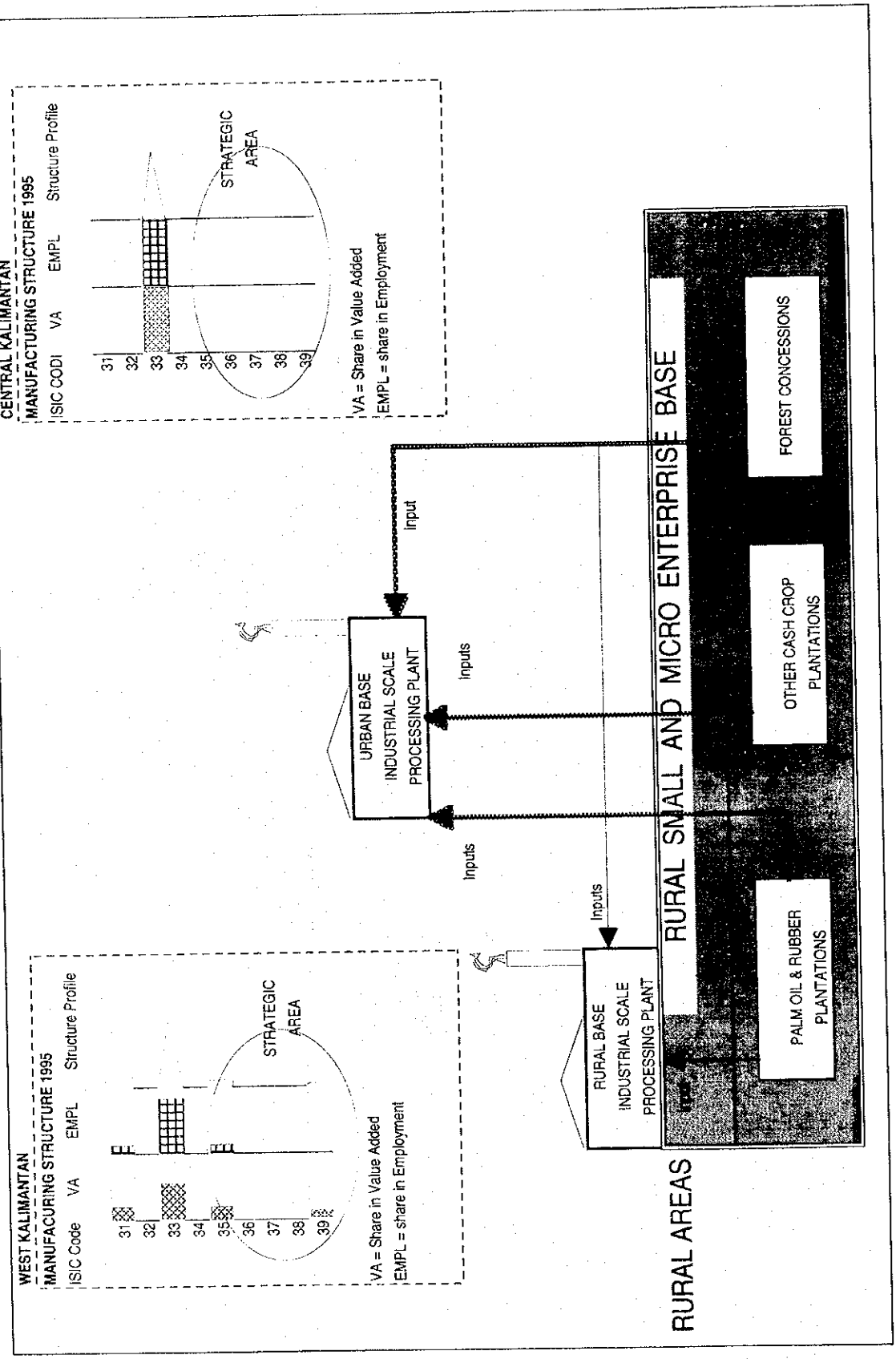


Figure 8.4.2 Spatial Structure Plan of Natuna Island



Source : Badan Pengelola Pengembangan Pulau Natuna

Figure 8.4.3 Linkages between the Primary Sector and the Manufacturing structure



WEST KALIMANTAN
MANUFACTURING STRUCTURE 1995
CENTRAL KALIMANTAN
MANUFACTURING STRUCTURE 1995
VA = Share in Value Added
EMPL = share in Employment
RURAL AREAS
RURAL SMALL AND MICRO ENTERPRISE BASE
RURAL BASE INDUSTRIAL SCALE PROCESSING PLANT
URBAN BASE INDUSTRIAL SCALE PROCESSING PLANT
PALM OIL & RUBBER PLANTATIONS
OTHER CASH CROP PLANTATIONS
FOREST CONCESSIONS
Input
Inputs

- Subsequently, manufacturing subsector growth performance and employment levels are a direct function of plantation and forest concession exploitation levels and/or enlargements. In other words, if the resource base grows at a required pace, so do, in principle, the processing establishments, and vice versa
- Given the projected situation for logging in the coming five to ten years, and in particular thereafter, the wood-processing based industrial scale industry has already to be classified as an industry in "severe crisis", with all its implications for the very base of manufacturing in both Provinces, as well as its employment implications. This line-of-industry is in deer need of a comprehensive structural adjustment package
- The scope and depth of manufacturing in the resource based manufacturing establishments is relative shallow (relatively unsophisticated primary processing steps, involving low-level outdated technologies), and
- While there are concentration points of manufacturing activities, there seems to be no "center of gravitation", which would combine favorable externalities with a supportive infrastructure and synergies.

Box 8.4.2 summarizes the relevance of the wood processing industry, and its potential impact on future manufacturing sector performance. Figure 8.4.4 shows the type of industry and its locations along the Kapuas River.

Box 8.4.2 The Wood Processing Industry

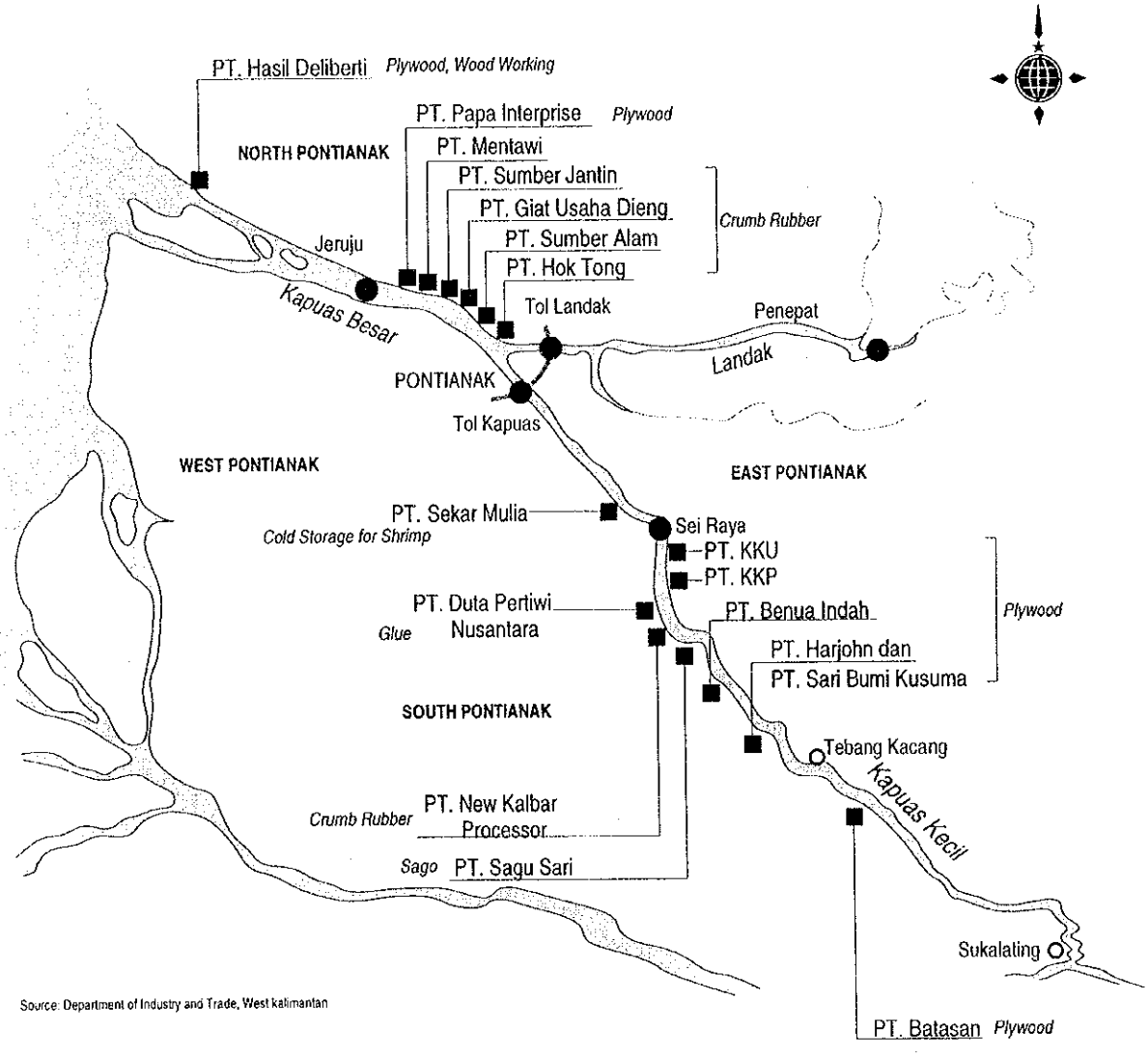
Wood processing industries, in particular plywood processing, occupies a dominant position in the Study Area's manufacturing and therefore secondary sector in terms of production value, direct employment, and foreign exchange earnings. Wood processing accounted for roughly 65% (1993 to 1996 4-years average) of manufacturing output, though the trend is consistently falling (from 67% in 1993 to 63% in 1996). Wood processing is the manufacturing sector's "engine of growth" carrying some 4.0% points out of 8.5% real manufacturing growth (over the period 1993 to 1996), equivalent to roughly half of manufacturing sector growth performance.

The Study Area has a total of 22 modern sector plywood processing units (16 in West and 6 in Central Kalimantan) with an estimated combined installed capacity of about 1.8 million m^3 of plywood (at 8 hrs. operations),and employing between 75% to 80% of the manufacturing sector's labor force. Plywood is also the dominant export commodity, the export value of which averaged US dollars 427 million (period 1992 to 1996) in West, and US dollar 117 million in Central Kalimantan.

However, this important manufacturing subsector is in serious structural and performance problems, because of

- The increasingly depleting raw material resource base (the sustainable level of log production is falling toward negligible levels in both Provinces by 2025, with the steepest fall taking place in West Kalimantan in the coming five to ten years), and
- The prevailing domestic "market" structure, and enforcement of the existing regulator framework.

Figure 8.4.4 Industry Type and Location Along the Kapuas River



CHAPTER 9

SMALL AND MEDIUM ENTERPRISES

CHAPTER 9 SMALL AND MEDIUM ENTERPRISES

9.1 ISSUES

The target group and beneficiaries of the small & medium enterprise sector comprises, in principle, formal and non-formal enterprises, cooperatives, and microenterprises. [1] The small and medium enterprise sector development program focuses on formal and non-formal (that is modern and traditional sector) enterprises [2] across the primary, secondary and tertiary major economic sectors.

Though there is common acknowledgment that this sector carries considerable absolute weight in terms of number of establishments, employment, investment, and production value, the core development issue for this sector remaining to be addressed at national and Study Area levels is the lack and/or insufficiency of an appropriate financial sector and non-financial sector support services structure. [3] In fact, the Supplementary Memorandum dated April 8th, 1998, between the IMF and the GOI stipulates in paragraph 16 that the GOI prepares an action plan geared at strengthening the overall institutional framework for supporting small and medium enterprises and cooperatives. The national level plan, which is presently under preparation with the support of a bilateral ODA project [4], is to include measures to :

Strengthen the capabilities of financial institutions involved in lending to SSEs and cooperatives (with emphasize on credit appraisal and project supervision)

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[1] Though there are quite a number of on-going or planned activities supporting this sector, a clear definition of the target/beneficiary group is sometimes lacking, or not in line with prevailing definitions according to either BPS and/or technical Ministries' definitions. The official definition of "small & medium enterprises" used by Bank Indonesia is that the economic unit's value of asset should not exceed Rupiah 600 million, and that turnover should not exceed Rupiah 1 billion (roughly equivalent to US $ 56,000 and US $ 93,500, respectively, at an exchange rate of Rupiah 10,700 to the US dollar. The definition used by the Statistical Office BPS for "small enterprises" are those employing up o 20 workers, while medium and large enterprises are defined as those employing more than 20 workers.

[2] Referred to by Provincial authorities as "small scale enterprises", abbreviated here as SSEs.

[3] There are, of course, attempts, programs and projects geared toward supporting SSEs either in terms of providing financing, technology, and/or training in technical and managerial fields. However, the point to be made here is that pertaining issues need to be addressed sector and nationwide, and that many disincentives in the overall policy and regulatory frameworks have not yet been removed in a systematic and comprehensive fashion. In other words, an overall enabling environment (structures, that is policies and delivery mechanisms) still needs to be put in place.

[4] The GTZ funded SME project.

- Strengthen risk management and reduce transaction cost associated with such lending
- Enhance access to trade financing and insurance facilities
- Develop technical skills and improve access to appropriate technologies, and
- Improve the provision of a suitable infrastructure, and reduce administrative controls.

There are also indications, that the national level action plan may be complemented by action plans at provincial level for a selected number of Provinces.

The major development issues at national and Study Area levels across this sector fall into three closely interrelated, but distinct categories, namely issues of the overall enabling environment, issues relevant to a suitable and sustainable financial sector and non-financial sector support structure, and issues pertinent to the overall performance capacity and capability of SSE units themselves.

9.1.1 Issues of the Overall Enabling Environment

It must be stated in general, that the prevailing policy and enabling frameworks are still fragmented with an anti SSE bias, they are rudimentary lacking consistency and comprehensiveness in terms of a sector-wide policy with an appropriate policy objective and instrument mix. There are, for example, still many rules and regulations, which inhibit SSE development, such as industry and trade regulations (for example importer-producer status, and producer-exporter status), and other commercial and or general legal framework items.

Key development issues of at national and Study Area levels are :

- Deficiencies (unintended anti- SSE bias; disproportionate burden; lack of focus, and so on) in related trade and industrial policies
- Weaknesses in the commercial legal system, and
- Inappropriate and/or inadequate overall regulatory frameworks (licensing requirements; restrictions, financial sector rules, taxes and levies, and so on).

9.1.2 Support Services Structure

The same observations holds true for the financial and non-financial sector support mechanisms, which do not yet constitute a comprehensive and pro-active support structure [5], but rather fragmented and/or partial activities, which are regionally/locally defined, or focused on one particular aspect of SSE unit operations (such as technology, or management) and/or a

[5] There are, however, individual cases of successful financial support schemes, such as the one implemented by "Bank Rakyat Indonesia (BRI)", as there are examples for other successful support attempts in the fields of technical/managerial training and technology transfer.

particular group of SSEs (such as farm sector SSEs), thereby de facto dividing the potential beneficiary group of enterprises along location or problem issue lines.

The general national level constraints in the SSE support service structure are particularly pronounced in the Study Area. Key development issues at Study Area level are :

- Lack of a Provincial level comprehensive system structure for the support of SSEs
- Fragmented and/or lack of coverage, in particular in remote rural areas (remote in terms of accessibility, or closeness to urban centers)
- Insufficient structure and coverage by bank sector and non-banking sector financial institutions
- Inappropriate assistance approach or focus (not or insufficiently addressing SSE unit long-term needs; inappropriate target groups, and so on)
- Low overall level of effectiveness of on-going support activities, and
- Lack of suitable "facilitators", which could mediate between the SSEs, that is the end-users, financial institutions and other potential service providers in the technical, managerial and marketing fields.

9.1.3 SSEs Performance and Performance Constraints

In general, SSEs are hampered typically by a closely intertwined set of factors [6], which constrain the realization of their economic units performance potentials, and therefore its healthy and sustainable growth. Such inherent limitations arise mainly from size limitations (capital, human resources, production scales, product scope and mix) and a biased economic structure and regulatory framework. The total target group of SSE beneficiaries can be divided into three principal groups, namely (a) promising SSEs most seriously affected by the on-going economic and banking sector crisis [7], (b) promising SSEs; and (c) SSEs with only marginal or no realizable growth [8] potential.

The two most serious impacts of the prevailing economic crisis with consequences not only for individual enterprises, but the sector's size and structure as a whole, are, firstly, the decreasing domestic demand, and secondly the relative shifts caused by domestic consumers changing consumption patterns toward cheaper products produced by SSEs (replacing either more expensive modern sector produced domestic or imported products [example potato chips]), or

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[6] For a discussion of such factors, see Section 7 of this Chapter.

[7] SSEs, which have a relative good chance, if assisted properly, to realize their growth potential, are referred to in the relevant ODA discussion and documentation as "promising SSEs".

[8] The term growth refers here to the overall development process/life cycle of an economic unit.

SSE products having become more competitive on export markets as a result of the Rupiah devaluation.

Overall, the following problems are particularly pronounced in the Study Area according to the surveys implemented under the study.

Issue 1

Assistance to the SSEs has been provided so far in an unsystematic, general and rather partial manner, without providing any innovation to the enterprises (in terms of technology, process, and/or overall business management).

Issue 2

The main problems experienced by the SSEs are according to the provincial authorities (a ranking of priority would be on a case-by-case basis. Hence, such a ranking is not implied in bellow's listing) :

a) Production technique
b) Financing
c) Entrepreneurship and management
d) Marketing and information, and
e) Machinery and equipment related issues.

Issue 3

The main problems faced by the communities, which want to promote the SSEs are (not implying any order of priority) :

a) Technical skills/commodity processing methods
b) Mental attitude
c) Marketing and promotion
d) Financing, and
e) Information.

9.2 OBJECTIVES

Efforts by the GOI and projects assisting in such endeavors should, in principle, be embedded in and geared toward the establishment of an overall viable and sustainable support services structure. The major and typical elements of such structure are presented in a stylized form in Figure 9.2.1. While some of the major elements of such a structure are in place [9], it is the insufficient capacity and capability of major structure elements, which impedes on the efficient interaction of system elements at major system interfaces.

For example, not only have the SSEs overall limited performance capabilities, but the same holds also true for the public and private sector support services structure. Hence, the major system interface between the support structure and the SSEs is weak. Likewise, the interface between policy makers and the other major structure elements appears to be weak as can be deducted from the still existing unintended, but implicit anti-SSE bias of certain policy instruments.

The overall development objective for the SSE sector of both Provinces (but also at national level) as a whole is, therefore :

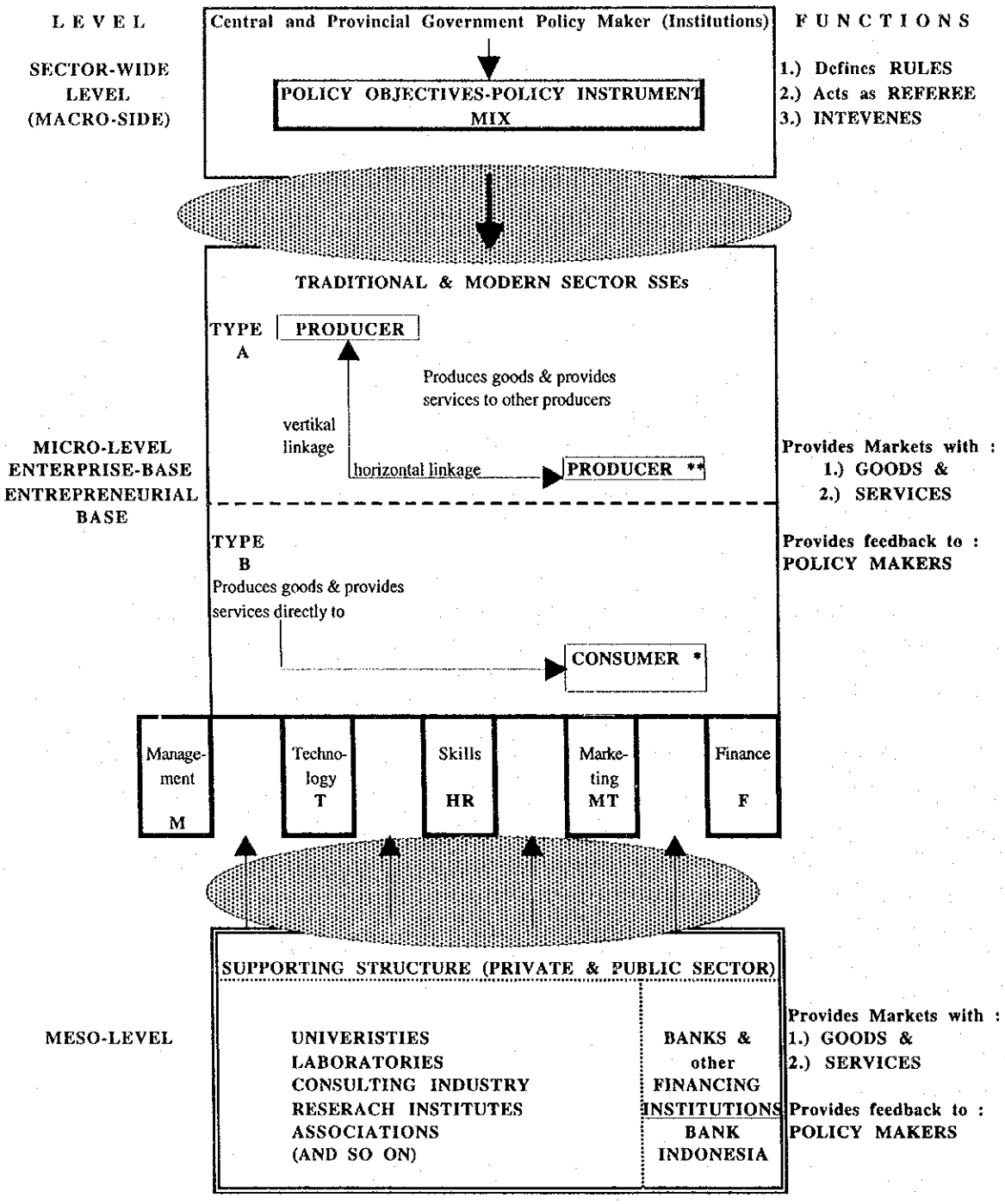
DEVELOPMENT OBJECTIVE.

Promotion of the realization of a viable and sustainable financial sector and non-financial sector support services structure in both Provinces, which is geared at the professional promotion of SSEs, and which is in line with general market principle mechanisms.

It is anticipated that implementation of the SSE sector action plan will make a direct measurable contribution to the following operational priority objectives of the sector action plan :

[9] For a discussion, please see Section 7 "Existing conditions".

Figure 9.2.1 Major Structure Elements of the SSE System



*) Example : Food & drink street vendor.

**) Furniture part producer.

9.2.1 Employment and Income Generation in both, Rural and Urban Areas.

Rationale. The general lack of regular employment opportunities particularly in remote and not easily accessible rural areas, but also the urban sector, is being aggravated by the on-going economic and financial crisis, as well as by declining job- opportunities in the modern sector resource based manufacturing base. There is, therefore, not only a need to increase the number of job opportunities, in order to cater for people, who are under- or unemployed as a result of the economic crisis, but also to cater for new rural and urban job-seekers, and labor force elements, which need to supplement non-monetarized subsistence incomes with monetary income derived from small-scale cash income generating activities

9.2.2 Small Scale Productive Use of the Existing Resource Base.

Rationale. The Study Area's presently most important natural resource base in terms of modern sector industrial scale exploitation are the forests. However, this resource base is in absolute decline as regards further long-term land large scale oriented industrial use. In addition, there are other so far insufficiently tapped natural resources intrinsic to the "Kalimantan System", such as traditional medicines and herbs, which could provide a basis for small scale (even industrial scale) high value exploitation. Likewise, much of the so called "wood-waste" now generated by logging and other wood processing activities, could be used for small scale productive activities.

9.2.3 Support to the Feasibility of Plantation Oriented Small and Large Scale Schemes.

Rationale. Plantation development is per definition/regulatory framework linked with small holder development. However, as has been identified in other parts of this study, successful small holder development is typically hampered by a number of constraining factors on the income, financing, and/or pure technical side (lack of technical skills of small holders). It is, therefore, imperative, that suitable support services are put into place, which address such problems. This is necessary, not only in order to improve the livelihood of small scale workers, but also to ensure the feasibility of planned plantation oriented development.

9.2.4 Support to the Development of a Viable Agro-based Industry.

Rationale. There is likewise ample scope in the Study Area for small scale agricultural estate development, which provides the raw material for either (a) small scale local market processing, or (b) further larger scale industrial upstream processing. Such potentials should be harvested

not only in the interest of improving the livelihood of rural area people, but also for supporting the overall and manufacturing subsector development direction of the Study Area.