CHAPTER 14 VILLAGE DEVELOPMENT

14.1 KEY ISSUES FOR VILLAGE DEVELOPMENT

The issues for village development (rural community) development in Kalimantan can be summarized as follows:

- How to promote a more comprehensive approach, as well as anti-poverty programs
- How to pay more attention to local conditions and local livelihood means for programing based on external sources
- How to set the framework in which the local governments could be more responsive to the local people's needs and local conditions which are to be seriously considered for designing government development programs and projects
- How to activate the role of communities in the present village development efforts guided by the government

14.2 OBJECTIVES OF VILLAGE DEVELOPMENT

The objectives to be set for village development of Kalimantan should be based on the understanding of regional societies of Kalimantan. Chapter 4 of the Main Text points out Kalimantan's eight key socio-economic characteristics, which constitute the salient features of the Kalimantan System together with natural characteristics of Kalimantan.

Among those socio-economic characteristics, the most important is that each ethnic group has different livelihood means from others, and different types of livelihood systems prevail in the areas of different land and forest conditions. Moreover, the groups of certain livelihood means have different social and cultural organizations than others. Each group has developed its own ways or skills to utilize local ecological resources. Reflecting these socio-economic characteristics of Kalimantan, the following three objectives are identified for village development:

- To provide all types of groups with the opportunities to participate in sustainable development efforts keeping and utilizing the features of their societies and economic systems.

- Not to destroy or weaken the existing social systems of different types of communities in the region, and to empower local communities to take advantage of their own characteristics of social systems and livelihood systems relying on nature

14.3 BASIC STRATEGIES

14.3.1 Community-Level Development Planning

With the decentralization of more functions to local governments, local communities are encouraged to tell their needs to the local governments and to play larger roles in planning and taking actions.

One of the methods of these is participatory community-based planning for community development and project formulation. The government is required to financially and intellectually assist local communities in this respect.

Such community development should be really based on people's initiatives and active interaction. This situation can be realized among the members of a community, for example, sharing its own territory and resources. The community in West Kalimantan is a spontaneously developed kampung, which is administratively almost the same as a dusun. On the other hand, the community is a desa in Central Kalimantan. It is important to strengthen the function of dusun in West Kalimantan and desa in Central Kalimantan in community development planning.

14.3.2 Sustaining Coexistence of Oil Palm Plantations with Existing Local Communities

The largest expected change to happen to inland Kalimantan in the next two decades is large-scale oil palm plantation development. Without proper intervention of the government, this change is very likely to adversely affect the local communities in terms of social organization and the natural bases of livelihood. It is essential to secure the sustainability of both oil palm plantation companies and local communities (business sustainability, environmental sustainability and livelihood sustainability).

For seeking these kinds of sustainability in oil palm plantation development, it is necessary to base oil palm plantation development on the understanding that upland communities are "ecological communities", whose livelihoods depend on the ecological resources within the territory. Upland farming, including paddy and rubber cultivation, is based on such ecological resources, which are secondary forest lands.

If the existing livelihood system, which is diversified and based on the ecological resources available to the communities, is replaced by oil palm plantations, which are monoculture, the sustainability of communities' livelihood would be largely threatened. Moreover, the opportunities of future generations of the communities would be largely reduced due to the decrease of the lands and forests available to them.

14.4 TYPES OF RURAL COMMUNITIES

In the following sections, first, the key characteristics of rural communities in the study area will be described. Second, this chapter will pay attention to how the rural communities in Kalimantan have transformed after the independence of Indonesia. The basic perspectives for this analysis is how Indonesia's modern system of state administration has replaced traditional adat-based systems of the Kalimantan's rural communities, especially those of the Dayak.

In Kalimantan, there are different types of rural communities. These differences come from ethnicity, as follows:

1) Dayak communities = Non-Muslim
2) Malay communities = Muslim
3) Chinese communities = Non-Muslim
4) Transmigration settlements = Muslim transmigrants and Local Participants (Muslim and Non-Muslim)
5) Spontaneous migrants (from Java, Madura, and South Sulawesi) = Muslim

As seen in the above list, in Kalimantan, the distinction between Muslims and non-Muslims is very important. The distinction between ethnic groups is also significant to due to different patterns of rural livelihoods. Unlike Malaysia, Indonesia's population censuses have not collected ethnic data. However, according to the statement by West Kalimantan's provincial governor, the Dayak account for about 42% of the provincial population, the Malay 31% and the Chinese 11%.[1]

The term Dayak is used to refer collectively to non-Muslim indigents. The Dayaks usually live in the interior, mostly along rivers and streams. Their livelihoods are based mainly on swidden agriculture and rubber groves which are planted after making swiddens. The people called the Dayak are actually fragmented into various cultural and language groups due to mutual geographical isolation even though many ethnic groups may be of the same ethnic origin.

The Malay are characterized by the Islamic religion, although there are other characteristics that delimit the Malays. They live mainly by small-scale trade, sea and inland fishing, rice farming (usually swamp rice cultivation), coconut tree farming and more recently, commercial

[1] *Kompas*, April 4, 1997

agriculture. They live mostly in coastal areas, along major rivers, and in main trading centers. The population of Malay people has historically increased through the conversion of non-Muslim Dayak people to the Islamic religion, rather than by immigration from outside of the Kalimantan island.

In the latter part of the eighteenth century, a huge number of Chinese settlers or workers came to West Kalimantan as goldminers. After the exhaustion of gold deposits, some of them left while remained in Kalimantan. In the mid 1960s in Kalimantan, the government forced the ethnic Chinese people to evacuate from the rural interior to district or provincial capital towns. However, since the population of ethnic Chinese people is quite large in West Kalimantan, they live not only in inland towns but also in rural areas in West Kalimantan. This is quite a rare case for Indonesian provinces.

The Indonesian Government's Transmigration Program has also brought a substantial amount of immigrants to the region. The total number of transmigrants from outside of Kalimantan accounts for about 6.6% and 11.7% of the provincial population in West and Central Kalimantan respectively.

Table 14.4.1 Transmigrants in West and Central Kalimantan, 1995

Province	Population	Transmigrants from Outside Kalimantan	
		Number(1)	Percentage of Population
West Kalimantan	3,636,000	238,291	6.6 %
Central Kalimantan	1,627,000	189,977	11.7 %

Note (1): The number of transmigrants is calculated as the number of those transmigrated from outside of Kalimantan.
Source: Kantor Wilayah Department Transmigrasi dan PPH Propinsi Kalimantan Barat (1997), Kantor Wilayah Department Transmigrasi dan PPH Propinsi Kalimantan Tengah (1996)

Responding to the local people's requests, the transmigration program has provided the local people of the receiving provinces with opportunities to join transmigration settlements. As a result, recent settlements have included local people. As shown in Table 14.4.2, in West Kalimantan more than 30% of transmigration settlements are allocated for the participation of local people, while in Central Kalimantan 10-20% of the settlements are allocated to local people.

Table 14.4.2 Local People in Transmigration Settlements in West and Central Kalimantan

Five-Year Development Plan Period	Years	West Kalimantan		Central Kalimantan	
		Number of Local Households Resettled from Kalimantan	Percentage of Local Households of the Total Number of Households in Transmigration Settlements	Number of Local Households Resettled from Kalimantan	Percentage of Local Households of the Total Number of Households in Transmigration Settlements
Pre-Repelita	Before 1968/69	0	0%	0	0%
Repelita I	1969/70-1973/74	0	0%	0	0%
Repelita II	1974/75-1978/79	476	11.6%	50	4.2%
Repelita III	1979/80-1983/84	4,600	16.1%	1,563	8.3%
Repelita IV	1984/85-1988/98	2,748	34.1%	1,739	11.4%
Repelita V	1989/90-1993/94	10,077	42.1%	2,361	24.5%
Repelita VI	1994/95-1998/99	8,354	40.6%	1,616	19.2%
Total		26,255	30.1%	7,329	13.3%

Source: Kantor Wilayah Department Transmigrasi dan PPH Propinsi Kalimantan Barat (1997)
Kantor Wilayah Department Transmigrasi dan PPH Propinsi Kalimantan Tengah (1996)

A large number of spontaneous immigrants include those from Java, Madura and South Sulawesi. The migration of the Javanese to Kalimantan is found since the fourteenth and fifteenth centuries when the Javanese kingdoms were influential over parts of Kalimantan. Since the 1960s, the increase of Javanese people in Kalimantan has been due to increased military operations, expanded administrative functions and the government sponsored transmigration program.

The Madurese immigration is also not new. They have lived not only in towns but have also penetrated in rural areas. They work as manual laborers, pedicab drivers, farmers and traders. The Bugis people from South Sulawesi are also found all over the coastal areas of Kalimantan. They are also found in various fields as farmers, fishermen and traders.

14.5 ADMINISTRATIVE VILLAGES AND COMMUNITIES

In the rural areas of Indonesia, "desa" is the smallest administrative unit under the subdistrict (kecamatan). Desa has an elected village head and a few assistants, all of who get honoraria from the government. That is, desa is an administrative village.

In most cases of Kalimantan, except the province of West Kalimantan, the existing desa is based on a spontaneously established village (kampung). West Kalimantan used to have more than 4,000 kampung-based villages. These kampung-based villages have been combined into 1,365 villages (See Table 14.5.1). The old villages turned out to be sub-villages (dusun). Such a kampung or dusun has about 100 households, and 3-5 kampungs are combined into a desa (See Table 14.5.3). This process, which is called "regrouping", has been conducted for the purpose of standarization of village administration in some provinces. However, in Kalimantan, only the province of West Kalimantan has experienced the regrouping of villages. Since the average population of village is much lower in Central Kalimantan (See Tables 14.5.2 and 14.5.4.), there are some possibility that Central Kalimantan may go through a regrouping of villages.

Until the Indonesian government became administratively and politically strong enough, the kampung was a community of an autonomous entity, in terms of controlling its territory, ruling its people, and conducting rituals. The territory of the kampung is still important because in the local customary law the members of a kampung have rights of access to unclaimed lands for making swiddens and rights to extract forest resources within their kampung territory.

However, in West Kalimantan after the regrouping, the administrative village (desa) was superimposed on kampungs. A village head comes from a sub-village (dusun), and his or her assistants also tend to concentrate on the sub-village. As a result, some features of communities were lost, and more interests of a certain sub-village are represented in village administration.

Table 14.5.1 Changes in Number of Administrative Villages (Desa and Kelurahan)

	1956	1961	1986	1995
West Kalimantan	4,060	-	4,690	1,365
Central Kalimantan	-	935	1,145	1,219

Source: Kantor Statistik Propinsi Kalimantan Barat, Kalimantan Barat Dalam Angka 1995
Kantor Statistik Propinsi Kalimantan Barat, Kalimantan Barat Dalam Angka 1995

Table 14.5.2 Average Size of Village Population in West Kalimantan in 1995

Name of District	Number of Kelurahan	Number of Desa	Area per Desa / Kelurahan (km2)	Population per Desa
Sambas	8	271	44	2,627
Pontianak	7	300	59	2,379
Sanggau	6	234	78	2,006
Ketapang	5	124	278	2,734
Sintang	6	243	130	1,741
Kapuas Hulu	4	141	206	1,170
Pontianak City	22	0	5	-
Total	58	1,313	108	2,179

Source: Kantor Statistik Propinsi Kalimantan Barat, Kalimantan Barat Dalam Angka1995

Table 14.5.3 Average Size of Sub-Village (Dusun) in West Kalimantan in 1995

Name of District	Number of Desa	Number of Dusun	Number of Dusun per Desa	Population per Dusun
Sambas	271	n.a.	n.a.	n.a.
Pontianak	300	1,458	4.9	490
Sanggau	234	836	3.6	561
Ketapang	124	481	3.9	705
Sintang	243	867	3.4	487
Kapuas Hulu	145	402	2.8	422
Pontianak City	0	-	-	-
Total	1,313	n.a.	n.a.	n.a.

Note: n.a.=not available.
Source: Kabupaten Dalam Angka, various issues.

Table 14.5.4 Average Size of Village Population in Central Kalimantan in 1995

Name of District	Number of Kelurahan	Number of Desa	Area per Desa / Kelurahan (km2)	Population per Desa
Kotawaringin Barat	19	132	139	1,129
Kotawaringin Timur	21	314	151	1,157
Kapuas	18	291	113	1,615
Barito Selatan	10	135	87	1,015
Barito Utara	12	188	160	684
Palangkaraya	18	0	133	-
Total	98	1,060	133	1,190

Source: Kantor Statistik Propinsi Kalimantan Barat, Kalimantan Tengah Dalam Angka1995

14.6 POVERTY SITUATIONS

14.6.1 Concepts of Poverty

In order to discuss the poverty situation, it is important to recognize that there are various definitions of poverty. For different people, the term poverty has a different meaning. For example:

- "Primary poverty" in terms of nutrition intake
- Economistic definitions of poverty in terms of income and consumption
- Powerlessness and vulnerability, in addition to the income/consumption-based poverty concept

The nutritionally based poverty has been criticized by social scientists who argue that wider definitions are needed to look at situations of ill-being. The income/consumption approach has also been attacked because it fails to pay enough attention to benefits from common property resources and commodities provided by the government. In the case of swidden farmers (shifting cultivators), the major indicator of measuring poverty, which is cash incomes of households, does not include non-cash incomes, such as agricultural produce from their own farms as well as medicinal plants and edible plants extracted from the forests near their villages.

In Indonesia, the Central Bureau of Statistics (BPS) adopts cash expenditure as a criteria for defining the poor. BPS has set official poverty lines based on the cost of purchasing 2,100 calories of essential foods and minimum levels of basic items, such as rent, fuel, clothing, transport and schooling. In this sense, the estimates of poor population by BPS are based on private consumption alone.

Repelita VI defines poverty as "a situation in which people live in a condition of severe insufficiency in terms of and caused by limited capital, lack of knowledge and skills, low productivity, low incomes, weak terms of trade of products and limited opportunities to participate in development." In addition to these conditions, "poor accessibility to economic resources (natural resources) and social services (such as physical, health, and basic sanitation facilities)" should be included by the definition of poverty, according to Indonesia's Agenda-21 formulated by State Ministry for the Environment. [2]

14.6.2 Trends in the Incidence of Poverty

[2] State Ministry for Environment and UNDP (1997), Agenda 21-Indonesia: A National Strategy for Sustainable Development. This is the English version of Agenda 21-Indonesia, which was first written in Bahasa Indonesia.

The overall poverty rate of Indonesia has drastically declined in the last twenty years, from 40% in 1976 to 11% in 1996. The overall rates both of urban and rural poverty decreased in a similar way to the total poverty. However, there is still a large mass of population remaining under the poverty line. In 1996, the poor still amounted to 22.5 million in Indonesia, with 15.3 million of rural poor and 7.2 million of urban poor.

Table 14.6.1 Trends in the Overall Incidence of Poverty of Indonesia

	Percentage of Population under Poverty in Indonesia (%)			Population under Poverty Line in Indonesia (million)		
Year	Urban	Rural	Total	Urban	Rural	Total
1976	39%	40%	40%	10.0	44.2	54.2
1978	31%	33%	33%	8.3	38.9	47.2
1980	29%	28%	29%	9.5	32.8	42.3
1981	28%	26%	27%	9.3	31.3	40.6
1984	23%	21%	22%	9.3	25.7	35.0
1987	20%	16%	17%	9.7	20.3	30.0
1990	17%	14%	15%	9.4	17.8	27.2
1993	13%	14%	14%	8.7	17.2	25.9
1996	10%	12%	11%	7.2	15.3	22.5

Source: The most of data in this table are from BPS, "Peta dan Perkembangan Kemiskinan di Indonesia", Paper Presendted at Training Seminar on Statistics for Journalists on 16th of July, 1997

Although the overall incidence of poverty drastically decreased in Indonesia, the economical gap between the better-off and poor gradually became larger, as shown in the trend of Gini Ratios.

Table 14.6.2 Trends in Gini Ratio

	1987	1990	1993	1996
West Kalimantan	0.259	0.284	0.302	0.300
Central Kalimantan	0.241	0.250	0.259	0.271
Indonesia Total	0.322	0.321	0.335	0.356

Source: BPS, Pengeluaran untuk Konsumsi Penduduk Indonesia per Propinsi 1993, Buku 3
BPS, Pengeluaran untuk Konsumsi Penduduk Indonesia per Propinsi 1996, Buku 3

If we turn to regional distribution of poverty, we see that there is still a huge population of poor in Java and Bali (See Table 14.6.3). In examining the regional distribution of poverty, it is clear that 73% of the urban poor and 70% of the rural poor live on Java and Bali. (See Table 14.6.4) On the other hand, in Kalimantan, Maluku, Irian Jaya and Nusa Tenggara, the poverty rates per capita are considerably higher. (See Table 14.6.4) However, in the last twenty years, there was gradual improvement in Java's poverty situations.

Table 14.6.4 shows that 20 years ago the poor was found mostly in rural Java, followed by the rural outer islands. The population in poverty in rural Java decreased drastically to half in the last 20 years. In contrast, the rural poor population in the outer islands declined a little, but its share of poor in Indonesia remains high, at more than 30%. The urban poor of Java was in the range of two to five million. On the other hand, throughout Indonesia, the amount of urban

poor has doubled. Generally, the regional distribution of poor has been shifting from rural Java to urban Java and furthermore to the rural outer islands.

Table 14.6.3 Regional Distribution of Poverty

	Population of Urban Poor (1,000) in 1993	% of Indonesia's Total Urban Poor in 1993	Urban Population (1,000) in 1995	% of Indonesia's Urban Population in 1995	Population of Rural Poor (1,000) in 1993	% of Indonesia's Total Rural Poor (1993)	Rural Population (1,000) in 1995	% of Indonesia's Rural Population In 1995
Sumatra	1,324	15.0%	12,018	17.2%	3,729	21.9%	28,812	23.1%
Java and Bali	6,383	72.5%	48,847	69.8%	8,383	49.3%	68,782	55.1%
Nusa Tenggara	230	2.6%	1,264	1.8%	1,512	8.9%	6,799	5.4%
Kalimantan	413	4.7%	3,183	4.6%	1,596	9.4%	7,288	5.8%
Sulawesi	364	4.1%	3,612	5.2%	956	5.6%	10,121	8.1%
Maluku and Irian Jaya	93	1.1%	1,013	1.4%	828	4.9%	3,016	2.4%
Indonesia	8,807	100.0%	69,937	100.0%	17,003	100.0%	124,818	100.0%

Source: The most of data in this table are from BPS, "Peta dan Perkembangan Kemiskinan di Indonesia", Paper Presendted at Training Seminar of Statistics for Journalists on 16th of July, 1997

Table 14.6.4 Trends in Regional Distribution of Incidence of Poverty

		Java			Outside Java (Outer Islands)		
		Population in Poverty (million)	Distribution (%)		Population in Poverty (million)	Distribution (%)	
	Data Source		Poor Population	Total Population		Poor Population	Total Population
Urban			Urban Java			Urban Outer Islands	
1976	1)	5.1	9.7%	13.7%	2.7	5.1%	6.3%
1981	1)	3.2	10.4%	16.2%	1.8	5.8%	7.0%
1987	1)	1.5	6.0%	19.7%	1.3	5.2%	8.2%
1993	2)	6.3	24.4%		2.5	9.7%	
1996	2)	5.1	22.8%	24.6%(*)	2.1	9.4%	11.3%(*)
Rural			Rural Java			Rural Outer Islands	
1976	1)	33.5	63.6%	49.3%	11.4	21.6%	30.7%
1981	1)	14.6	47.4%	45.7%	11.2	36.4%	31.2%
1987	1)	10.7	42.6%	40.7%	11.6	46.2%	31.4%
1993	2)	8.2	31.8%		8.8	34.1%	
1996	2)	7.6	33.9%	34.3%(*)	7.6	33.9%	29.7%(*)

Note: (*): The population data is that of 1995 population census.

Source: 1) The Oil Boom and After, edited by Anne Booth (1992), Oxford University Press
2) BPS, "Peta dan Perkembangan Kemiskinan di Indonesia", Paper Presendted at Training Seminar of Statistics for Journalists on 16th of July, 1997

14.6.3 Trends in the Incidence of Rural Poverty

Indonesia's overall incidence of rural poverty has constantly decreased over the last twenty years, as shown in Table 14.6.5. However, in West and Central Kalimantan, the rural poverty, in both terms of poor population and of poverty rates, has been on the trend of increase.

Table 14.6.5 Trends in Rural Poverty

Year	Indonesia		West Kalimantan		Central Kalimantan	
	Rural Population under the Poverty Line (in mill. persons)	% of Rural Population in Poverty (%)	Rural Population under the Poverty Line (persons)	% of Rural Population in Poverty (%)	Rural Population under the Poverty Line (persons)	% of Rural Population in Poverty (%)
1976	44.2	40.4				
1978	38.9	33.4				
1980	32.8	28.4	261,882	13.8	71,942	13.0
1981	31.3	26.5				
1984	25.7	21.2	420,120	na	241,226	na
1987	20.3	16.1	373,659	15.4	133,915	28.6
1990	17.8	14.3				
1993	17.2	13.8	743,725	27.0	269,755	22.0
1996	15.3	12.3	725,885	25.0	162,998	12.7

Source: The most of data in this table is from BPS, "Peta dan Perkembangan Kemiskinan di Indonesia", Paper Presented at Training Seminar of Statistics for Journalists on 16th of July, 1997
Only the data of West Kalimantan and Central Kalimantan in 1980, 1984, and 1987 are from Table 10.18 of The Oil Boom and After, edited by Anne Booth (1992), Oxford University Press
Note 1: The population in poverty is calculated by using PBS1s official poverty lines.
Note 2: n.a.=not available

The rural poverty rate of West Kalimantan in 1993 was in the fourth largest position among the 27 provinces in Indonesia following Timor Timur, Irian Jaya and Maluku. The rural poverty rate of Central Kalimantan in 1993 was the six largest following Nusa Tenggara Barat.

Table 14.6.6 compares regional distribution of poverty with the GRDP per capita. This comparison reveals an interesting pattern in regional incomes and poverty. Kalimantan provinces have a much higher GRDP (excluding oil and gas) than Sulawesi and Nusa Tenggara provinces. However, the Kalimantan provinces' poverty rates are double compared with the Sulawesi provinces and at the similar levels to the Nusa Tenggara provinces. This can be interpreted that the GRDP of Kalimantan does not contribute to poverty reduction by creating enough employment in the natural extraction sectors such as forestry.

Table 14.6.6 Regional Distribution of Poverty and GRDP per Capita

Province / Island	GRDP per capita 1990 excluding oil and gas (Rp.'000)	Urban +Rural Poverty Rate 1993 (%)	Rural Poverty Rate 1993 (%)
Aceh	737	13.5	14.2
North Sumatra	1,063	12.3	12.7
West Sumatra	829	13.5	14.9
Riau	907	11.2	13.5
Jambi	709	13.4	14.4
South Sumatra	1,304	14.9	13.0
Bengkulu	684	13.1	14.0
Lampung	540	11.7	11.6
SUMATRA		12.9	13.2
DKI Jakarta	2,481	5.6	-
West Java	917	12.2	10.0
Central Java	763	15.8	15.1
DI. Yogyakarta	654	11.8	8.9
East Java	769	13.3	11.7
Bali	1,090	9.5	8.4
JAVA+BALI		12.8	12.0
West Nusa Tenggara	383	19.5	19.0
East Nusa Tenggara	361	21.8	22.7
East Timor	364	36.2	37.7
NUSA TENGGARA		22.3	22.7
West Kalimantan	860	25.1	27.0
Central Kalimantan	998	20.9	22.0
South Kalimantan	887	18.6	20.5
East Kalimantan	2,383	13.8	16.6
KALIMANTAN		20.2	22.7
North Sulawesi	593	11.8	13.0
Central Sulawesi	581	10.5	11.2
South Sulawesi	610	9.0	7.5
Southeast Sulawesi	616	10.8	11.4
SULAWESI		9.9	9.6
Maluku	809	23.9	28.5
Irian Jaya	742	24.2	28.2
MALUKU/IRIAN JAYA		24.0	28.3
INDONESIA TOTAL	956	13.8	13.8

Source: BPS, "Peta dan Perkembangan Kemiskinan di Indonesia", Paper Presendted at Training Seminar of Statistics for Journalists on 16th of July, 1997

14.7 RURAL LIVELIHOOD OF INLAND AREAS

14.7.1 Characteristics of Indigenous Swidden Agriculture

Since various ethnic groups of the Dayak practice swidden agriculture in various environmental conditions in Kalimantan, it is difficult to identify a representative type of swidden agriculture. However, there are common features of the existing swidden agriculture of the Dayak people.

Following are the major characteristics which are common in the indigenous swidden agriculture of West and Central Kalimantan:

(1) Slashing and Burning Practices - No Tillage

By slashing and burning forests, swiddens (ladangs, or dry field) are made. In most cases, farmers do not till the soils of swiddens.

(2) One Season Use Only

Usually swiddens are used for only one season. However, cassava and banana trees are kept for harvesting afterwards on swiddens even after rice harvest.

(3) Mixed Cropping

Not only paddy but also various annual crops, such as maize and vegetables, are grown mixed on the same swiddens.

(4) Animal Raising

Produce from swiddens are partly used for raising pigs and chicken.

(5) Intensive Fallow Management

Most Dayak groups plant rubber trees, fruit trees and other useful trees (such as Tengkawang and rattans) on swiddens even in the first year of swidden making. As a result, managed secondary forests, containing rubber trees and fruit trees and other useful trees, have been formed on fallow swiddens. The existing rubber groves and rattan gardens found in West Kalimantan and Central Kalimantan are examples of this intensive fallow management.

(6) Rich Knowledge of Land and Forest Management

Dayak swidden farmers have accumulated knowledge and skills of land and forest management. They are not backward but advanced farmers in terms of agricultural knowledge and skills, considering the constraints derived from the economic and physical geography of inland Kalimantan.

14.7.2 Indigenous Swidden Farmers' Wetland Rice Agriculture

An increasing number of indigenous farmers have worked on small-scale wet rice cultivation. It is amazing that in the middle stream areas of West Kalimantan, almost every small valley is used for wet rice cultivation by Dayak and other farmers, although most of the Dayak farmers are still practicing upland swidden agriculture and growing rubber trees. It is because their wetland fields are not so large that the wetland rice production is not large enough to cover basic household expenses.

It is also surprising that the indigenous swidden farmers are requesting projects of wetland rice fields (sawah). It is partly because the recent climate changes increased uncertainty of rainy seasons, which adversely affects the rice harvest of upland swiddens. It is also partly because repeated usage of upland for swidden making has decreased the land's capacity to produce rice and other crops.

14.7.3 Non-Cash Incomes of Indigenous Swidden Farming Households

It is misleading to see only the amount of cash incomes for understanding household economic situations. Indigenous farmers' households have substantial amounts of non-cash incomes from their farming and extraction from nearby forests. According to our social survey in West Kalimantan,[3] 30-40% of the total household incomes (the total of cash and non-cash incomes) are from non-cash incomes. In addition, not a small part of cash incomes are also from forest products, such as timber, honey and wild animal meat.

14.7.4 Flexible Selection of Cash Income Generating Activities of Indigenous Swidden Farmers

Indigenous swidden farmers are engaged in a variety of economic activities for cash income generation (e.g., gold mining, wood cutting, wage-labor in towns, rubber and rattan cultivation), as well as various subsistent activities (growing paddy, vegetable, fruit trees on swiddens, and collecting edible plants from nearby forests). They are not static in selecting

[3] In nine communities of West Kalimantan, social surveys were conducted to get village profiles and information on individual households. In seven communities of the nine communities surveyed, the data of non-cash incomes were obtained. See Technical Report (1) of the JICA SCRDP-Kaltengbar.

those activities but they are flexibly and quickly shifting their emphasis from one activity to another.

In the early 1990s, rattan prices dropped to half of the previous price level, due to the export ban of semi-processed rattan canes. Many swidden farmers in Central Kalimantan shifted their efforts at rattan cultivation to rubber cultivation. Furthermore, due to the low prices of rubber, many people turned to small-scale gold mining.

14.8 LAND TENURE AND TREE TENURE

Not until the government has a vested interest in a remote area populated by indigenous people, does it intervene upon the customary rights and customary laws which are still strongly at work in the sphere of indigenous people, not only at the intra-village level, but also at the inter-village level. The first person who made a swidden of primary forest land establishes the person's individual rights to land. The land ownership can be inherited by their children and other relatives. Community members know well which lands belong to who. Sometime, fruit trees or other useful trees planted by the person could be the mark of land ownership. Within a community's territory, its members are allowed to make swiddens of primary forest lands and unclaimed forest lands. Some families have collective rights to fruit tree groves. Indigenous communities not only have their own land tenure system, but also a special tree tenure system. When a person has managed trees growing wild, such as Durian trees and Tengkawan trees, by slashing their surroundings and cutting vines, the ownership of the trees are established. This kind of tree tenure is also inherited by children or other relatives. Land and tree tenure disputes within a community are dealt with by adat leaders using customary laws.

However, once new government projects appear for natural resources extraction or land development over the territories of indigenous communities, the situations would change completely. Local customary laws or rights to such natural resources and lands become powerless against the projects backed by government policies.

According to the national constitution established in 1945, the land, water and natural resources are controlled by the state and are utilized for the interests of the public. Although local customary rights to lands and natural resources are acknowledged in the Basic Agrarian Law of 1960, the utilization of such customary rights must not disturb the national and state interests concerning land and natural resources development.

According to Article 10 of the Basic Agrarian Law of 1960, it is necessary for a person to get the rights to agricultural land to actively cultivate or exploit by himself or herself by appropriate methods. Since indigenous swidden agriculture is composed of two parts, opening forest for cropping and forest fallow, indigenous swidden farming cannot satisfy the condition to get formal land rights, because it is not permanent landuse. In fact, indigenous swidden farmers have rarely obtained official land tittles to their lands for swidden making, including the lands used for cropping this year and lands under forest fallow, partly due to this condition, and partly due to high costs for getting land titles.

In addition, the Basic Agrarian Law stipulates maximum permitted land sizes depending on population density . For example, in the areas of the lowest population density category, 1-50

persons per square km, only 20 ha of dry land is allowed to be possessed by an individual. This also imposes difficulties on indigenous swidden farmers, who usually control more than 20 ha, including lands for future swidden making , rubber groves and rattan gardens.

Few indigenous farmers have formal land titles to their lands in Kalimantan.[4] This means two things. One is that indigenous swidden farmers tend to be in weak positions when new projects of natural resources development or land development come to their areas. The other is that the presence of many people without formal land titles could be a great barrier to smooth implementation of projects requiring land and natural resources.[5]

Without official land titles, the compensation for land acquisition is not paid in the case of land acquisition for public projects or private projects supported by government policies. Some compensation for planted trees and other crops are paid, with negotiation with project owners.

According to the Regulation No. 64 of 1957, provincial authorities have the right to grant forest concessions of certain sizes, and the local government has the power to get taxes from logging operations based on the given concessions. However, this situation has changed much since the central government has expanded its power in forestry. The 1967 Basic Forest Law has set the basis on which Indonesia embarked on large-scale and modern logging business in the Outer Islands. Under the forest law, more than 70% of Indonesia's land is controlled by the Ministry of Forestry, in the respect of utilization of forests and aspects on communities. The government regulation No. 21 of 1970 stipulates the ways by which the state gives concessions to timber companies for logging operation. In this regulation, timber concession areas are imposed over the territories of indigenous swidden farming communities . In the forestry law and regulation, the indigenous people's rights to exploit forests remain valid as far as they do not conflict with the aims stated in the forestry law.

In Indonesia the interests of the forestry business over outer islands' forests are still very strong, compared with other South Eastern Asian countries. Timber concession areas have been decided despite the presence of indigenous communities. In the early 1980s, consensus forestry landuse maps (TGHK) are made to set different forest function zones over provincial areas. Most of the territories of indigenous communities are under timber concessions. The

[4] The subdistrict government office is supposed to process land titles for parcel of land up to 2 ha. However, the applicants for land titles have to pay certain amount of fees for land measuring and administration. In many cases, the officers for land measuring and administration come from the provincial capital town. It is costly for most of swidden farmers to cover the necessary fees to get land titles. At the same time, they do not feel it necessary to get land titles before some government projects come to their lands.

[5] The World Bank has provide the Board of Land Affairs (BPN) with loans for the land administration project to increase the number of issuing land titles.

consensus forestry landuse maps (TGHK) do not acknowledge the territory of indigenous communities.[6]

14.9 VILLAGE INSTITUTIONS AND VILLAGE DEVELOPMENT ASSISTANCE

The system of village government was laid down by the village law in 1979. The village head is elected by villagers' vote, and then approved by the district head. The village head is responsible to the subdistrict head, not only for village internal affairs, but also for administrative matters between the village and the subdistrict.

The village head is usually assisted to deal with various daily affairs by secretary and four other assistants in charge of village government, village development, village society and the treasury. These members of village government get honoraria from the central government. According to a newly installed regulation, the village head must be a primary school graduate. The village head's term of office is eight years. The village head's eight year term of office is considered to be so long as village development may stagnate in the absence of fresh ideas.

Besides the village government, there are two important institutions at the village level. One is the Village Community Development Institution (LKMD) and the other is the Village Council (LMD), which is a kind of village-level parliament. LKMD is a planning and implementing body for community development. LKMD's activities' budgets are mostly from Village Development Assistance Fund (Bantuan Pembanguna Desa, Bandes). The bandes fund has been granted to each village since Repelita I. The amount of the fund in Repelita I was Rp. 100,000, and now in Repelita VI it amounts to Rp. 6.5 million. The fund can be utilized for development efforts by the village's initiatives.

LKMD is composed of a general chairman (Ketua Umum), a first chairman (Ketua Satu) and several members in charge of different aspects. The government regards LKMD as a non-governmental institution. Based on its own initiatives, the village is supposed to implement its own ideas of development activities. However, in some cases, some guidance has been given to village governments by district or subdistrict offices.

LKMD's general chairman is the village head. He used to be responsible for the development activities using Bandes Fund. Last year the system was changed. As a result, the elected first chairman of LKMD is responsible for planning and implementing development projects. This change was designed to improve LKMD's performance and transparency. Unfortunately, in

[6] It is interesting to know that Central Kalimantan's provincial land use map (Rencana Tata Ruang Wilayah Propinsi) sets aside 5 km wide land belts along major rivers for local people's usage.

some cases, the LKMD has deteriorated even further with the village head usurping the first chairman's authority and implementing projects without having open village meetings.

For organizing village-level development efforts, the roles of communities are particularly important. Especially, in the case in which one village (desa) is composed of spontaneously established communities (in many cases, administratively dusuns) like West Kalimantan, the roles of communities traditionally played have been lost in the present village administration. In the present system of the village administration, sub-village (dusun) has been given minor roles.

14.10 VILLAGE-LEVEL DEVELOPMENT PLANNING SYSTEM

14.10.1 General

The idea of village-level development planning is not new in Indonesia. Since Village Community Development Institution (LKMD) was introduced to villages in the 1980s, [7] the concept of village-level of development planning has entered into the sphere of village development. Even before the introduction of LKMD, village meetings (musyawara desa) were held to decide development efforts. However, to activate the activities of LKMD itself has been difficult in many villages. The function of LKMD is essential in village development planning and implementation, especially for encouraging people's participation in planning and development activities. In this context, a new system of participatory planning at the village level was introduced.

14.10.2 P3MD

The Ministry of Home Affairs has embarked on promoting "participatory planning for village-level community development (Prencanaan Partisipatif Pembanguna Masyarakat Desa or P3MD)". P3MD has been introduced since 1995/96. In the beginning phase until the end of 1996/97, the government are making efforts at training 9 persons in each village for P3MD.

No legal basis, such as laws and government decree, has not been prepared yet. The Ministry of Home Affairs intended to make experiments of using P3MD, and then to proceed to legislation for this planning system.

The concept of community empowerment is behind the idea of P3MD. The community makes a plan for development by using the method of P3MD, and implements the plan in a fashion of self-help. The funds (such as Village Development Fund and Fund for Backward Village Program) provided by the government is complementary to villagers' self-help efforts.

14.10.3 Evaluation of P3MD by Our Own Experiences of Social Survey and Village Planning Sessions

In the course of our study, in collaboration with local NGOs, the JICA study team conducted a social survey and village-level planning sessions in tow villages, one in West Kalimantan and the other in Central Kalimantan. Our methods used for the social survey and village planning

[7] LKMD's function, organization and procedures are stipulated by the two regulations, "Keppres Nomor 28 Tahun 1980 Tentanga Penyempurnaan dan Peningkatan Fungsi L.S.D. Menjadi L.K.M.D." and "Keputusan Menteri Dalam Negeri Nomor 27 Tahun 1984 Tentang Susunan Organisasi dan Tata Kerja L.K.M.D."

sessions are very similar to those of P3MD. Our methods include 1) Participatory Rapid Appraisal (PRA) using various instruments, such as village mapping, group interviews, focus group interviews, 2) in-depth interviews with key informants and informal interviews, 3) our own method of vision analysis by people's participation, and 4) ZOPP/PCM[8] types of actors analysis and problem analysis, and 5) programing session.

Based on our experiment of the participatory method for analysis and planning, we considers that the participatory method is effective in clarifying problems and potential in a short time. It was also effective in that planning and programing exercises were carried out by focusing on clarified points in the previous analysis sessions. However, although we trained several local volunteer workers for helping the implementation of the participatory sessions, we did ourselves most of the works in the participatory sessions. So the local people just joined the sessions.

Many people in the village were enthusiastic in participating in the analysis and planning workshop, partly because it was organized by foreign consultants and local NGOs. Many participants can write their responses on cards to present their knowledge-based opinions for analysis and planning. In addition, the participants know well about the problems with which they are faced. Our team's task was to just facilitate and encourage them to give information step by step.

If the system of P3MD intends to encourage village leaders to conduct such analysis and planing sessions by themselves, it seems to us that the system does not work well. The method for P3MD itself is quite difficult for ordinary people to conduct by themselves. Even trained local NGO staffs also felt it difficult to obtain appropriate results of participatory analysis and analysis-based planning practices.

There are some possibilities to pervade P3MD methods in LKMD's development planning activities, if outside facilitators of good understanding are available for village level planning. The facilitators should be well trained as those who do not guide participants in terms of contents of analysis and planning, but guide sessions in utilization of methods, and should develop desires to learn from participants. Since most of such facilitators are university graduates or government officials, they tend to behave for guiding and instructing to villagers. This behavior disturbs participatory sessions very much, by implicitly forcing participants to follow expected directions by the facilitators.

First of all, the participatory planning sessions should be organized at the level of communities. In West Kalimantan, kampung or dusun is an appropriate unit of communities. In Central

[8] ZOPP is an objective-oriented planning method developed and used by GTZ, while PCM is a similar method adopted

Kalimantan, desa still has the nature of communities. Second, the results of analysis and planning should be presented to village development meetings.

14.10.4 Village-Level Development Planning in the Context of P5D

LKMD starts and ends its activities in March, in which LKMD rushes to finish planned activities of the year and draws a new annual plan for the next year. In some villages, only in March LKMD is active.

LKMD's annual development plan includes not only projects to be completed by village development funds, but also the projects to be funded by external sources. The latter projects are requested to the development coordinating meeting at the level of subdistrict. The results of the subdistrict level coordination meetings are to be brought to a district-level planning coordination meeting (Rakorbang Tk II), and then to a provincial level planning coordination meeting (Rakorbang Tk I). In the present annual programming system for local governments, LKMD's village-level development planning is at the bottom of the system. That is, it is a starting point of the planning from below in Indonesia. However, the existing procedure for planning from below is too far to reach the stage of the final decision makers, which are Bappenas at the central government level.

The weakest part in respect of development budgets in Indonesia is found at the inter-village level or the subdistrict level. Village-level development efforts are supported by village development money (bandes fund). District level governments have their own budgets from central government.

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and used by JICA.

14.11 POVERTY ALLEVIATION PROGRAMS

Indonesia's policies for poverty in Indonesia have been oriented to economic growth. That is, it is considered that the efforts at economic growth can have trickle-down effects for improving the poverty situations, especially through creation of job opportunities. In the last two decades, these efforts have drastically reduced the overall rates of poverty incidence. However, now it is considered that the remaining poverty at present is more difficult to alleviate, and that more specific approaches to poverty are needed.

Reflecting these situations, in Repelita VI, the government of Indonesia has increased its efforts at the alleviation of poverty by starting new anti-poverty programs. The other projects in relation to poverty include the Isolated Community Program (Program Masyarakat Terasing) by the Ministry of Social Affairs. The present anti-poverty programs are as follows:

- Inpres Desa Tertinggal (IDT) Program
- Infrastructure Development Program of Backward Villages (*Pembangunan Prasarana Pendukung Desa Tertinggal*, or P3DT)
- Program Masyarakat Terasing, the Ministry of Social Affairs
- Resettlement Penduduk by the Ministry of Home Affairs
- Small credit programs by Badan Koordinasi Keluarga Berencana Nasional (BKKBN or National Family Planning Coordinating Board)

These government anti-poverty programs still need time to realize their effectiveness. However, it is clear that these programs focus on the villages, communities or groups in poverty for solving poverty problems, and that the impact areas of the program are generally small.

We consider that the following two directions are to be discussed in designing the programs for poverty alleviation :

- More comprehensive approaches to the poverty and rural development would be needed.
- At the same time, more specific approaches to local situations, especially to local livelihood means, would be needed.

CHAPTER 15

TRANSPORTATION

CHAPTER 15. TRANSPORTATION

15.1 ISSUES

The region is in transition in several aspects: economy, spatial structure, environment, and communities. It is essential that the transportation sector should cope with those changes and propose new systems for the region. There are several factors which are important to formulate new ideas and concepts.

First, the region can be described as in the process of introducing a road-based spatial structure. The study area has long navigable rivers which uses river transportation and spatial structure has developed as a river-based one with has developed human settlement patterns along the rivers. Road development has accelerated in the region since the 1980s, and the means of transport has shifted from river to road transportation. This modal change has brought road-based spatial structure to the region. Since then, spatial structure in the region has been in the process of transforming from a river-based one to a road-based one.

Second, the economic structure in the region has changed from natural resource extraction to a plantation economy. Oil palm plantation has spread widely by transforming forests into large-scale plantations. It is expected that the plantation agriculture will become a dominant economic activity in the province with oil palm sharing 10% of the regional economy.

Third, environmental degradation has increasingly come under the attention of the public. Future road development into environmentally sensitive peat swamp and mountainous areas will only accelerate environmental depletion.

Fourth, there should be more attention paid to the populated rural areas in order to alleviate poverty. The primary concern here is to provide basic transportation services so that the rural people will have year around access to health facilities, schools, jobs, markets and other local facilitates. This is especially needed during the dry season when river transport is not available.

Those factors are interrelated and important to the future development of transportation in the area.

The following section, the issues are summarized by each transportation mode.

15.1.1 Roads

The roads have to play active roles to induce or guide road-based spatial structure and landuse in the region. It means that the road network should be strengthened in the areas where economic activities are planned and connecting major cities by national or provincial roads. kabupaten or desa road network strengthening is also important for social purposes in the rural area.

Since plantation agriculture needs a good infrastructure base, it is developed along the existing road networks. The road network, however, are not always planned in the areas of future plantations. Some existing roads are constructed or planned on the peat swamp and mountainous areas which have a large impact on the natural environments. Therefore, the existing road network should be justified by carefully examining economic and environmental aspects. At the same time, rural roads should receive attention to fulfill the social needs of rural people.

15.1.2 Ports

Port planning should clearly address each port's functions and roles and the development of port needs in order to study and careful justify development from recent economic activities, urban functions and hinterland development potentials and development plans. The existing ports in the region have been developed naturally near major cities where they are located in the down streams of the rivers without planning. The port development also has to consider functional specialization, economic activities and environments. The issues of the port development in the study area are summarized as below:

(1) It is crucial to built a large size port rather than small river-basin type of port.
(2) Since the region will shift its economic structure from a natural extraction economy to plantation type economy, the handling of commodities will be dominated by palm oil and its product as well as from forestry products.

(3) The spatial specialization will progress in urban centers and other places. Port functions should be clearly identified before port planning.

15.1.3 Airports

For the future airport development in the region, air transportation will have two roles:

1) to establish inter-provincial and international linkages
2) to provide access for local people for social needs

The Western Part of Kalimantan also has been in the process of globalization and trade liberalization. There are several proposals for regional trade blocks which include the Growth Triangular (SIJORI) and the East ASEAN Growth Area (BIMP-EAGA). It is essential that a hub airport be established in order to service major cities in an international context. The other role of air transport will address to the social needs of the rural people. Some upstream villages do not have any access to the market centers during the dry season because of the low water level. To serve the social needs of the rural people, pioneer airports would be constructed in kecamatan centers with established air routes with the cooperation of private operators.

15.1.4 River

River transport has deteriorated as road networks have expanded, yet it should play important roles by transporting palm oil, and mineral materials such as coal, bauxite, kaolin and other bulk commodities from sites to the ports or industrial areas. River transport is still an important means for the people who live in the villages which are located along rivers.

15.2 OBJECTIVES

(1) To guide appropriate road-based spatial structure, the roads and major transportation facilities should be provided strategically. The establishment of inter-provincial linkages is the most important.
(2) To support plantation agriculture and its related industries, an efficient and appropriate transportation system should be established.
(3) To cope with globalization of the region, the international access points should be improved their transportation facilities.
(4) To provide basic social needs to the rural poor, the rural transportation network should be strengthened.
(5) To mitigate environmentally adverse effects, the development of transportation facilities should be minimized in the peat swamp and mountainous areas.
(6) To promote private sector involvement, the system should be established between palm oil plantation companies and local governments.

15.3 STRATEGIES

For objective (1)

1. Review of the Trans-Kalimantan highway system.

2. Construction of an upland route with cooperation between palm oil companies and the public.
3. Establishment of a commercial (Pontianak port) and an industrial port (Kumai port).

For objective (2)

1. The priority road construction sections should be given to the areas where there is no road construction plan near the planned plantation.
2. Kumai port should be developed as an industrial port and an industrial estate will be provided for palm oil and related industries in the adjacent Kumai port.
3. Telok Air port should function as a palm oil export port in West Kalimantan.

4. Design standards for plantation agricultural areas should be reviewed to fit the actual axle loads.

For objective (3)

1. Since Pontianak port is situated in the city center, it hampers city development as well as port expansion. Pontianak port can not handle goods and commodities from/to the hinterland because of its limited capacity and availability of land. Pontianak port, therefore, has to relocate outside the city or shift its function to a new port.
2. Pontianak airport should be a hub airport in Kalimantan.
3. Pangkalanbun should be the eastern center of Central Kalimantan and provide better transportation facilities. Pangkalanbun airport should be developed as a hub airport of the province and Kumai should be developed as an industrial port.

For objective (4)

1. Kabupaten centers and kecamatan centers should be connected by kabupaten roads.
2. Kecamatan centers and desa should be connected by Desa roads.
3. Desa and agricultural production areas should be connected by the community roads which are decided by local community meetings. Maintenance and rehabilitation methods should be established with local community participation.
4. Pioneer airports should be constructed in the villages which have no access to kecamatan centers for social objectives.

For objective (5)

1. The Trans-Kalimantan Highway in the mountainous areas should lower its classification from national highway to kabupaten road.
2. To mitigate development pressures on the peat swamp and mountainous areas, the development of roads should be directed to upland areas.
3. An efficient transportation system should be established between upland development areas and major cities.

For objective (6)

1. Private investment should be promoted for the construction and maintenance, and rehabilitation of roads.

The strategies for each objective can be summarized by each transportation mode.

Roads

- The Trans-Kalimantan highway system should be reviewed in accordance with recent development directions.
- The priority road construction sections should be given to the areas where there is no road construction plan near planned plantations.
- Design standards for plantation agricultural areas should be reviewed to fit the actual axle loads.
- Kabupaten centers and kecamatan centers should be connected by kabupaten roads.
- Kecamatan centers and desa should be connected by kecamatan roads.
- Desa and agricultural production areas should be connected by the community roads which are decided by local community meetings. A maintenance and rehabilitation method should be established with local community participation.
- Trans-Kalimantan Highway in the mountainous areas should lower its classification from national highway to Kabupaten road.
- To mitigate development pressures on the peat swamp and mountainous areas, the development of road should be directed to upland areas.
- An efficient road transportation system should be established between upland development area and major cities.

Ports

- Establishment of a commercial (Pontianak port) and an industrial port (Kumai port).
- Kumai port should be developed as an industrial port and an industrial estate will be provided for palm oil and related industries in the adjacent Kumai port.
- Telok Air port should function as a palm oil export port in West Kalimantan.
- Since Pontianak port is situated in the city center, it is an obstacle to city and port development. The port handling is operating become beyond capacity and the city can not carry out its development plan. Pontianak port, however, is expected to change handling commodities from forest goods to palm oil and bauxite and it will be the dominant port in West Kalimantan. Therefore, Pontianak port should relocate the northern coast of the city to its improve service level and capacity.

Airports

- Pontianak airport should be a hub airport in Kalimantan.

- Pangkalanbun could be the eastern center of Central Kalimantan and should develop transport facilities. Pangkalanbun airport should be developed as the hub airport of the province.
- Pioneer airports should be constructed in the villages which have no access to Kecamatan centers so that social services are provided.

Others

- Private investment should be promoted for the construction and maintenance, and rehabilitation of roads.

15.4 PRIORITY PROGRAMS AND PROJECTS

15.4.1 Road

Trans-Kalimantan Highway Programs

The Existing Trans-Kalimantan Highway

The mountainous area of the Trans-Kalimantan highway (central and northern routes) should change its classification from national road to kabupaten road. There are three main reasons:

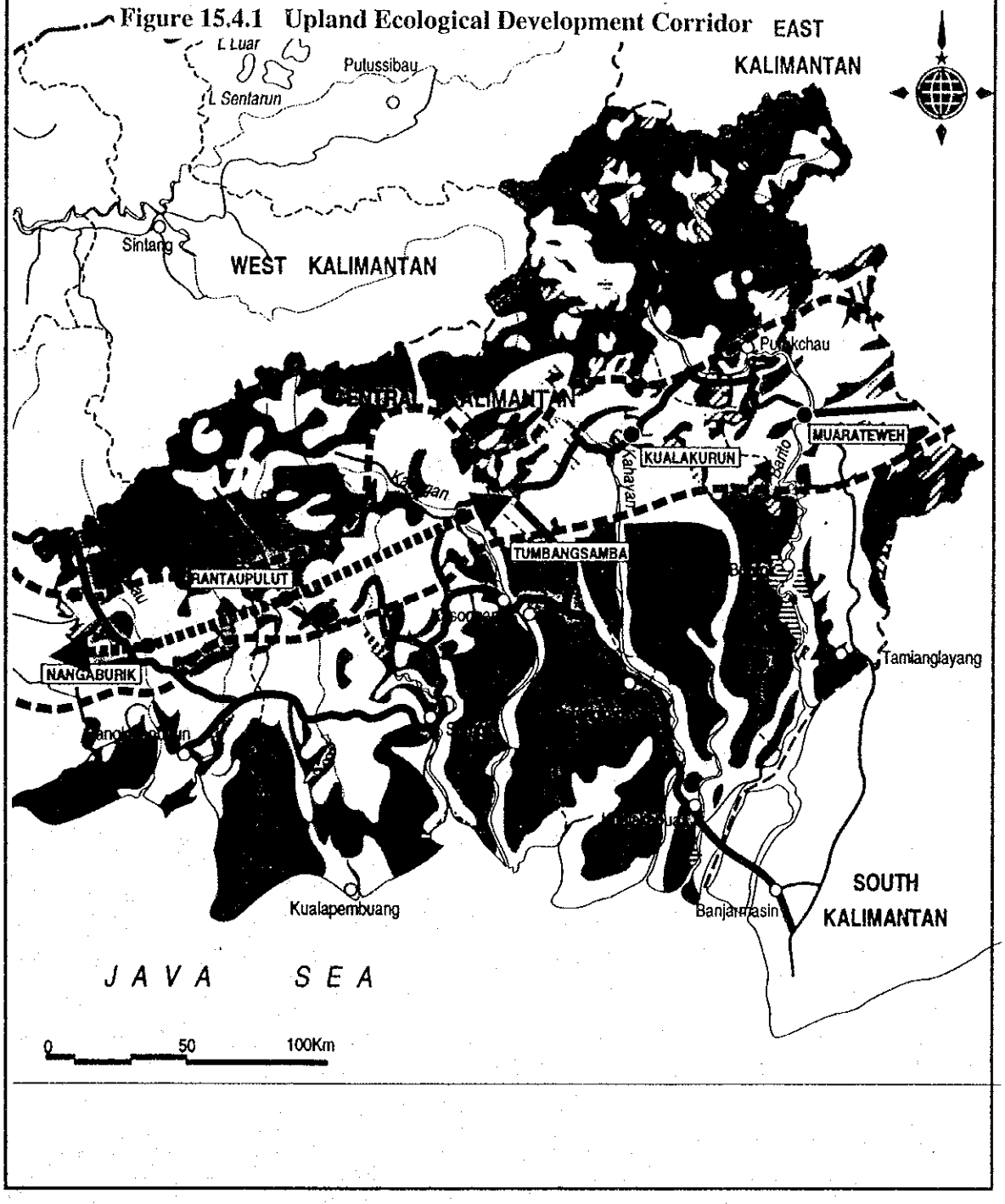
- The traffic demand of the highway expects to be small because there are few economic linkages among the provinces. Therefore, the demand of traffic would not exceed the economic costs of a highway.
- The national highway would improve accessibility to the environmentally sensitive areas. This will damage natural environments of the area.
- The function of the road should pay more attention to the enhancement of the landuse along the roadways.

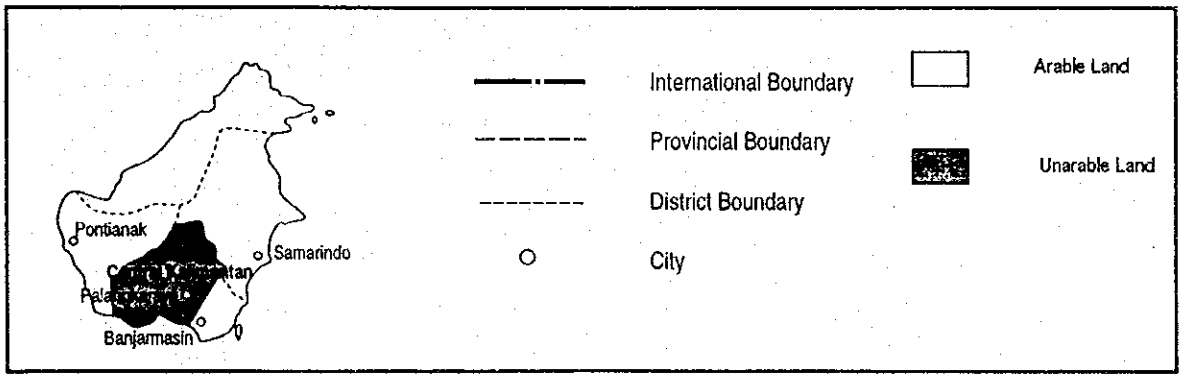
As for the Trans-Kalimantan southern route, the priority should be given to the completion of this highway. The border between West and Central Kalimantan has not yet been constructed by the government, although the area has a potential for agricultural plantation.

Upland Ecological Development Corridor

The proposed highway will be a national highway and has several development purposes. Firstly, road development enhances economic activities of the areas. For example, the road network in Central Kalimantan has failed to cope with the plantation developments which have been planned on the fertile soil areas between Nangabulik and Kualakurun. Secondly, road development improves social conditions of the areas.

Figure 15.4.1 Upland Ecological Development Corridor





Road network improvement should act as an instrument of poverty reduction. The people in the areas incur the high cost of commodities which come from the cities. Road network expansion could reduce the costs of commodities.Thirdly, the development of roads mitigates development pressure on the low land areas which are environmentally sensitive. They could lead development in the upland areas which are suitable for agricultural development. Lastly, roads in the upstream areas will enhance the development of the tertiary centers.

Rural roads

On the basis of road classification, rural roads would be kabupaten, kecamatan and desa roads. Only kabupaten road has been classified as rural roads in official documents. Rural roads contribute to poverty alleviation by reducing the costs of acquiring goods and their outputs and gaining access to markets, employment, health services and other facilities. The desa road or community roads have improved productivity of land by improving access to market centers and villages. Therefore, the rural roads should be built to connect villages and kecamatan centers and villages and agricultural production areas. The focus should be given to the upstream market centers (Tumbangsamba, Kualakurun etc.) and their hinterlands.

15.4.2 Ports

Kumai Port Development Project

In Central Kalimantan, the eastern part of the province is covered by the Banjarmasin port, and there is no major outlet within the province. The provincial government has proposed to construct a sea port at Bahaur on the eastern side of the province. Since Banjarmasin port is just 50 km from this new port, the development port should be carefully justified for its economic benefits. The provincial government intends to develop Ujungpandaran port, some 70 km south of Sampit. The proposed port has shortcomings of being in a soft soil area where it is difficult to develop port facilities and far from the major highway.

Kumai port, however, located in the western part of the province, has potential as a future regional center as well as an industrial port. Oil palm plantation developments have progressed in the western part of Central Kalimantan, where they will produce two million tons of crude palm oil annually. Palm oil plantations need roads and ports in order to transport fertilizer from port to plantations and to transport FFB from plantations to processing plants. It is essential for the provincial government to provide basic facilities which support industrial activities, especially the palm oil related industries.

Kumai port handling has been expected to increase five times from 1996 to 2018 with the progress of palm oil plantation development. It will handle 3.5 million tons of goods and commodities of which 60 per cent will be related to from palm oil plantations.

Table 15.4.1 Kumai Port Handling Estimate

(Unit: thousand tons)

Items	1996	2008	2018
Import			
Fertilizer	-	300	600
Other goods	-	674	823
Total	93	974	1,423
Export			
Palm Oil	-	765	1,530
Other Commodities	622	700	700
Total	622	1,465	2,230
Grand Total	715	2,439	3,653

Source The JICA Study Team

To support the industrial estate, several activities should be taken by the government. The most important action for the government is to prepare a port development plan and its related development projects. Kumai port development includes the provision of general cargo, liquid bulk and passenger berths. The future expansion areas should be reserved to handle container cargo. Port development in Kumai benefits the local people by providing goods and commodities cheaply. Road network should provide connections for plantation areas to the industrial estate. The development of the Kumai industrial estate is another important component. The hinterland of the port should be reserved for palm oil and related industries to operate the oleochemical industry.

Pontianak Port Relocation

Since Pontianak port is situated in the city center, it is an obstacle to the city as well as to port expansion. It is presently operating beyond its capacity and there is no space for further expansion of the port to meet the shift in commodities which will be handled in the future. The port in its present location hinders city development. It is, therefore, necessary to relocate a new port outside the city in order to increase the effectiveness and efficiency of handling greater volumes of cargoes. The port handling estimate is shown in Table 15.4.2. Pontianak port will handle approximately 5 million tons in year 2018 with a high concentration of palm oil. If liquid bulk berth facilities can be built in the river basin or Telok Air port, the handling will decrease to be 3.5 million tons. In either case, Pontianak port can not handle the capacity.

Telok Air port, expected to take charge in the functions of Pontianak port, has the weakness of accessibility by roads because the areas are covered by peat soil. Without road connection, the functions of the port has limited impact on regional development. Therefore, the Pontianak port should relocate to new port to a more desirable location on the northern coast of the city.

Table 15.4.2 Pontianak Port Handling Estimate

(unit: thousand tons)

Items	1996	2008	2018
Import			
Fertilizer	20	393	789
Others	1,789	2,029	2,288
Total	1,809	2,422	3,077
Export			
General Cargo			
Forestry Products	769	385	77
Others	397	400	400
Liquid Cargo			
Crude Palm Oil (CPO)	66	700	1,400
Pulp	0	-	-
Total	1,232	1,485	1,877
Total Handling (Max.)	3,041	3,907	4,954
Total Handling (with Telok Air Port Dev.)	3,041	3,207	3,554

Note: The figures on this table are subjects to change.
Source: The JICA Study Team

Airports

Kumai airport upgrading project

As discussed earlier, the development of Kumai is key to the province. The airport should be improved to serve palm oil plantations and their related industrial activities as well as tourists who want to go to Tanjung Puting National Park. The estimation made by the DGAC show the future air passenger traffic in Indonesia. The following table shows the air traffic forecast for the study area.

Table 15.4.3 Air Traffic Forecast Results

(Unit: Persons)

Airport	1991	1998	2003	2013
Pontianak	338,883	525,071	767,999	1,773,476
Palankaraya	125,411	167,468	219,183	413,987
Pangkalan Bun	74,315	106,515	131,388	220,930
Banjarmasin	473,730	682,873	924,233	1,817,339

Source: Integrated Air Transport Study Indonesia, Final Report Dec. 1993

15.5 OTHER PROGRAMS AND PROJECTS

The following list shows programs and projects that are found important to be implemented by the government. The list includes the programs and project that are already proposed or implemented by the government and study team's proposals.

Roads

- Plantation Agricultural Support Road Development
- Establishment of a Design Standard for Heavy Loaded Plantation Area
- Kabupaten Road improvement Project
- Kecamatan Road improvement Project
- Desa Road Improvement and Development Program

Ports

- Telok Air Port Development Project
- Sintete Port Improvement Project

Airport

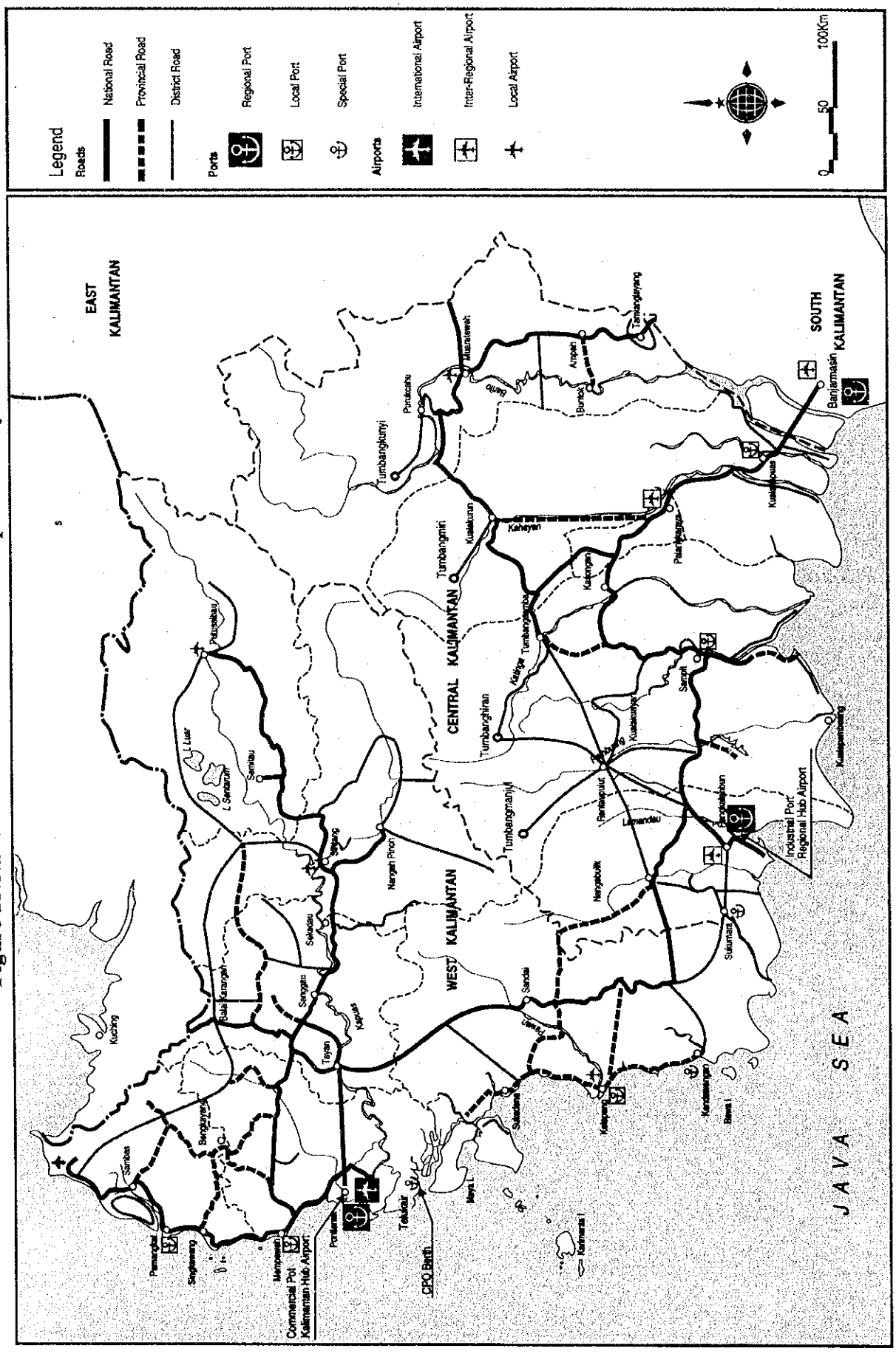
- Pontianak Airport Improvement Project
- Pangkalanbun Airport Development Project
- Pioneer Airport Development Project
- Airport Safety Improvement Project

Others

- Private Sector Involvement Enhancement Program
- Soft soil research center

Those project proposals are summarized in Figure 15.5.1 of the future transportation systems.

Figure 15.5.1 Recommended Future Transportation System



15.6 EXISTING SITUATIONS

15.6.1 Transportation Policies and Administration

(1) Transportation Policy

The second 25-year Long-Term Development Plan

The government published the second 25-year Long Term Development Perspective (PJP II) to be implemented in April 1994. PJP II aims to formulate the realization of the nation's development. Self help and prosperity are the bases for the next stage of development. In line with the objectives of PJP II, transportation services should be developed to achieve a robust and efficient transportation system to provide the basic economic infrastructure.

The Five-Year Plan

In recent years, the government placed importance on the transportation sector as a key means of promoting economic growth and regional development. The government has invested a large amount of money in the improvement of the transportation infrastructure. Emphasis within the sector has been placed on the road sector. This investment priority is almost same at all levels of the government. The government's five-year plan, REPELITA VI, recognized the importance of transportation development as a key sector. REPELITA VI states that the improvement of the national transportation system will be achieved through improved coordination, integration and synchronization in planning, the implementation, and operation of the different modes of transportation. It also places emphasis on developing transportation infrastructure and facilities which can reach isolated areas. During REPELITA VI, it is anticipated that the transportation sector will grow at an average rate of 7.0 percent per year and create new employment for 750 thousand people. The target stated in REPELITA VI is summarized in Table 15.6.1.

The sectional allocations of REPELITA VI are in line with Indonesia's development priority. The largest allocations are made for infrastructure, especially transportation and communication.

The transportation sector investment accounts for 21% of the total government development expenditure over the next five years. The emphasis is given to the rehabilitation and maintenance of the existing facilities rather than the building of new facilities. There is a considerable scope for deferring investment by utilizing existing transport infrastructure more efficiently.

Table 15.6.1 Development Target for the Transportation Sector Throughout Indonesia During REPELITA VI

Activities	Unit	Repelita V 1)	Repelita VI 1994/95	Repelita VI 1998/99 2)
A. ROADS				
1. Rehabilitaion and Maintenace of Roads and Bridges				
a. Artery and Collector Roads	km	210,389	28,300	213,700
b. Local Roads	km	284,889	78,336	428,180
c. Bridges	m	96,728	12,030	120,000
2. Road Upgrading and Bridge Replacement				
a. Artery and Collector Roads	km	35,939	5,039	21,350
b. Local Roads	km	51,679	11,830	65,000
c. Bridges	m	85,389	13,852	55,000
3. Construction of New Roads and Bridges				
a. Artery and Collector Roads	km	1,807	1,050	4,900
b. Local Roads	km	344	650	5,100
c. Bridges	m	4,200	1,100	30,250
d. Toll Roads	km	223	51	310
B. RAILWAYS				
1. Development of Rollingstock				
a. Procurement				
- Diesel Locomotives	unit	35	7	52
- Electric Railcars	unit	36	28	84
- Passenger Coaches	unit	120	10	170
b. Rehabilitation				
- Diesel Locomotives	unit	591 3)	6	16
- Electric Railcars	unit	210 3)	14	30
- Passenger Coaches	unit	2,113 3)	14	60
2. Development of Railway Infrastructure				
a. Rehabilitation/Upgrading of Railtrack	km	2,174	62	840
b. Construction of Railtrack	km	50	39	350
c. Upgrading of Railway Bridges	bridge	269	15	130
d. Installation of Electric Signals	unit	0	9	50
C. RIVER, LAKE AND FERRY TRANSPORTATION				
1. Contruction of Wharfs/Terminals				
a. River and Lake	location	55	13	60
b. Ferry	location	33	8	41
2. Rehabilitation of Wharfs/Terminals				
a. River and Lake	location	8	3	17
b. Ferry	location	12	5	25
D. SEA TRANSPORTATION				
1. Port Facilities				
a. Wharf	m	10,274	1,632	14,850
b. Warehouse	m2	64,915	5,600	80,000
c. Open Storage	m2	908,788	22,525	900,000
d. Passenger Terminal	m2	31,832	5,350	24,250
2. Maritime Safety Development				
a. Lighthouse	unit	18	2	32
b. Buoy	unit	252	93	300
c. Navigation Ships	unit	7	0	11
d. Dredging	million m3	79.4	10.6	60
E. AIR TRANSPORTATION				
1. Infrastructure Development				
a. Development of Runway Facilities	m2	110,550	23,500	129,750
b. Development of Terminal Facilities	m2	50,595	2,600	93,320
c. Development of Operational Building	m2	16,320	2,400	18,300
2. Fleet Development				
a. Procurement of Commercial Aircraft	unit	43	26	80
b. Procurement of Noncommercial Aircraft	unit	2	10	23

1) Estimate (cumulative, 5 years)

2) Target (cumulative, 5 years)

3) Unit of rehabilitation

Source : REPELITA VI

Among the transportation sectors, road development accounts for 67% of the total transportation sector expenditure and is the most important sector. REPELITA VI has placed strong emphasis on the rehabilitation and maintenance of National and Provincial roads. The second important sector is air transportation with 11.5% of share followed by land transportation sector with 11.4%. As for port development, the government intends to invest about US $ 1.43 billion during REPELITA VI and the government expects to finance 65% from the private sector. The government investment plan during REPELITA VI is shown in Table 15.6.2.

Table 15.6.2 Government Development Expenditure on Transportation Sector during REPELITA VI

Code Number	Sector / Sub Sector	Annual National Budget 1994/95	Total During Repelita VI
06	TRANSPORTATION, METEOROLOGY AND GEOPHYSICS	5,225,515.0	33,054,190.0
06.1	Road Infrastructure	3,530,580.0	22,195,440.0
06.2	Land Transportation	589,028.0	3,782,550.0
06.3	Sea Transportation	466,777.0	2,990,850.0
06.4	Air Transportation	605,470.0	3,870,500.0
06.5	Meteorology, Geophysics, Search and Rescue	33,660.0	214,850.0
08	TOURISM, POST AND TELECOMMUNICATIONS	721,850.0	4,778,570.0
08.1	Tourism	48,730.0	325,380.0
08.2	Post and Telecommunications	673,120.0	4,453,190.0

Source: REPELITA VI

The accumulated amount of investment is about 68% of the REPELITA VI until 1997/1998.

At the provincial level, governments have put emphasis on development of the transportation sector. In West Kalimantan, Pelita VI allocated 24% for the transportation sector, the largest share among the sectors and is expected to invest Rp 1,543,510 million. The actual expenditure on the transport sector in the study area are shown below:

The provincial infrastructure investment shares about 80 per cent of the total budget. The emphasis is given to the road development in both provinces with 35 per cent in West Kalimantan and 58 per cent in Central Kalimantan.

Table 15.6.3 Provincial Budget for Transportation in the Study Area

(Million Rupiah)

	1997/1998	1996/1997	1995/1996	1994/1995
West Kalimantan				
1. Land Transport	1,402	1,212	1,846	4,189
2. Sea Transport				
Port	7,714	8,097	8,126	8,956
PT. Pelindo	4,530	4,580	7,293	22,208
3. Air Transport				
Airport	7,613	2,533	1,562	1,304
PT. Angkasanra III	5,572	1,320	8,474	5,435
4. Infrastructure	79,993	91,569	86,690	98,451
5. Road development	54,857	57,780	60,883	75,689
Total	161,682	167,091	174,873	216,234
Central Kalimanta				
1. Land Transport	17,380	14,197	24,160	28,026
2. Sea Transport				
Port	-	-	2,707	2,210
PT. Pelindo	-	-	-	-
3. Air Transport				
Airport	4,727	3,029	11,473	1,476
4. Infrastructure	11,075	12,899	20,495	17,582
5. Road development	130,698	99,415	78,880	67,494
Total	163,880	129,540	137,715	116,788

Source: Kalimantan Barat Dalam Angka, 1996

Kalimantan Tengah Dalam Angka, 1996

The district level of the governments put emphasis on the transportation sector. In fact, the sub districts' budgets show that about half the expenditure is on the transportation sector. It means that the transportation sector in each sub district is the most important sector. West Kalimantan allocated about 43 per cent on the transportation sector, while Central Kalimantan reserved 25 per cent.

Table 15.6.4 Sub District Expenditure on Transportation

(Thousand Rupiah)

Regency/Municipality	1996/1997 Transportation	Expenditure	as a % of Expenditure
West Kalimantan			
1. Sambas	14,027,659	33,197,466	42%
2. Pontianak	11,713,773	27,854,237	42%
3. Sanggau	10,460,069	26,131,405	40%
4. Ketapang	10,148,540	21,880,213	46%
5. Sintang	10,093,537	23,731,287	43%
6. Kapuas Hulu	10,726,890	18,663,243	57%
7. Kodya Pontianak	4,385,424	16,652,982	26%
Total	71,555,892	168,110,833	43%
Central Kalimanta			
1. Kotawaringin Barat	6,074,561	23,020,227	26%
2. Kotawaringin Timur	12,085,183	40,685,996	30%
3. Kapuas	8,558,944	35,826,942	24%
4. Barito Selatan	10,241,980	34,886,286	29%
5. Bariro Utara	6,398,376	32,084,392	20%
6. Palangkaraya	2,400,321	12,952,107	19%
Total	45,759,365	179,455,950	25%

Source: Kalimantan Barat Dalam Angka, 1996

Kalimantan Tengah Dalam Angka, 1996

Transportation Sector Plan

National Level

In 1989, the government prepared a comprehensive Policy Statement and Action Plan to govern the development of roads and road traffic, and the transport system in the medium term. The Policy Statement covered seven main areas, (1) legal and regulatory framework, (2) institutional strengthening, (3) inter modal transport, (4) road works planning, programming, and execution, (5) road user taxation, (6) vehicle weight and dimension limits, and (7) road traffic safety. The government prepared an action plan to implement this policy statement. Specific actions to be taken during the period of 1990-1996 are focused primary on interurban transport.

The MOC of central government prepared a National Transport System (SISTRANAS) that indicates transportation network in the Indonesia in 1997. To formulate SISTRANAS, the national long term plans, National Spatial Structure Plan and the Second Long-term Development, are reviewed and data collection surveys are conducted whole Indonesia.

In the regional level, the MOC has prepared a Regional Transportation System (SISTRAWIL) in accordance with SISTRANAS. SISTRAWIL will cover whole Kalimantan provinces and shows general direction of transportation development.

Provincial Level

There is no comprehensive transport sector plan in provincial level, yet a transport modal plan for Pelita VII has been prepared by each province. The provincial government recognized that the transportation sector is important to support economic activities of their provinces. They show province transport sector development strategies of each transport mode.

During REPELITA VI, West Kalimantan has put emphasis on agricultural development, transportation provision and human resources development. The transportation sector should support economic activities and human resources development through the provision of efficient and effective facilities. Transportation should deliver services efficiently in cooperation with the government, state owned companies, and the private sectors. Transportation sector policies for each mode are shown as follows:

West Kalimantan

Road Development

a. Maintenance and rehabilitation of the existing highway
b. Strengthening institutional capacity and implementation capacity for maintenance and rehabilitation
c. Completion of road networks to connect agricultural areas to markets and urban area to rural and transmigration areas as well as to create the provincial transportation system.

Road Transportation

a. Road transportation networks should play a role as a part of the comprehensive transportation system in the province by supporting economic development as well as connecting isolated areas.
b. Road transportation networks should formulate functional differences of arterial, collector and local roads. Those roads should be constructed based on design standards of each road and bridge.
c. The transportation terminal facilities should be built to promote the service level for the users by considering the transportation network, regional spatial structure and environmental conservation.
d. Transportation facilities development is directed to fulfill the needs of security and safety.

e. Traffic signs and vehicle inspection facilities should be installed to promote road life, traffic safety, as well as environmental conservation and pollution prevention.
f. River and river crossing facilities should focus on increased capacity and upgrading facilities.

Sea Transportation

a. Sea transportation network should create international, regional and domestic routes for public as well as private ships.
b. Port facilities should be developed according to the port hierarchy system in the region
c. Port and sailing safety should be the first priority.
d. Fleet operation should be optimized to increase trade activities.

Air Transportation

a. Air transportation network should expand to fulfill the needs of the demand as well as to promote regional development.
b. Airport facilities are developed on the basis of the hierarchy of air transportation network and spatial structure, environment conservation, and flight safety.
c. The flight safety of is the first priority.
d. Pioneer fleet operation is directed at developing the isolated and remote areas to develop the economic activities and to support developments.
e. International flight operation is directed at fulfilling the needs of economic development and to support tourism development.

Central Kalimantan

Land Transportation

a. Land transportation should support economic activities in the region as well as other developments. It should consider environmental and natural conservation as well as energy efficiency.
b. Land transportation should be provided at an affordable fare for society and support development of the region. It is important for the land transport sector to proceed with the training of personnel as well as efficient utilization of fleets.
c. As for land transportation development, special attention is given to the isolated villages, transmigration areas and border regions.
d. Land transportation development will continue to improve the level of services and infrastructure.
e. Transportation should be developed as an integrated system, which includes river, land and river crossing facilities to support development activities in the province.
f. Road development should be able to cope with recent economic development in the province. A passenger and goods transport system should be established along the highway.

g. River crossing ferries and river channels should be maintained.
h. River transportation facilities are required in the one million hectare swamp land development area.

Sea Transportation

a. The sea ports (Sampit, Kumai, and Pulang Pisau) should be developed to have semi container handling facilities.
b. Sampit and Kumai ports improvement should be given priority for investment.
c. In the long run, Ujungpandaran port should be developed to handle containers.

Environmental Consideration

Indonesia has established a body and regulations for the protection of the environment which provides a framework for specific guidelines and institutional development measures. In the infrastructure sector, the analysis of environmental impacts (AMDAL) sets the most important regulations. The significance of the environmental impacts of the transport sector varies among the various projects and programs. Maintenance and rehabilitation of transport infrastructure entail only minor environmental impacts, while new investment projects may have significant impacts which require environment impact assessment and mitigation measures under governmental procedures.

The study area has unique characteristics of the species richness of plants, birds and reptiles. The whole island of Borneo is a major center for biodiversity (The Ecology of Kalimantan, 1996 p. 632). Demands for flexible transport have increased the dependence on road transport. This dependence tends to raise aggregate energy consumption, generate air pollution and have other environmentally adverse effects. More importantly, road network expansion has increased accessibility to the areas where there are environmentally sensitive primary forests and peat swamp areas. This could damage natural habitats. In fact, illegal logging is frequently found a new road development areas. Protection of those areas is a matter of development policy to limit road construction.

Private Sector Involvement

The government programs have an increased reliance on the private sector role in infrastructure provision in two ways. The government moves slowly to privatize partially private companies. There are 180 state enterprises of which 34 are in the communications and public works sectors. The greatest advances were in the telecommunications sector. The transportation sector also follows the privatization process, especially transportation state companies. The operation of ports and airports has been handed over to the private sector from state companies.

The government has called for private investment into the transport sector to finance economically feasible infrastructure development. For example, toll roads have been constructed through private participation.

Administration

The transport administration in Indonesia has been dispersed among the ministries and agencies. The ministries in charge of the transportation sector include the Ministry of Public Works (MPW), the Ministry of Communications (MOC), the Ministry of Home Affairs (MHA), Traffic Police, and BAPPENAS. MPW and MOC are implementation agencies of infrastructure provision. The Directorate General of Regional Development (DGRD) and the Directorate General of General Administration and Regional Autonomy (PUOD) of MHA also play a substantial role in the transport sector. DGRD and PUOD are responsible for regulating and monitoring the non-technical aspects of the central government's grant programs (INPRES) to lower level of governments. Provincial and district levels of transport sector are administratively under the Ministry of Home Affairs(MHA).

The Directorate General of Highways (DGH) of MPW is the road administrate body of the central government. The lower level of agencies are the Provincial Public Works Office (DPUP) and the district Public Works Office (DPUK). DGH has another branch office the Regional Betterment Office (RBO) which carries out the supervision and monitoring of the projects.

Table 15.6.5 Road Development Planning and Implementation Bodies

Type of road	Planning			Design and Bid Preparation	Techinical Investigation
	Basic Design	Implementation Plan			
		Road Network	Project		
National Road	BM	BM	BM	DPUP	BM KANWIL
Provincial Road	BM	BM	DPUP	DPUP	BM KANWIL
District Road	BM	BM	DPUD	DPUD	DPUP KANWIL
Sub-District Road	DPUD BM	BM		DPUD	KANWIL DPUP

Note: BM: Bina Marga
DPUP: Provincial Public Works
DPUD: Kabupaten Public Works
KANWIL: Kantor Wilayah Propinsi

Source: Bina Marga Data

The MOC is responsible for all the government functions of air, sea, and inland transport. The Directorate General of Land Transport and Inland Waterways (DGLC) of MOC is responsible for road traffic and transportation matters. DGLC has three directorates; Traffic and Transport;

Infrastructure; and Safety and Vehicles. It has the responsibility for regulating road traffic and the road transport industry, and related implementation and enforcement. MOC's responsibility also includes the supervision of 20 state-owned enterprises encouraged in the provision of transport and terminal services. Bus routes and tariffs remain subject to the government control by DGLC, but the trucking industry is largely private.

River transport provides the basic transport infrastructure in Kalimantan. Ferries are the key links in the road network between islands. DGLC is responsible for providing and managing inland waterways and ferry terminals. It is also the principal operator of ferry services, although private operators are permitted to serve some trunk routes.

The Directorate General of Sea Communications (DGSC) of MOC issues the policy for the management of all ports, which include 656 public ports and 1,233 special ports. The DGSC executes the MOC's policies for all Indonesian ports. The DGSC also manages, through it's regional offices, about 546 non-commercial ports, as secondary ports. The government of Indonesia set up a policy of 110 public ports to be managed commercially by the four Indonesian Port Corporations, PT Pelabuhan Indonesia (PELINDO) I, II, III and IV.

Table 15.6.6 The Port Corporation of Indonesia

Port Corp.	Location of Head Office	Principal Port	Number of ports	Provinces
I	Medan, North Sumatra	Belawan	24	D. I Aceh, North Sumatra and Riau
II	Tanjung Priok, Jakarta	Tanjung Priok, (Jakarta)	29	West Sumatra, Jambi, South Sumatra, Bengkulu, Lampung, West Java, D.K.I Jakarta, West Kalimantan
III	Surabaya, East Java	Tanjung Perak, (Surabaya)	33	Central Java, East Java, Bali, East Timor, West Nusa Tenggara, East Nusa Tenggara, Central Kalimantan, South Kalimantan
IV	Ujung Pandang	Makassar	24	East Kalimantan, South Sulawesi, Central Sulawesi, South East Sulawesi, North Sulawesi, Maluku, Irian Jaya
		Total	110	

Source: Port Development and Operations in Indonesia

The remaining 546 public ports are managed by the government represented by the Ministry of Communication's regional offices which are situated in each province. The sub-units for the port sector are the Bureau of Sea Communications, which serve as the local counterpart to the DGSC and the Harbor Administrator (ADPEL).

The Directorate General of Air Communication (DGAC) of the Ministry of Communications is responsible for airport development and operation. The DGAC also manages airports in Indonesia except the 18 large scale airports which had been managed by the PT. Perum Angkasa Pura 1,2 (PAP I and PAP II) since 1986. In 1992, those two airport management became private share holding companies of Persero.

The management of the airports is under the two companies listed below:

PAP I: Bail, Surabaya, Balikpapan, Ujung Pandang, Menado, Yogjakarta, Biak, Banjarmasin, and Solo

PAP II: Jakarta(Soekarno-Hatta and Halim), Palembang, Pontianak, Medan, Padang, Pakanbaru, Bandung, and Banda Ache

Provincial and local governments relationship

Most central government ministries have branch offices at the provincial level which are called Kantor Wilayah Propinsi (KANWIL). The KANWILs are staffed by the central government officers and their operations are financed by the central government budget.

The autonomous regional governments of both Dati I and Dati II have Dinas parallel with the central government KANWIL structure. In the transportation sector, the roles of the KANWILs are limited to policy formulation and monitoring of the APBN funded projects. There is no hand in implementing projects at the provincial and district levels. The other functions are decentralized to provincial and districts levels.

The maintenance and rehabilitation of the national and provincial highway are the responsibility of the DPUD under the guidance of the central government, while construction and maintenance of district roads are the responsibility of the DPUK under guidance of KANWIL.

Transportation Planning and Budgeting

National Level

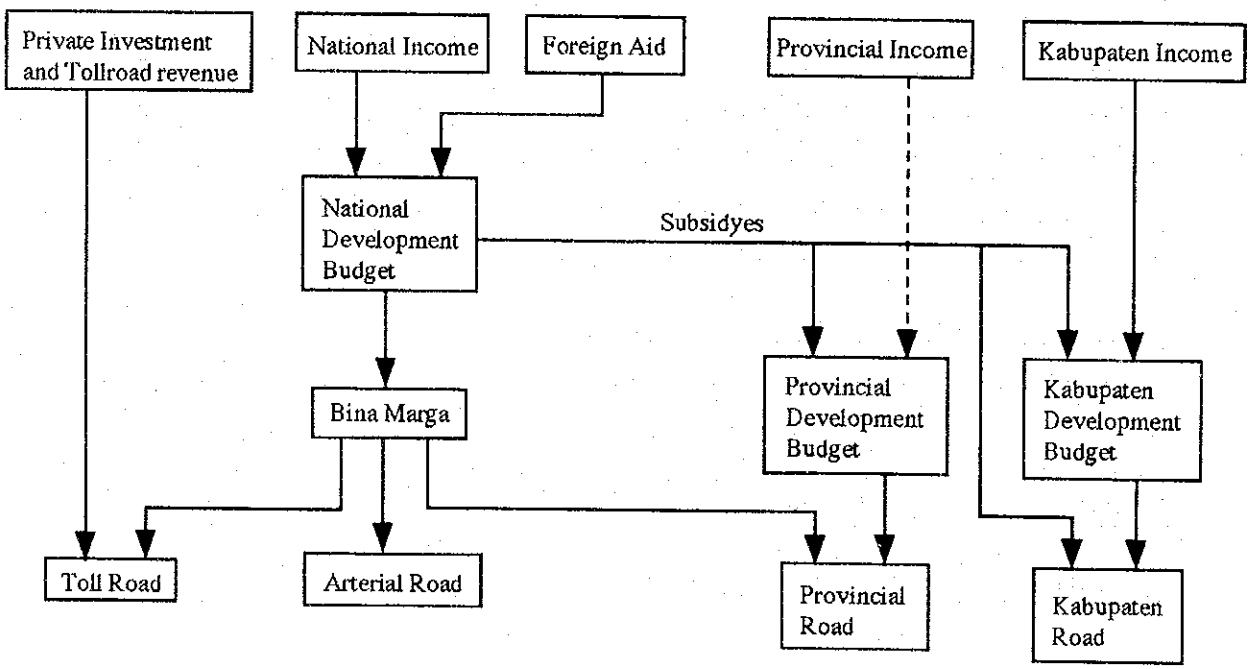
Transport sector planning responsibilities are shared by the MOC, which covers planning for air, land and sea transport and inter modal coordination; the MPW, which covers planning for highways; and BAPPENAS, which covers overall coordination. The MOC's central planning function is performed by the Bureau of Planning of the Secretariat General. In addition, there are planning divisions for air, land and sea transport in each of the modals directorate general of the MOC. The planning functions for highways comes under the Directorate General of Highway (DGH) of the MPW.

The national transport sector planning is comprised of national planning, programming and budgeting procedures. Medium-term planning focuses on the national five-year development plan, REPELITA. BAPPENAS manages the process by guiding and coordinating the preparation of inputs by sectional ministries, local government, and other agencies. REPELITA includes broad development objectives and physical targets for new investments. Short-term planning is tied into the annual development budget cycle.

Provincial and Local Governments

The planning of local government investments is essentially the responsibility of the districts themselves. The budgeting process consists of a set of bottom-up and top-down approaches of inter/intra government conferences (RAKORBAN, RAKORNAS, and RATEK). Annual road works programs and budgets are prepared through a series of meetings at the village, district, provincial and national levels to review budget proposals.

Figure 15.6.1 Development Incomes and Distribution of Budget



Source: Bina Marga

Financing

The road improvement budget can be divided into APBN (National level), APBD TK I (Provincial level), APBD TK II (District and Kotamadya level) and INPRES. DIP (Daftar Isian Proyek) is the authorizing document for the allocation of funds from the Development Section of the APBN to finance development projects of the central government. DIP includes the provision for financing of the project from foreign donors as well as domestic funding resources.

The central government provides a number of grants to the provincial and district levels of government. The general development grants are available to be used for most purposes covered by the development sections of the APBD or Desa budgets. The specific development

grants are available to be used for local road development programs. BAPPENAS has the responsibilities for determining the total size and allocation of the general and specific INPRES grants.

Table 15.6.7 Distribution of INPRES (Road development) by District

(Thousand Rupiah)

District	1995/1996 Budget	1995/1996 Expenditure	1996/1997 Budget	1996/1997 Expenditure	Remarks
West Kalimantan					
1. Sambas	10,827,953	9,237,772	10,871,129	9,242,303	
2. Pontianak	9,033,878	9,019,906	9,094,129	2,216,086	
3. Sanggau	9,442,795	8,336,471	9,729,983	5,393,355	
4. Ketapang	7,930,393	6,669,680	8,743,419	4,198,287	
5. Sintang	9,635,748	8,168,611	9,955,272	3,777,927	
6. Kapuas Hulu	8,677,462	8,360,795	9,356,068	5,069,862	
7. Kodya Pontianak	2,214,833	1,899,826	2,250,000	1,663,345	
8. Kodya Singkawang	1,228,990	1,228,990	0	0	
9. Province	289,565	289,565	249,770	249,770	
Total	59,281,617	53,211,616	60,249,770	31,810,935	
Central Kalimanta					
1. Kotawaringin Barat	7,546,387	-	8,853,728	-	
2. Kotawaringin Timur	10,699,127	-	11,836,737	-	
3. Kapuas	10,713,296	-	10,398,775	-	
4. Barito Selatan	6,657,604	-	4,648,735	-	
5. Bariro Utara	7,108,896	-	7,986,451	-	
6. Palangkaraya	2,436,824	-	4,021,919	-	
Total	45,162,134		50,746,354		

Source: Kalimantan Barat Dalam Angka, 1996
Kalimantan Tengah Dalam Angka, 1996

The INPRES grant was initiated in 1979/80 to develop and maintain provincial roads to provide access to remote areas. The budget can be used for the construction and maintenance of roads and bridges. The amount of grant is determined by a formula based on length, condition and unit cost of construction and maintenance. The amounts of grants is Rp. 31 billion in 1996/97 in West Kalimantan.

Government Revenues from the Transport Sector

The government revenues from the transport sector can be categorized into three main forms of taxation: purchase related, owner related and user related. In addition, the price of gasoline includes an implicit tax component. Table 15.6.8 shows the government tax sharing system within the transportation sector.

Table 15.6.8 Government Taxes Sharing System

	Type of Tax	Collecting Agency	Revenue
1 Purchase-related			
	Import Duty	Ministry of Finance	Central Government
	VAT	Ministry of Finance	Central Government
	Luxury goods sales	Ministry of Finance	Central Government
	Ownership transfer		
2 Ownership-related			
	Annual registration fee	Traffic Police	Provincial Government
	Motor vehicle tax	Traffic Police	Provincial Government
3 Use-related			
	Import duty	Ministry of Finance	Central Goverment
	VAT on spare parts	Ministry of Finance	Central Goverment

Source: Intergovernmental Fiscal Relations in Indonesia, 1994, World Bank

It is difficult to estimate central government revenues from the transportation sector, yet the World Bank staff appraisal report for the second highway sector investment project gives the road sector's road user charges and total road expenditures (see Table 15.1.9). It may be the best estimate of how much money was raised from the transportation sector to invest in infrastructure. It is safe to say that the transportation sector received large amounts of investment budget but it raised approximately same amount of money in the form of direct and indirect taxes.

Table 15.6.9 User Charges and Total Road Expenditure

(unit: Rp billion)

	86/87	89/90	91/92	92/93	93/94
Charges1					
Annual Vehicle Registration Tax	210	286	372	600	640
Vehicle Ownership					
Transfer Tax	214	446	672	775	890
Fuel Taxes					
Diesel	-281	-1,326	-1,174	-896	0
Petrol	713	423	1,129	1,605	2,488
Total	**855**	**-171**	**999**	**2,084**	**4,018**
Expenditures2	941	1,880	3,799	4,618	4,845

Note: Excluding Import Duties and VAT
Excluding expenditure on Toll Roads

Source: Staff Appraisal Report Second Highway Sector Investment Project February 7, 1994 World Bank

The amount raised from the road sector has increased from Rp 855 billion in 1986/87 to Rp 4,845 billion in 1993/94. It balanced the expenditure on road development expenditure because the revenue has not included import duties and VAT from vehicles. The fuel taxes are collected by the central government, while other charges are raised by the local governments.

Local Government Revenue

The local governments derive revenues from various local taxes, charges and miscellaneous local sources along with shares of the central government revenues which are collected within their areas. The revenue raised from the transportation sector is shown below:

Table 15.6.10 Local Government Revenues from the Transport Sector

(Thosand Rupiah)

Regency/Municipality	1996/1997	1995/1996	1994/1995	1993/1994	1992/1993
West Kalimantan					
1. Tax on Motorized Vehicles	8,747,120	7,578,086	6,658,393	4,857,280	3,690,078
2. Motor Car Ownership Transfer Duties	15,280,701	11,745,577	11,816,734	7,358,904	4,724,666
3. Water Ways Transport Transfer Duties	132,766	124,756	128,046	107,161	85,953
4. Tax on Water Ways Transport	9,997	9,874	9,985	10,460	8,797
5. Tax Fine	484,595	433,818	379,208	307,733	248,164
6. Total	24,655,179	19,892,112	18,992,366	12,641,538	8,757,657
Central Kalimantan					
1. Tax on Motorized Vehicles	3,571,178	3,055,026	2,485,340	1,751,475	1,137,971
2. Motor Car Ownership Transfer Duties	6,438,701	5,035,218	4,536,796	2,865,347	1,727,161
3. Water Ways Transport Transfer Duties	21,723	21,556			
4. Tax on Water Ways Transport	23,543	27,463			
5. Tax Fine	373,859	303,061			
6. Total	10,429,004	8,442,324	7,022,136	4,616,822	2,865,132

Source: Kalimantan Barat Dalam Angka, 1996

Kalimantan Tengah Dalam Angka, 1996

The revenues from the transportation sector have increased significantly about 4 times during 1992/93-1996/97 in West Kalimantan and Central Kalimantan. The share of motor car ownership transfer duties is the largest and accounts for 62% of the total revenue.

Expenditure

In recent years, the government of Indonesia has placed importance on the transportation sector as a key means of promoting economic growth and regional development. Emphasis is given to the road subsector. In fact, some 20% of the total budget was directed to the transportation sector.

The transportation sector is the most important sectors in the study area as well. The local government expenditure on the transport sector was 31% in West Kalimantan and 53% in Central Kalimantan. Most of the expenditure was directed to road network development in both provinces.

Table 15.6.11 Government Expenditure on the Transportation Sector

(Thousand Rupiah)

Regency/Municipality	Number of Projects	1996/1997 State Budget	Loan	Total	Remarks
West Kalimantan					
Public Works	17	75,530,550	29,749,515	105,280,065	
Transportation	8	11,713,773	27,854,237	11,534,606	
Total	158	301,157,299	74,850,741	376,008,040	
As a percent of total Budget	16%	29%	77%	31%	
Central Kalimantan					
Public Works	15	115,566,448	13,257,383	128,823,831	
Transportation	7	28,639,403	1,763,553	30,402,956	
Total	137	265,058,773	34,572,102	299,630,875	
As a percent of total Budget	16%	54%	43%	53%	

Source: Kalimantan Barat Dalam Angka, 1996
Kalimantan Tengah Dalam Angka, 1996

The situation is almost the same as that of the sub-district governments that spend 43% of their expenditure in West Kalimantan and 25% in Central Kalimantan. In Central Kalimantan, the most important sector is the transport sector which shares 25% of the expenditure, yet it is lower than that of West Kalimantan of 43%.

Table 15.6.12 Local Government Expenditure on the Transportation Sector

(Thousand Rupiah)

Regency/Municipality	1996/1997 Transportatior	Expenditure	as a % of Expenditure	Remarks
West Kalimantan				
1. Sambas	14,027,659	33,197,466	42%	
2. Pontianak	11,713,773	27,854,237	42%	
3. Sanggau	10,460,069	26,131,405	40%	
4. Ketapang	10,148,540	21,880,213	46%	
5. Sintang	10,093,537	23,731,287	43%	
6. Kapuas Hulu	10,726,890	18,663,243	57%	
7. Kodya Pontianak	4,385,424	16,652,982	26%	
Total	71,555,892	168,110,833	43%	
Central Kalimantan				
1. Kotawaringin Barat	6,074,561	23,020,227	26%	
2. Kotawaringin Timur	12,085,183	40,685,996	30%	
3. Kapuas	8,558,944	35,826,942	24%	
4. Barito Selatan	10,241,980	34,886,286	29%	
5. Bariro Utara	6,398,376	32,084,392	20%	
6. Palangkaraya	2,400,321	12,952,107	19%	
Total	45,759,365	179,455,950	25%	

Source: Kalimantan Barat Dalam Angka, 1996

Kalimantan Tengah Dalam Angka, 1996

15.6.2 Existing Transportation Facilities and Services

(1) Transportation Network

The features of the transportation network in Kalimantan are its weak linkages among the four provinces. There is no road connection among the four provinces and airline services are also directed to Java and other islands. The Trans-Kalimantan highway's southern route is expected to be the first road connection among the four provinces in Kalimantan with 80 per cent of the construction complete. This route, however, is situated on the edge of swamp areas and is expected to have high maintenance and rehabilitation costs. In the river basin economy, economic linkages have also developed with major cities in Java and Kalimantan's river basin cities to export natural resources such as forestry products and agricultural products and to import food and daily necessities. The three major ports and air ports, Pontianak, Banjarmasin, and Balikpapan, are located in Kalimantan and those cities are historically developed as major river basin cities. The existing transportation network is seen in Figure 15.6.2.

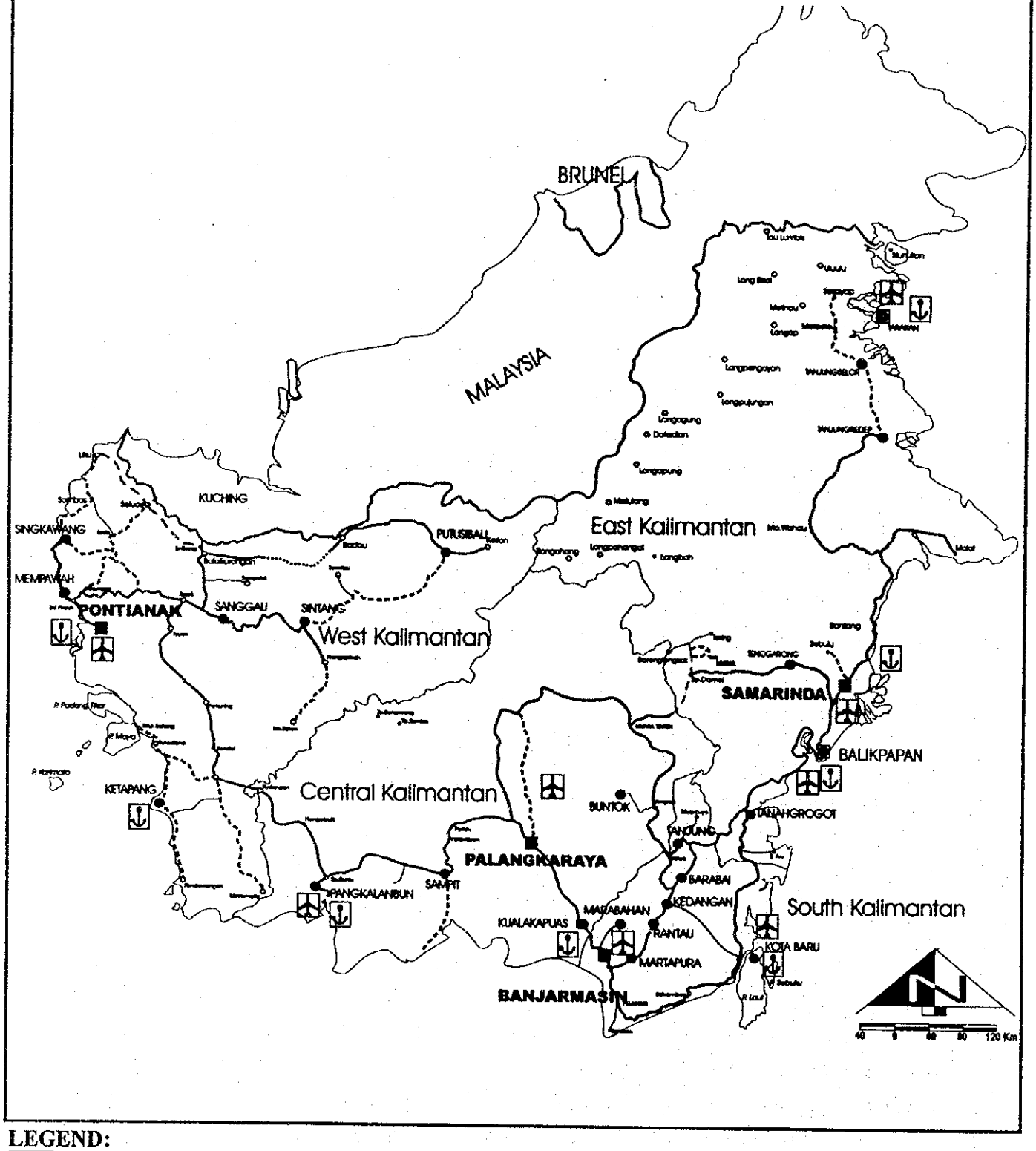
The essential feature of the transport system in the region was the domination of river transport. The settlement in the region has developed along the rivers and the existing town centers emerging as distribution centers of goods and commodities at the confluence points of the major rivers. The administrative boundaries have also been based on the river system.

That the Dutch established a river transport system by connecting three rivers by channel has determined spatial linkages as well as economic activities in Central Kalimantan. Consequently, Banjarmasin, located in South Kalimantan, became a regional center of the three river basins. Banjarmasin has developed transportation facilities in order to serve South Kalimantan as well as Central Kalimantan. Even now, the eastern part of Central Kalimantan is heavily dependent on Banjarmasin for supplying and exporting goods and services. In West Kalimantan, the Kapuas river is used to distribute goods and services via boats and/or ships.

Road development is a relatively new phenomena. Road construction in the study area started in the 1970s, when logging companies established logging camps in the upper streams of river basins to extract timber. Logs are transported by truck from forest to river and floated to downstream cities. However, logging road development has a limited area and usage with minimum impact on regional development activities. Recently, roads have developed along the Kapuas river basin driving the shift of transport mode from a river-based one to a road-based one.

The existing transportation network in the study area is shown in figure 15.6.3.

Figure 15.6.2 Existing Transport Network in Kalimantan



LEGEND:

- Arterial Road
- Collector Road 1
- Collector Road 2
- Collector Road 3
- International Boundary
- Provincial Boundary
- Provincial Capital
- Municipality Capital
- Kabupaten Capital
- Kecamatan Capital
- Airport
- Harbor/Port

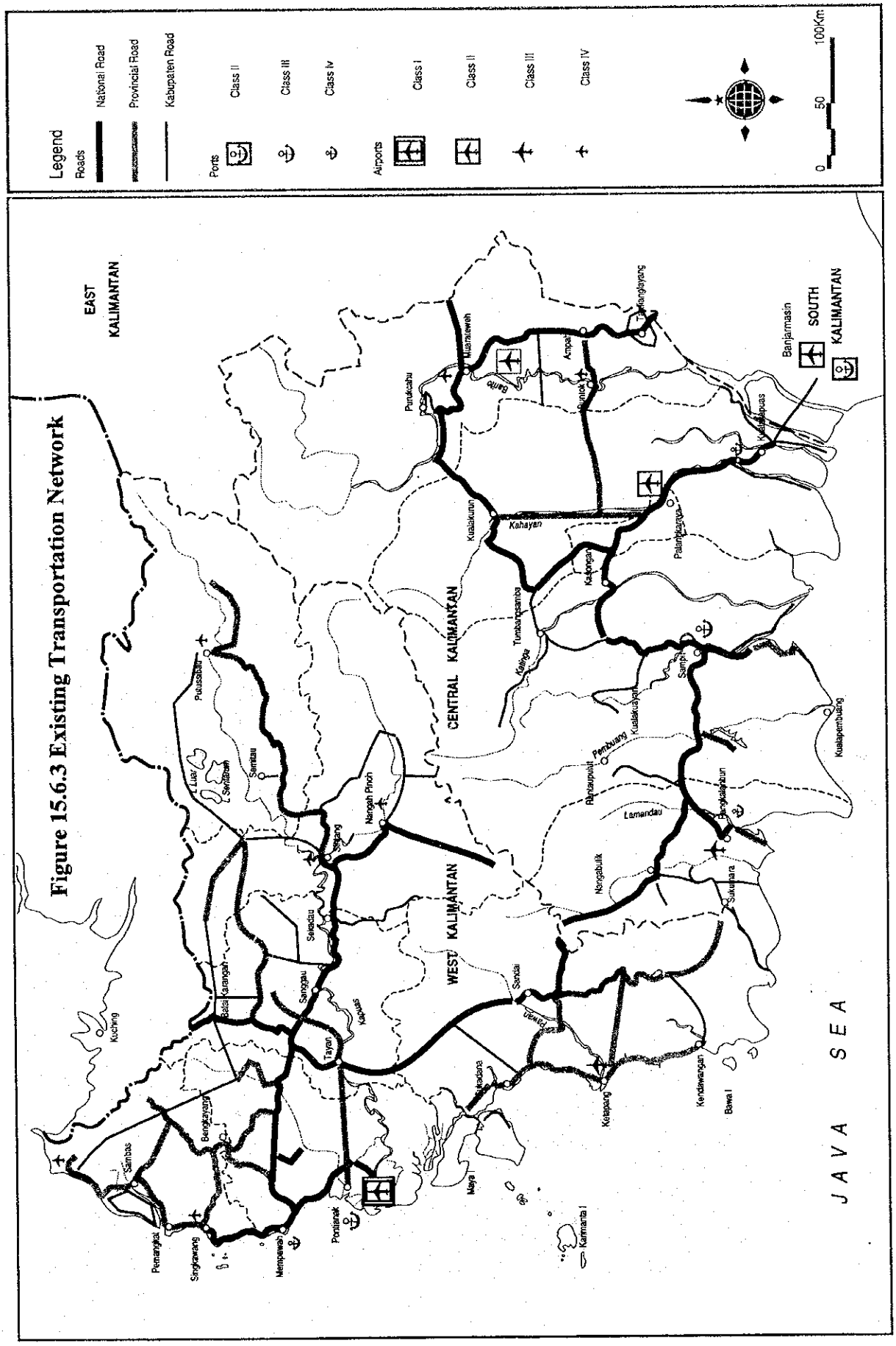


Figure 15.6.3 Existing Transportation Network

(2) Road

According to Law No.13 of 1980, roads can be categorized functionally as primary roads (inter urban) and secondary roads (intra urban). The roads are then divided into five categories for administrative purposes as national highways, provincial roads, district (kabupaten) roads, rural (kecamatan) roads and special (desa and community) roads. The functions of roads are divided as the primary network (national and provincial roads) and as rural roads (kabupaten and desa roads). However, the road development resources have been divided roads based on the road classification and the type of improvement. The budgets come from the central, provincial and district governments (see Table 15.6.13).

Table 15.6.13 Financial Source of Road Development

Road Classification / Type of road	Arterial Road	Collector Road	Rural Road	Toll Road
New Construction	APBN	APBN	APBD TK I APBD TK II	APBD, Private Toll Road income
Improvement	APBN	APBN APBD TK I	APBD TK II	
Rehabilitation	APBN	APBN APBD TK I	INPRES JALAN District APBD TK II	
Maintenance	APBN	APBN	APBD TK II	Toll Road income
Replacement of Bridge	APBN	APBN APBD TK I	APBD TK II	

Note: APBN: National budget
APBD: Provincial budget
APBD TK II: District budget
Inpres Jalan Kabupaten: Subsidy for rural road development

Source: Bina Marga Data

The budgets for arterial and most collector roads come from the central government budgets, while rural road construction and rehabilitation are from the provincial budgets. The provincial road development budget, however, comes from the central government in form of specific grants and subsidies.

Road development in the study area is a relatively new phenomena. Road density in the study area is 0.031 km/km^2, which is far below the Indonesian average of 0.126 km/km^2 in 1995 (see Table 15.6.14). In fact, the development of the road is the lowest among Indonesian provinces except Irian Jaya.

Table 15.6.14 Road Density in Indonesia

	Type of Surface	1985		1988		1992		1995	
		Length km	Density km/km²	Length km	Density km/km²	Length km	Density km/km²	Length km	Density km/km²
Sumatera	Asphalt	24,647	0.0520	33,375	0.0705	43,676	0.092	49,449	0.104
	Asphalt & Gravel	39,908	0.0843	51,354	0.1084	64,490	0.136	72,607	0.153
Java	Asphalt	36,605	0.2782	41,819	0.3178	53,649	0.408	59,480	0.425
	Asphalt & Gravel	44,626	0.3391	51,321	0.3900	66,521	0.505	73,752	0.517
Bali	Asphalt	2,803	0.5040	3,249	0.5842	4,433	0.797	4,655	0.837
	Asphalt & Gravel	5,947	0.1242	6,097	0.1273	8,281	0.173	5,341	0.960
Nusa Tenggara	Asphalt	4,044	0.0594	4,912	0.0722	7,048	0.104	7,484	0.110
	Asphalt & Gravel	8,663	0.1273	9,319	0.1369	12,013	0.177	12,727	0.188
Timor Timur	Asphalt	387	0.0260	387	0.0260	1,905	0.128	2,572	0.173
	Asphalt & Gravel	1,645	0.1106	1,645	0.1106	2,837	0.191	3,990	0.268
Kalimantan	Asphalt	4,262	0.0080	5,504	0.0100	11,365	0.021	13,200	0.024
	Asphalt & Gravel	8,709	0.0060	9,342	0.0170	16,900	0.031	19,731	0.037
Sulawesi	Asphalt	9,515	0.0503	14,074	0.0744	17,277	0.091	20,311	0.107
	Asphalt & Gravel	19,991	0.1057	27,233	0.1439	29,946	0.158	32,822	0.173
Maluku	Asphalt	1,312	0.0180	2,250	0.0300	3,185	0.043	3,882	0.052
	Asphalt & Gravel	2,730	0.0370	3,642	0.0490	4,098	0.055	4,999	0.067
Irian Jaya	Asphalt	861	0.0020	1,459	0.0030	2,709	0.006	3,421	0.008
	Asphalt & Gravel	1,815	0.0040	2,726	0.0060	4,815	0.011	7,173	0.017
Indonesia	Asphalt	84,436	0.0440	107,029	0.0560	145,247	0.076	172,695	0.090
	Asphalt & Gravel	131,791	0.1080	160,611	0.0840	206,697	0.108	241,527	0.126
Study Area	Asphalt	1,983	0.0070	2,761	0.0090	5,192	0.017	5,192	0.021
	Asphalt & Gravel	3,878	0.0130	4,176	0.0140	7,412	0.025	7,412	0.031

Sources: Statistik Indonesia various years

In 1981, West Kalimantan had 3,782.5 km of road network of which 12 % was classified as national highway. Central Kalimantan had 2,250 km of road network, including logging roads, with 369 km of national highway. During 1985-1995, road development in the region accelerated to reach the growth rate of 7.4% in West Kalimantan and 9.6 % in Central Kalimantan. In 1996, the national highway reached 1,468 km in West Kalimantan and 2,505 km in Central Kalimantan.

National Highway Network in Kalimantan

Kalimantan's classified road network has expanded rapidly in recent years from about 8,700 km in 1985 to 40,692 km in 1995 (national road: 5,459 km; provincial roads 6,503 km; district roads 26,638 km; and municipal roads: 2,092 km; Table 15.6.15). Growth occurred mainly in district roads and resulting more from the absorption of the network of logging roads rather than new construction.