



Ministry of Public Works
Republic of Indonesia

The Study on the Integrated Regional Development Plan for the Southern Part of Sumatra

Final Report

Vol. 4
IDEPs and Projects

March 1993



Japan International Cooperation Agency

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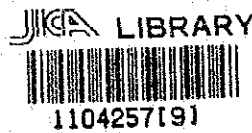
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国際協力事業団

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Kabupaten/Kotamadya

JAMBI

- 1. Kab. Kerinci
- 2. Kab. Sarolangun Bangko
- 3. Kab. Batang Hari
- 4. Kab. Tanjung Jabung
- 5. Kab. Bungo Tebo
- 6. Kotamadya Jambi

SOUTH SUMATRA

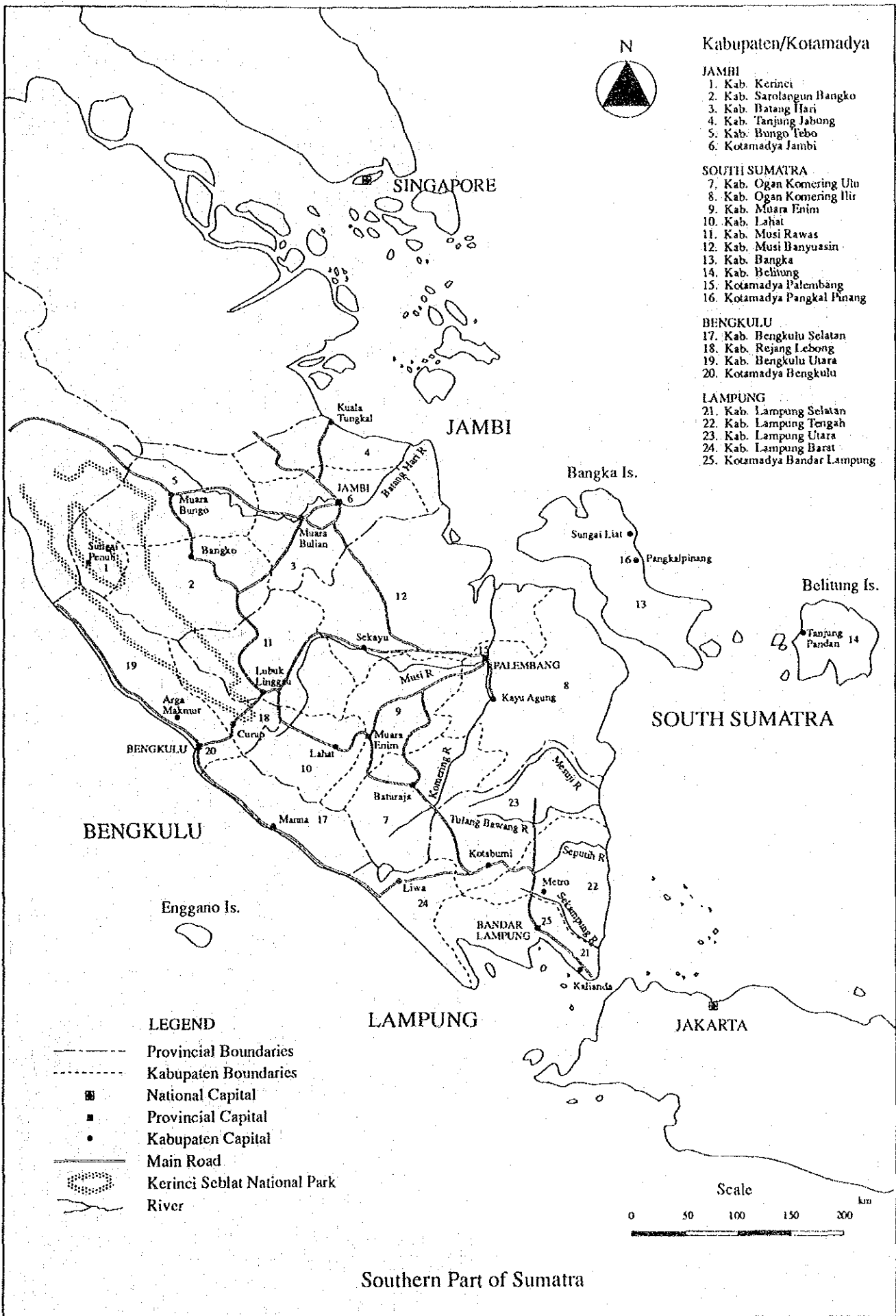
- 7. Kab. Ogan Komering Ulu
- 8. Kab. Ogan Komering Ilir
- 9. Kab. Muara Enim
- 10. Kab. Lahat
- 11. Kab. Musi Rawas
- 12. Kab. Musi Banyuasin
- 13. Kab. Bangka
- 14. Kab. Belitong
- 15. Kotamadya Palembang
- 16. Kotamadya Pangkal Pinang

BENGKULU

- 17. Kab. Bengkulu Selatan
- 18. Kab. Rejang Lebong
- 19. Kab. Bengkulu Utara
- 20. Kotamadya Bengkulu

LAMPUNG

- 21. Kab. Lampung Selatan
- 22. Kab. Lampung Tengah
- 23. Kab. Lampung Utara
- 24. Kab. Lampung Barat
- 25. Kotamadya Bandar Lampung



BENGKULU

JAMBI

SOUTH SUMATRA

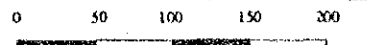
LAMPUNG

JAKARTA

LEGEND

- Provincial Boundaries
- - - Kabupaten Boundaries
- National Capital
- Provincial Capital
- Kabupaten Capital
- Main Road
- Kerinci Seblat National Park
- ~ River

Scale



Southern Part of Sumatra

Glossary/Abbreviations

Adat	Social custom; the cultural traditions and social organisation of a particular ethnic group
Adat Law	Social custom as applied to public resolution of disputes, using agreed, non-official judicial mechanisms
ADB	Asian Development Bank
AFRD	Agency for Forestry Research and Development
Alim Ulama	Islamic religious teachers
APBN	Anggaran Pendapatan dan Belanja Negara (Planned/Actual National Budget)
APBD	Anggaran Pendapatan dan Belanja Daerah (Planned/Actual Regional Budget)
AWB	Asian Wetland Bureau
BAKOSURTANAL	Badan Koordinasi Survei dan Pemetaan Nasional (National Co-ordinating Body for Surveys and Mapping)
Bandaria	Community (sub-desa) groups of the Peninggir people in Lampung
Bandes	Bantuan Desa (National funds allocated to village development)
Bangda	Direktorat Jenderal Pembangunan Daerah (Directorate General Regional Development, Ministry of Home Affairs)
BAPEDAL	Badan Pengendalian Dampak Lingkungan (Environmental Impact Control Agency)
Bappeda	Badan Perencanaan Pembangunan Daerah (Regional Development Planning Board)
Bappenas	Badan Perencanaan Pembangunan Nasional (National Development Planning Board)
BDL	Bandar Lampung
Bilateral	Kinship is traced through both the mother's and the father's line
Biotrop	Institute for Studies and Research in Tropical Biology (set up by SEAMEO-Southeast Asian Ministers of Education Organizations)
BKLH	Provincial Office for Population and Environment
BKPM	Badan Koordinasi Penanaman Modal (National Investment Coordinating Board)
BKPMD	Badan Koordinasi Penanaman Modal Daerah (Regional Investment Coordinating Board)

BPK	Balai Penelitian Kehutanan (Forest Research Institute)
BPN	National Land Board
BPS	Biro Pusat Statistik (Central Bureau of Statistics)
Bugis, Buginese	A seafaring ethnic group from South Sulawesi
Bupati	Regent, head of a Kabupaten (Regency)
Buway	Clan group of the Pubian people in Lampung
Camat	Head of a Kecamatan (Subdistrict)
Cerdik Pandai	Educated leaders in Minangkabau society
Cipta Karya	Directorate General of Human Settlements, Ministry of Public Works
CITES	Convention on International Trade in Endangered Species
Clan	A group of people claiming common descent from an ancestor (often mythical), with members being traced either through the mother's or the father's line
Damar	Resin from forest tree species
Departemen Sosial	Social Welfare Department
Depati	Head of a Marga (also called Pasirah)
Desa	Village, usually in rural areas (see also Kelurahan)
Dewan Marga	Council of advisors to the Pasirah under the Marga system
DGFU	Director General of Forest Utilization
Dikeresayoko	Serawai term for system of assistance to kin who suffer misfortune such as illness
Dinas	Sectoral departments of the local government
Dinas Kehutanan	Provincial Forestry Service
DIP	Daftar Isian Proyek (Project Budget)
Dusun	Hamlet; subdivision within a village
EIA	Environmental Impact Analysis
FAO	The Food and Agriculture Organization of the United Nations
GBHN	Garis-garis Besar Haluan Negara (Guidelines of State Policy)
GOI	Government of Indonesia
Gotong-royong	Forms of community co-operative working together
Hak Milik	The right to own land

Hak Pakai	The right to utilise land
Hak Ulayat	The right of members of an adapt community to utilise land which is claimed by the adat community
Harta Tubang	The inherited property (usually rice-lands, fishponds and house) passed down through the female line under Semendo adat
HPH	Hak Penggunaan Hutan (Forest Utilisation Concessions, for example logging companies)
HTI	Hutan Tanaman Industry (Industrial Timber Estate)
IDEP	Integrated Development Program
IMR	Infant Mortality Rate
IMU	IDEP Management Unit
Inhutani	A state-owned company in forestry
Inpres	Instruksi Presiden or funds allocated by national government in grant form for expenditure in the Regions
ITTO	International Tropical Timber Organization
Jala	Fishing net, a symbol of Semendo clan unity
Jenang	Malay middleman in trade with the Kubu (Suku Anak Dalam)
JICA	Japan International Cooperation Agency
Kabupaten	Regency or District; Second level of Regional Government (Level 2)
Kanwil	Regional Vertical Office
Kanwil Kehutanan	Regional Forestry Office
Kebun	Tree crop gardens or plantations
Kecamatan	Sub-district; third level of Regional Government (Level 3)
Kelurahan	Village, usually located in urban area (See also Desa)
Kepala Desa	Head of a Village (Desa)
KLH	Menteri Negara Kependudukan dan Lingkungan Hidup (Ministry of Population and Environment)
Kolonisatie	Transmigration program from Java to Outer Islands in Dutch Colonial Period
Komering	An ethnic group based in the South of South Sumatra
Kotamadya	Municipality; Second Level of Regional Government (Level 2)
KSDA	Regional Office for Conservation of Natural Resources, Ministry of Forestry

Kubu	A traditionally forest dwelling group located in South Sumatra and Jambi. They prefer to be called Suku Anak Dalam
KUD	Koperasi Unit Desa (Village Co-operative Unit)
Ladang	Dry-land cultivated field
Lebak Lebung	Swampy or seasonally inundated land
Lembaga Pemangku Adat	Consultative institution to advise on adat
Lineage	Descendants in one line (mother's or father's line) from a specified ancestor through a set number of generations
LKMD	Lembaga Ketahanan Masyarakat Desa (Village Self-Reliance Organisation)
LMD	Lembaga Musyawarah Desa (Village Consultative Council)
LPSM	Lembaga Pembinaan Swadaya Masyarakat (Indonesian Non-Government Organisation)
LSCI	Local Steering Committee for IDEP
LSM	Lembaga Swadaya Masyarakat (Indonesian Non-Government Organisation)
Lurah	Head of a Kelurahan
Madrasah	Islamic religious School
Marga	Lowest unit of local government in the Region until 1979, originally meant a kin-related, genealogical group
Matrilineal	Kin relationships are traced through the female line
Melangun	Kubu word meaning to shift the place of residence after a disaster such as illness or death
Meraje	Uncle who advises the eldest girl in Semendo adat
MOF	Ministry of Forestry
MUBA	Musi Banyuasin
MURA	Musi Rawas
Musyawarah	Process of consultative decision-making
Neolocal	Married couple establish an independent household
NES	Nucleus Estate Small Holder (see PIR)
NFI	National Forest Inventory
Ngeresayo	Serawai term for co-operative house building between kin group

Ninik-mamak	Group of male adat leaders in Minangkabau tradition; usually elders of lineage groups
NSCI	National Steering Committee for IDEP
NTFP	Non-Timber Forest Products
OECF	Overseas Economic Cooperation Fund
OKI	Ogan Komering Ilir
OKU	Ogan Komering Ulu
Pasang Surut	Tidal, also tidal swamp cultivation of rice
Pasemah	An ethnic group centred in the upland areas of Lahat
Pasirah	Head of a Marga
Patrilineal	Kin relationships are traced through the male line
PBB	Pajak Bumi Dan Bangunan (Tax on Land and Buildings)
Pedanda	Balinese Hindu priest
Pemangkat Pasirah	Marga officials assisting the Pasirah
Pemerintah Daerah	Local Government or Regional Government
Peminggir	An ethnic group from Lampung
Penggawo	Leader of a hamlet under the Marga system
Perum Perhutani	A state-owned company responsible for the forests on Java
PH	Direktorat Jenderal Pengusahaan Hutan (Directorate General of Forest Utilization)
PHPA	Direktorat Jenderal Perlindungan Hutan dan Pelestarian Alam (Directorate General of Forest Protection and Nature Conservation)
PIR	Perkebunan Inti Rakyat (Smallholder nucleus estates)
PKK	Pendidikan Kesejahteraan Keluarga, a women's organisation operating at village level and focussing on family welfare
PODES	Potensi Desa (Village Potential), a data source for village level information provided by the Village Head
Pola Dasar	Basic Policy
Posyandu	Village health aid posts staffed by volunteers
PPLH/PSL	Environmental Study Centre (university-based)
Pubian	An ethnic group from Lampung
Puskesmas	Community health centre at Kecamatan level

Rejang	An ethnic group originating in Kabupaten Rejang Lebong, Bengkulu
Repelita	Rencana Pembangunan Lima Tahun (Five-Year Development Plan)
Repelitada	Rencana Pembangunan Lima Tahun Daerah (Five-Year Regional Development Plan)
RePPProT	Regional Physical Planning Programme for Transmigration
RRL	Direktorat Jenderal Reboisasi dan Rehabilitasi Lahan (Directorate General of Reforestation and Land Rehabilitation)
RSTRP	Rencana Struktur Tata Ruang Propinsi (Provincial Spatial Structural Plan)
Sakernas	Survei Angkatan Kerja Nasional (National Labour Force Survey)
Sekwilda	Sekretaris Wilayah Daerah (Secretary to Governor or Bupati)
Semendo	An ethnic group originating in Kabupaten Muara Enim, South Sumatra, and spreading into Lampung and Bengkulu
Serawai	An ethnic group located mainly in Kabupaten Bengkulu Selatan
Suku Anak Dalam	Children of the Interior (Inside the Forest). This is the name the Kubu people prefer to be called.
SUPAS	Intercensal Survey
Tambak	Fishpond
Tanah Bengkok	Rice lands, the income of which is used by incumbent village officials during their term of office
Tanah Negara Bebas	A category of State land
TGHK	Tata Guna Hutan Kesepakatan (Forest Land-Use by Concensus)
Tk I, Tk II	Level of government (Level I: Province, Level II: Kabupaten/Kotamadya)
TPI	Tebang Pilih Indonesia (Indonesian Selective Cutting System)
TPTI	Tebang Pilih Tanam Indonesia (Indonesian Selective Cutting and Planting System)
Trans Bandep	Transmigrasi Bantuan Departemen (Transmigration to increase the population of sparsely populated, existing villages)
Translok	Transmigrasi Lokal, or transmigration within provinces
Tunggu Tubang	The eldest girl who inherits the family wealth in Semendo adapt
Ulama	See Alim Ulama
UNDP	United Nations Development Programme
UNSRI	Universitas Sriwijaya (University of Sriwijaya, Palembang)

Uxorilocal	Husband resides with the wife and her kin on marriage
Virilocal	A married couple resides with the husband's kin group
WALHI	Indonesian Environmental National Forum
Walikota	Head of a Kotamadya
Warung	Small shop or stall
WB	World Bank
Wedana	Head of a Javanese Kewedanaan (District) administrative unit (no longer in existence)
WWF	World Wide Fund for Nature

THE STUDY ON THE INTEGRATED REGIONAL DEVELOPMENT PLAN
FOR THE SOUTHERN PART OF SUMATRA
(LTA-129)

FINAL REPORT

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Part 1 IDEPs (Integrated Development Programs)

1. TANJUNG JABUNG IDEP

This location is characterized (1) by its high growth potential as an agricultural base aiming at the Growth Triangle and as the core of agro-zone 1 and (2) by its access to the sea. Its strategic theme is: How to achieve growth in harmony with the nature while taking advantage of the Growth Triangle.

1.1 PRESENT CONDITIONS

1.1.1 Physiographic Condition

The Kabupaten Tanjung Jabung, selected as Integrated Development Program (IDEP) area by this Study, is located in the northeast of Jambi province (between 0°45' to 1°40' South and between 102°28' to 104°30' East) and borders on Riau province and Berhala strait on the north, South China Sea on the east, Kabupaten Batang Hari and South Sumatra province on the south, and Kabupaten Bungo Tebo on the west as shown in Figure 1.1.1.

The Kabupaten Tanjung Jabung (IDEP area) comprises two (2) natural regions as defined by Ulrich Scholz (1983), i.e. Eastern lowlands and Peneplain. Broadly speaking, the Eastern lowlands region covers about 80% of the total the IDEP area and is mainly under three (3) Kecamatan; Tungkal Ilir, Muara Sabak and Nipah Panjang. The peneplain region is situated in the eastern end of the IDEP area (under Kecamatan Tungkal Ulu) and occupies about 20% of the total area. These regions are further divided into eight (8) physiographic types as classified by RePPPProT (1988) as shown in Table 1.1.1.

Table 1.1.1 Physiographic Types of the IDEP Area

Natural Region	Physiographic Type	Area (km ²)*	Proportion (%)
Eastern lowlands	Tidal Swamps	248.5	2.3
	Alluvial Plains	3,010.9	27.5
	Swamps (mainly peat)	3,896.9	35.6
	Alluvial Valleys	9.8	0.1
	Terraces	1,474.4	13.5
	Sub-total	8,640.5	79.0
Peneplain	Plains	1,536.5	14.0
	Hills	156.9	1.4
	Mountains	614.6	5.6
	Sub-total	2,308.0	21.0
Total		10,948.5	100.0

Note: *, Planimeter estimates from Land Systems and Land Suitability Map (1:250,000).
Source: RePPPProT, 1988.

1.1.2 Meteorology and Hydrology

The meteorological condition in the IDEP area is relatively uniform and no significant distinction between the natural regions mentioned above are identified. The IDEP area belongs to a tropical rainforest climate, characterized by high and constant temperature and relative humidity throughout the year and moderately high annual rainfall. The annual mean temperature and relative humidity are estimated at 26.5°C and 84%, and the average annual rainfall is about 2,500 mm with relatively dry season from May to August and the heavy rainy season from November to March (PHPA/AWB, 1992).

There are eight (8) rivers in the IDEP area; Tungkal, Betara, Pangkalduri Besar, Mendahara, Lagan, Batang Hari, Air Hitam and Benu, and they are an important fresh water resources for the local people especially in the coastal area. These rivers can be divided into two (2) types; (i) catchment originate in mountainous and hilly areas, and (ii) catchment originate the lowlands swamp area. The former type of rivers, the Tungkal and Batang Hari

ivers, are characterized by stable runoff throughout year and constant sediment transpiration from upper catchment caused by soil erosion. On the other hand, the runoff of the latter type of rivers is decreasing in the dry season and the quality of river water is poor (acid) comparing to the former rivers.

1.1.3 Soil and Land Suitability

The soils in the IDEP area closely correspond to the physiographic types mentioned above. According to RePPPProT (1988), the soils in the IDEP area can be classified as four (4) soil types, i.e. Grey Hydromorphic Soil, Gleisols, Organosols and Podzolic Soil, by the Soil Classification of Soil Research Center, Bogor. Grey Hydromorphic Soil, Gleisols and Organosols are the major soil type in the Eastern lowlands region, while Podzolic soil covers most of the Peneplain region as shown in Table 1.1.2.

Table 1.1.2 Soils in the IDEP Area

Natural Region/ Soil Classification	USDA Soil Great Group (1975)*	Physiographic Type	Area** (km ²)	Proportion (%)
Eastern Lowlands				
Grey Hydromorphic Gleisols	Hydroaquepts	Tidal Swamps	248.5	2.3
	Tropaquepts	Alluvial Plains	3,010.9	27.5
Organosols	Fluvaquepts	Alluvial Valleys	9.8	0.1
		Terraces	1,474.4	13.5
		Swamps	137.3	1.3
		Swamps	3,628.8	33.1
	Troposaprists	Swamps	130.8	1.2
	Tropohemists	Swamps	8,640.5	79.0
Sub-total Peneplain				
Podzolic	Tropudults	Plains	1,258.6	11.5
		Hills	52.3	0.5
		Mountains	614.6	5.6
	Paleudults	Plains	277.9	2.5
		Haplorthox	Hills	104.6
Sub-total			2,308.0	21.0
Total			10,948.5	100.0

Note: *, only major soil great groups are listed from RePPPProT.

**; Planimeter estimates from Land Systems and Land Suitability Map (1:250,000).

Source: RePPPProT, 1988.

Land suitability for wetland rice, rubber, oil palm and coconuts by physiographic type is analyzed on the basis of RePPPProT data. The results show that the lands suitable for wetland rice are found only in the Eastern lowlands region but tree crops can be adapt both Eastern lowlands and Peneplain regions as shown in Table 1.1.3.

In addition, the overlay analysis method by using of the Geographical Information System (GIS) is applied to identify the possible future development lands in the IDEP area. The GIS map using the digital data derived from RePPPProT data is made by the National Agency for Surveys and Mapping (BAKOSURTANAL) in Cibinon as shown in Figure 1.1.2. According to the GIS results, most of all suitable lands in the Eastern lowlands (about 380,000 ha for wetland rice and 450,000 ha for tree crops) are currently in use by paddy fields and coconuts. On the other hand, the suitable lands for tree crops (about 150,000 ha) in the peneplain has been developed only limited areas. Therefore, the possibility for agricultural development in the IDEP area can be classified as follows:

- 1) The key principle for agricultural development in Eastern lowlands is increase in productivity through intensification because there are no room for further reclamation lands for agriculture.

- 2) While, there are large areas for agricultural development in the Penepplain. Therefore, the key principle in this area is increase in productivity through both extensification and intensification.

Table 1.1.3 Land Suitability in the IDEP Area

Physiographic Type	Wetland*	Rubber*	Oil Palm*	Coconuts*
Eastern lowlands (ha)				
Tidal Swamps	0	0	0	0
Alluvial Plains	301,090	301,090	301,090	301,090**
Swamps	0	0	0	0
Alluvial Valleys	980	980	980	0
Terraces	73,880	147,440	147,440	147,440
Sub-total	375,950	449,510	449,510	448,530
Penepplain (ha)				
Plains	0	153,650***	153,650***	153,650***
Hills	0	0	0	0
Mountains	0	0	0	0
Sub-total		153,650	153,650	153,650
Total (ha)	375,950	603,160	603,160	602,180
% in the IDEP area	34.3	55.1	55.1	55.0

Notes: *; Planimeter estimates from Land Systems and Land Suitability Map (1:250,000).

**; suitable for estate only.

***; including area suitable for estate only (27,790 ha).

Source: RePPPProT, 1988.

1.1.4 Land Use

Land use pattern in the IDEP area is also closely related to the natural regions and physiographic types as follows:

(1) Tidal Swamps

These areas are still largely covered by mangrove forest due to their high salt and anoxia tolerance characteristics. The mangrove forest, however, is degradation fast due to extensive human activities. It is considered that conservation and management of mangrove forest in these areas are important because of their functions for coastal protection from waves, food supply to shrimps and fish, etc.

(2) Alluvial Plains, Alluvial Valleys and Terraces

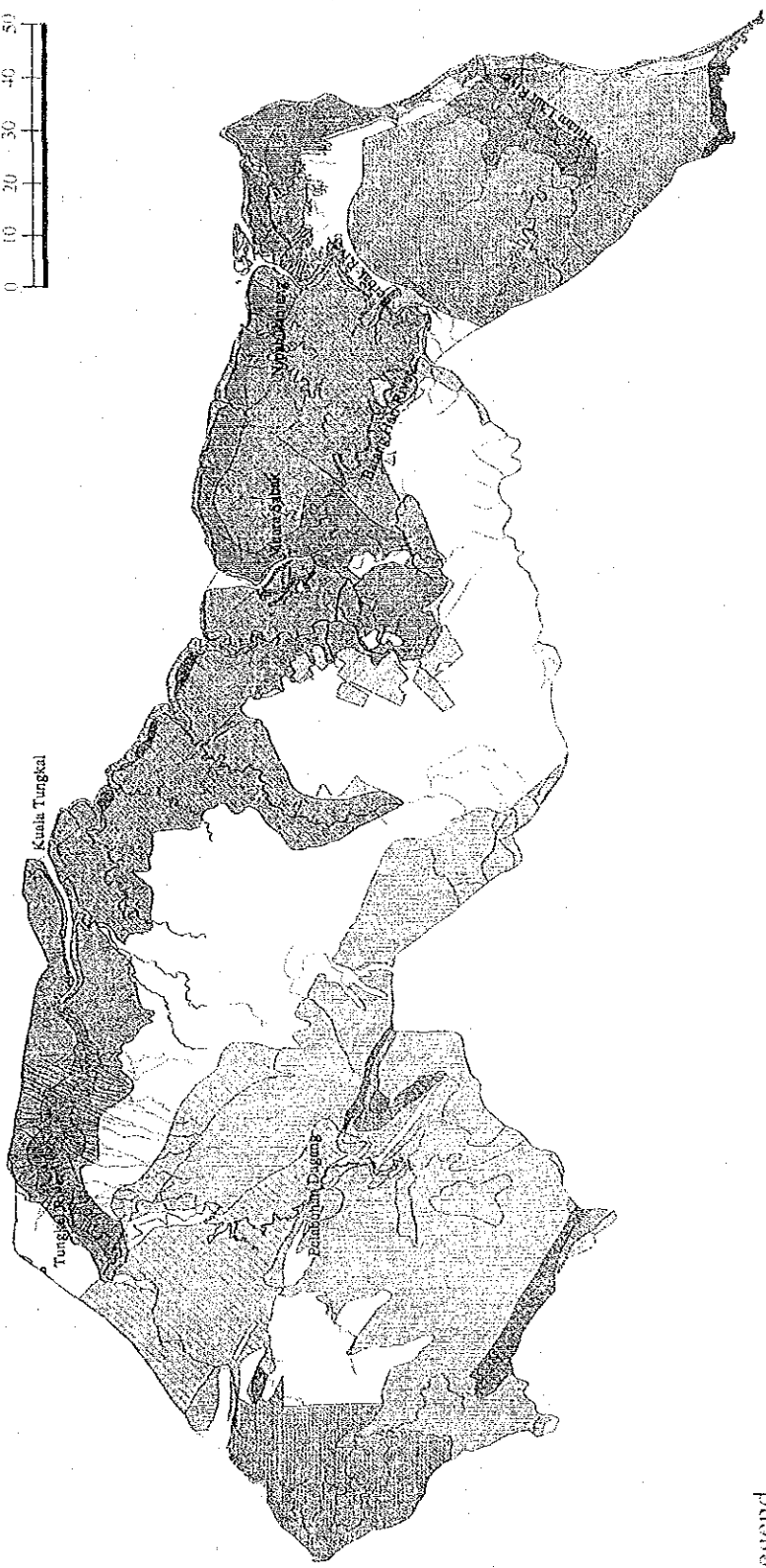
From the first, these areas were covered by tropical rain forest. However, the coverage of forest has been rapidly reduced since the beginning of new settlements in 1950s and the most of forests is converted into agricultural land for mainly producing of rice and coconuts. And the function of reclaimed agricultural land plays an important roll (especially rice production) in the economy of Jambi province.

(3) Swamps

The dominant feature of vegetation in these areas are still tropical rain forest because of poor soil conditions (mainly covered by peat which is not suitable for agricultural production activities) and also a sparsely populated condition. These areas have not only wood producing function but also environmental conservation function through protection of an internationally important peat and fresh water swamp forests in the Berbak Wildlife Reserve.

(4) Plains, Hills and Mountains

Source: Prepared and provided by PUSBINSIG (The Center of GIS Management) - BAKOSURTANAL (National Agency for Surveys and Mapping) using ARGINFO software installed in VAX 8350. The digital data used were derived from Repraort (Regional Physical Planning Programme for Transmigration) data, which were interpreted from Landsat MSS 4 and 5 false color composite (March 3, 1985, and April 23, 1985).



Legend

- ▨ Suitable Area for Rubber & Coconuts
- ▩ Suitable Area for Wetland & Rubber
- ▧ Suitable Area for Wetland, Rubber & Coconuts
- ▦ Currently in Use by Wetland Crops
- ▥ Currently in Use by Free Crops
- ▤ Protection Forest, Natural Reserve & Conservation Forest Areas

Figure 1.1.2 Land Use Pattern and Land Suitability
Tanjung Jabung

As a result of poor access and low population density (9.3 person/km²), forest covers the most of these areas except the areas along the main roads (planted rubber by the small holders) and the area developed by large scale estate. At present, the major functions of these areas are both production of wood and estate crops. In addition to these functions, the function for receiving of transmigrants is expected to be important.

1.1.5 Administration

The whole IDEP area is administratively under Kabupaten Tanjung Jabung consisting four (4) Kecamatan; Tungkal Ulu, Tungkal Ilir, Muara Sabak and Nipah Panjang, and are further divided into 103 Desa. The IDEP area totals about 10,950 km², accounting for about 20% of Jambi province as shown in Table 1.1.4.

Table 1.1.4 Administration of the IDEP Area

Name of Kecamatan	Name of Capital	Number of Desa	Area (km ²)	Proportion (%)
Tungkal Ulu	Pelabuhan Dagan	23	3,199.8	29.2
Tungkal Ilir	Kuala Tungkal	20	2,320.3	21.2
Muara Sabak	Muara Sabak	34	2,883.4	26.3
Nipah Panjang	Nipah Panjang	26	2,545.0	23.3
Total (Jambi)	(Jambi)	103 (956)	10,948.5 (53,435.7)	100.0

Source: Tanjung Jabung Dalam Angka 1990.

1.1.6 Demographic Condition

Estimated demographic condition of the IDEP area is shown in Table 1.1.3. In 1990, the total population is estimated at about 364,000 (male 187,200 and female 176,800) and the number of household was about 78,100 with average family size of 4.7 persons. Most populations are concentrated in and around the Kecamatan capitals of Pelabuhan Dagan, Kuala Tungkal, Muara Sabak and Nipah Panjang. The overall population density is low (33 person/km²) comparing to Jambi province (38 person/km²) and the Southern Sumatra region (71 person/km²). Particularly in Kecamatan Tungkal Ulu, population density is only 7.5 person/km² although the high annual growth rate (7.5%) during last 10 years. It is considered that there are much rooms for receiving transmigrants in Kecamatan Tungkal Ulu.

Table 1.1.5 Demographic Conditions of IDEP Area

Item	Unit	Tungkal Ulu	Tungkal Ilir	Muara Sabak	Nipah Panjang	Total
Population						
1990	No.	29,586	123,373	127,512	83,565	364,036
1980	No.	16,901	96,395	97,090	89,750	300,136
1971	No.	12,617	77,331	76,418	48,324	214,690
Annual Growth Rate						
1980 - 1990	%	7.51	2.80	3.13	- 0.69	2.13
1971 - 1980	%	3.77	2.74	3.01	9.53	4.42
Population Density (1990)	No./km ²	9.25	53.17	44.22	32.83	33.25
Household (1990)	No.	6,780	26,024	27,990	17,268	78,062
Family per Household (1990)	No.	4.36	4.74	4.56	4.84	4.66

Source: Tanjung Jabung Dalam Angka 1990.

1.1.7 Economic Condition

The physiographic zone have historically been the most significant determinants of agricultural and settlement patterns in the IDEP area, and these zones are highly relevant to the economic activities of the IDEP area. One of the major characteristics of economy in the IDEP area is the importance of primary sector (production of rice, estate crops, shrimp, fish and wood) rather than secondary sector (processing of primary products or services). The main economic sector contributed to the IDEP area is agriculture (including both food and estate crops) followed by marine fishery, forestry and industry. In addition, the IDEP area has become an important area as a gateway for export of commodities from the Region/Province to the "Growth Triangle" (Singapore-Johor-Riau) in the recent years.

(1) Agriculture

The agricultural activities in the IDEP area can be clearly classified by the natural region, (i) rice and coconuts in the Eastern lowlands and (ii) rubber and oil palm in the Peneplain. The rice production is major economic activities in the IDEP area especially lowlands swamp areas. The rice planted area covers about 83,500 ha (28% of the swamp lands suitable for rice cultivation) in 1990. The area produced about 275,000 ton of dried paddy, accounting for about half of rice production in Jambi province. It can be said that Jambi province largely relies on rice production of the IDEP area. In addition, the tree crops (coconuts, rubber and oil palm) are also important in economy. Coconuts extends in the tidal lowlands swamp, while rubber and oil palm are mainly planted in the hilly or mountainous area. Both coconuts and rubber are produced by small holders and oil palm is produced by large estate in the recent years.

Table 1.1.6 Area and Production of Major Crops in the IDEP Area

Item	Tungkal Ulu	Tungkal Ilir	Muara Sabak	Nipah Panjang	Total
Rice					
Wetland					
Area Planted (ha)	2,626	11,479	35,400	34,030	83,535
Production (ton)	6,405	33,966	115,156	115,034	270,561
Yield (ton/ha)	2.4	3.0	3.3	3.4	3.2
Dryland					
Area Planted (ha)	2,375	0	50	0	2,425
Production (ton)	4,032	-	86	-	4,118
Yield (ton/ha)	1.7	-	1.7	-	1.7
Coconuts					
Area Planted (ha)	24	57,004	33,028	9,759	99,815
Production (ton)	11	57,216	35,988	2,149	95,364
Yield (ton/ha)	0.5	1.0	1.1	0.2	1.0
Rubber					
Area Planted (ha)	21,966	1,158	2,629	149	25,902
Production (ton)	8,449	463	1,189	37	10,138
Yield (ton/ha)	0.4	0.4	0.5	0.3	0.4
Oil Palm					
Area Planted (ha)	2,250	0	0	0	2,250
Production (ton)	-	-	-	-	-
Yield (ton/ha)	-	-	-	-	-

Source: Tanjung Jabung Dalam Angka 1990.

(2) Fisheries

Marine fisheries largely contributes to the IDEP area economy too. Most of all villagers in the coastal area are engaged in marine fisheries and its related works. The production (mainly coastal fish and shrimps) has been increased year by year with 2.6%

average annual growth rate from 1986 to 1990, and is estimated at about 17,200 ton in 1990 as shown in Table 1.1.7. However, the decreasing of marine fishery production is apprehensive due to over-catching in the near future.

Table 1.1.7 Marine Fishery Production in the IDEP Area

Year	Production (ton)	Growth Rate (%)
1986	15,567	-
1987	15,791	1.4
1988	16,132	2.2
1989	16,218	0.5
1990	17,243	6.3
Average	16,190	2.6

Source: Tanjung Jabung Dalam Angka 1990.

(3) Industry

Only a limited number of industries (mainly processing primary commodities) are operated in the IDEP area and located along the rivers due to easy access. Wood processing industries such as sawmill and plywood industries are mainly situated in Muara Sabak and Pelabuhan Dagang. Production of coconuts are mainly processed into copra in local level for supply to some coconuts oil processing industries. For shrimps and fish, one processing facility with cold storage is operated in Kuala Mendahara for export.

(4) Gateway

In the IDEP area, there are two (2) major sea ports; Kuala Tungkal and Muara Sabak, as a main gateway to "Growth Triangle" as well as other countries. At present, major commodities for export from these port are wooden products (plywood, sawn timber, particles board, etc.) and fishery products (mainly shrimps). The handled export volume and value by these sea ports in 1991 are estimated at 304,500 ton and US\$ 161 million respectively as shown in Table 1.1.8. In addition, the jet wheel passenger service connects Kuala Tungkal with Batam island twice a day.

Table 1.1.8 Export through Kuala Tungkal and Muara Sabak Sea Ports

Sea Port/Commodity	Volume (ton)	Value (1,000 US\$)
Kuala Tungkal sea port		
Fishery Product	981.5	2,579.3
Wooden Product	87,549.4	54,444.9
Others	4.5	17.0
Sub-total	88,535.4	57,041.2
Muara Sabak sea port		
Fishery Product	0.0	0.0
Wooden Product	215,422.8	103,333.1
Others	588.0	768.7
Sub-total	216,010.8	104,101.8
Total		
Fishery Product	981.5	2,579.3
Wooden Product	302,972.2	157,778.0
Others	592.5	785.7
Total	304,546.2	161,143.0

Source: Provincial Statistic Office.

1.1.8 Transportation

The transportation system of the IDEP area can be divided into (i) the network of earth and asphalt paved roads, and (ii) the waterway system using rivers and drainage canals.

(1) Road Network

By reason of physiographic condition (e.g., large extent of swamps and complicated drainage pattern), road network in the IDEP area is not fully equipped. Even now many isolated villages in the coastal area are not yet connected by road and can only be reached by boats. On the other hand, the villages already connected by roads either earth or paved are sometime isolated during the rainy season due to poor management. Only the road connecting from Jambi city to Kuala Tungkal township, is good asphalt paved road having five (5) ton loading capacity. This poor road condition is one of the major constraints for development in the IDEP area.

Table 1.1.9 Road Density in IDEP Area

Item	Total Length of Road (km)	Road Density (m/km ²)
IDEP area	828	81
Jambi	5,451	102
Southern Sumatra	26,720	125
Northern Sumatra	49,416	190
Sumatra	76,136	161
Java	79,769	603
Indonesia	244,668	127

Source: 1) Provincial PU BINA MARGA Office.
2) Provincial Dalam Angka.

(2) Waterway System

The waterways (e.g. rivers, drainage canals and coastal seas) are still an important role of transportation for most of the villages in the IDEP area. The Batang Hari and Tungkal rivers have been performed as one of the main gateway to both Jambi province and the Region, and transportation of export commodities such as wood logs, wood products and rubber is still largely depending on these rivers. The waterways are also used as passengers and daily goods movements from Jambi city to villages in the IDEP area with smaller boats. During the rainy season, however, access to some villages along the coast where can only be reached by boats, is difficult due to high waves caused by the North-West monsoon and these villages stay isolated condition for months.

1.1.9 Electricity

At present, only about 7% of households are received electricity from PLN (Perusahaan Listrik Negara) in the IDEP area as shown in Table 1.1.10. This low electrification ratio is mainly caused by the geographical conditions (about 80% of the IDEP area is swamps) and scattered villages. Therefore, electrical system interconnecting between villages and/or towns is hardly developed. However, most of villages in the IDEP area work with their own small diesel generators.

Table 1.1.10 Situation of Electrification in IDEP Area

Kecamatan	No. of Unit	Household Served (No.)	Electrification Rate (%)
Tungkal Ulu	0	0	0.0
Tungkal Ilir	5	4,258	16.4
Muara Sabak	2	602	2.2
Nipah Panjang	1	727	4.2
Total	8	5,587	7.2

Source: PLN Branch Office in Jambi.

1.1.10 Telecommunication

A telephone network is absent in the IDEP area due to the same reasons of electrification, except the Kabupaten capital of Kuala Tungkal township connected with other areas by using a satellite network system.

1.1.11 Water Supply

Domestic water supply is one of the major problems in the IDEP area especially isolated villages in the swamp and coastal areas. The public water supply system is currently existing in the five (5) towns/villages; Merlung, Kuala Tungkal, Muara Sabak, Nipah Panjang and Rantau Rasau, with a service ratio of about 9% (lower comparing to the provincial figure of 12%) as shown in Table 1.1.11. In addition, 13 towns/villages are under-planning to be provided water supply system during REPELITA-V. The remaining villages are still obliged to depend on river/canal water or rainfall reserved by drum for their drinking purpose and even though the quality of water deteriorate (salty or acidity) during dry season, the villagers have to use the water with due caution.

Table 1.1.11 Water Supply Condition in IDEP Area

Kecamatan/ Province	No. of Unit	No. of Persons Served (No.)	Service Ratio (%)
Tungkal Ulu	1 (3)	2,160	7.3
Tungkal Ilir	1 (5)	16,580	13.4
Muara Sabak	1 (3)	4,235	3.3
Nipah Panjang	2 (3)	8,275	9.9
Total	5 (13)	31,250	8.6
Jambi	- (-)	239,882	11.9

Note: Number of units in the parenthesis is under-planning.

Source: PU CIPTA KARYA, Jakarta.

1.1.12 Health

There is no sanitation facility in the IDEP area except the water treatment facilities. By reason of this, most of the population are suffered by water-borne diseases because they utilize the river/canal water for drinking, bathing, washing and defecating purposes at the same time. About 13,730 disease affected persons (33% of total) are classified as skin diseases and 21% as Influenza, 13% as Stomach Ulcer and 9% as Diarrhoea (Tanjung Jabung Dalam Angka 1990). The number of doctors, midwives, hospitals and clinic in the IDEP area is shown in Table 1.1.12. Even health care services are available in Desa level, sometime utilization rate is low because of difficult access to services due to poor transportation network and/or low quality of services provided.

Table 1.1.12 Health Care in IDEP Area

Kecamatan	No. of Doctors	No. of Midwives	No. of Hospital	No. of Clinic
Tungkal Ulu	2	4	0	8
Tungkal Ilir	3	6	1	25
Muara Sabak	7	10	1	30
Nipah Panjang	5	7	0	22
Total	17	27	2	85

Source: Tanjung Jabung Dalam Angka 1990.

1.1.13 Education

There are sufficient primary schools in the IDEP area with an adequate number of teachers and the estimated educational ratio of primary school is high (about 96%). However, the educational ratio is dramatically decrease; 21% for Junior high school and only 9% for Senior high school, mainly due to lack of facilities which can be realized the potential students school ratio in Table 1.1.13. It is considered that these low educational rate of higher education become one of the major issues for development in the IDEP area.

Table 1.1.13 Educational Condition in IDEP Area

Item	Primary	Junior High	Senior High
Number of School Facilities	377	39	11
Number of Potential Student*	61,442	25,570	20,881
Number of Enrolment	58,894	5,463	1,933
Educational Ratio (%)	95.9	21.4	9.3
Number of Teacher	2,881	489	217
Potential Student per School	163.0	655.6	1,898.3
Student per School	156.2	140.1	175.7
Student per Teacher	20.4	11.2	8.9
Teacher per School	7.6	12.5	19.7

Note: *; Estimated from age distribution data.

Source: Tanjung Jabung Dalam Angka 1990.

1.1.14 Cultural Groups

A key theme of cultural groups in the IDEP area is ethnic mixing from a wide variety of original, spontaneous migrant and government-sponsored groups, each associated with distinctive coastal or wetland usage patterns.

- 1) Malay: Original inhabitants along river levees and inland areas; adat is diffuse with emphasis on Islam. Primary occupations are trading, agriculture, traditionally small scale wetland rice or tree crop (coconut) production, later in wetland transmigration schemes; and some fishing.
- 2) Orang Laut: Small numbers only, focus on fishing.
- 3) Kubu: Small hunter gatherer bands with traditional beliefs still thought to inhabit the Berbak Wildlife Reserve.
- 4) Banjarese: Early 20th Century migrants to Kuala Tungkal from South Kalimantan. Use tidal swamp reclamation for agriculture, recently focussing around Muara Sabak.

- 5) Bugis: Migrants from South Sulawesi in 1950s and 60s. Bugis have long been extensive travellers through the archipelago, associated with coastal areas and with Islam. In the IDEP area, Bugis fish and farm, moving from north to south coast in well-coordinated family groups using Banjarese-style tidal swamp reclamation methods as a speculative activity for rice and coconut production. Some have entered transmigration schemes.
- 6) Javanese/Sundanese: Some families arrived spontaneously pre-World War II. Official transmigrants arrived between 1968 (Rantau Rasau) and late 1980s (Rantau Kanja), using large scale irrigated tidal rice and secondary food crop (palawija) cultivation; and some in PIR-TRANS schemes for tree crops, e.g. in Kecamatan Tungkal Ulu.
- 7) Other groups: Chinese (trading centres), Minangkabau, Batak, etc.

1.2 KABUPATEN TANJUNG JABUNG IN PERSPECTIVE

1.2.1 Roles in the Regional and Provincial Development

The Tanjung Jabung IDEP area has some unique development potentials which can make an important role to the regional and provincial development objectives as mentioned below. The roles of the IDEP area are:

- 1) Rice bowl in Jambi province: The IDEP area currently produce about half of provincial rice production. With the implementation of the IDEP, the increasing of rice production will be expected mainly from the existing rainfed wetland rice areas in the Eastern lowlands through intensification. This surplus of rice will probably market to the Batam island as well.
- 2) Agro-based raw material supply: The production of the tree crops such as coconuts, rubber and oil palm is important as rice. Coconuts extends in the tidal lowlands swamp, while rubber and oil palm are upland area. The production will be expected to increase through intensification for coconuts and rubber, and extensification for oil palm with the IDEP. The IDEP area will supply this production (agro-based raw materials) to the industrial center in Jambi city which will emerge as an important agro-industrial center.
- 3) Marine fishery base: Marine fishery largely contributes to the both IDEP area and provincial economy at present. The decreasing of marine fishery production, however, is apprehensive due to over-catching in the near future. With development of sustainable marine fisheries through the IDEP, this sector will continuously contribute to the IDEP area and provincial economy.
- 4) Gateway function: The IDEP area has an advantage of good geographical location e.g. long the coastal line and close to "Growth triangle". The IDEP area currently has a function of gateway to "Growth triangle" and this gateway function will be strengthened by the transportation system improvement with realization of the IDEP.
- 5) Recipient of transmigrants: There is less potential for the transmigration in the lowlands swamp area because most suitable lands are already developed but the sparse populated western hilly area remains much room for receiving transmigrants.
- 6) Environmental conservation: There are two (2) distinct types of ecosystems in the IDEP area; mangrove forest in coastal areas and swamp (both peat

and fresh-water) forests in eastern lowlands. There is a pressing need for establishing sound mangrove and swamp forests management systems.

1.2.2 Issues

The issues identified in the IDEP area include:

- 1) Betterment of the road network,
- 2) Development of isolated villages,
- 3) Development of areas below the poverty line,
- 4) Improvement of water supply and environmental sanitation,
- 5) Land tenure in both wetlands and inland, and
- 6) Conservation in the mangrove and swamp forests.

1.2.3 Provincial and IDEP Objectives

The Region's long-term development goals as the guiding principles proposed by this Study are (i) Growth with equity and (ii) Growth with environmental sustainability. In line with the above goals, concrete objectives for the Region to achieve by 2010 are set as follows:

- 1) Integrate itself into the Java-Sumatra axis,
- 2) Increase value added and create employment,
- 3) Reduce disparities within the Region, and
- 4) Establish environmental management systems.

Provincial REPELITA-V is a medium-term plan but it indicates the direction in long-term development as well. Therefore, the long-term development objectives in Jambi province are set on the basis of REPELITA-V with some modification by the Team in consideration of the Region's long-term development objectives. They are:

- 1) Agricultural base for the "Growth triangle",
- 2) Agricultural base for the "Sumatra gateway triangle",
- 3) Jambi city; secondary agro-industrial center,
- 4) Connection point to Northern Sumatra,
- 5) Principal caretaker of Kerinci Seblat National Park, Batang Hari river and Berbak Natural Reserve, and
- 6) Recipient of transmigrants.

Some provincial objectives (items 1, 5 and 6) basically apply to the Tanjung Jabung IDEP. Among of these, in view of its geographical location (e.g. long the coastal line and close to "Growth triangle"), present economic activities, future development potential and the roles in the Region/province, emphasis must be on an agricultural (including fishery) base for the "Growth triangle" and the industrial center of Jambi city in the IDEP. Moreover, there are a number of issues strategic to the IDEP area. Major issues are lack of road network, isolated villages and poverty. It will be urgently necessary to cope these issues effectively. Consequently, the Tanjung Jabung IDEP's objectives are set as:

- 1) Agricultural and fishery base aiming to the "Growth triangle",
- 2) Sustainable development of swamplands,
- 3) Strengthening of linkage to the other areas,
- 4) Betterment of access to the isolated areas, and
- 5) Poverty alleviation.

1.3 DEVELOPMENT STRATEGY FOR KABUPATEN TANJUNG JABUNG

1.3.1 Main Theme of the Tanjung Jabung IDEP

From the view point of the potentials and roles of the IDEP area, it is expected to play in the regional/provincial development, the Tanjung Jabung IDEP (long-term plan) have to emphasis on economic growth. On the other hand, conservation of the distinct types of forest ecosystems in the IDEP area is also important in global/national/regional point of view.

In the above reasons, "**Growth in Harmony with the Nature**" is proposed as the main theme as well as the catch phrase of the Tanjung Jabung IDEP.

1.3.2 Development Strategy of IDEP

The development concept integrating the roles in the Region/province, objectives and issues of the IDEP area, is drawn and schematically shown as Figure 1.3.1. To clarify the basic spatial structure of the economy in the IDEP area, the concept only focuses on the physiography which is closely related to the present economic activities, Jambi city and Kecamatan capitals (some of which are also industrial centers) and transportation linkages. On the basis of the development concept, the IDEP area consists of "coastal zone", "lowlands swamp zone", "hilly zone", "urban zone" and "industrial centers" at Muara Sabak and Pelabuhan Dagang.

The core of this concept is the dual development axes which will strengthen a gateway function of the IDEP area relative to the "Growth triangle" and closer integration to the provincial capital, which will emerge as an important agro-industrial center. The development concept for the IDEP area is proposed as follows:

- 1) In the short run, the western development axis extending from Jambi city to Kuala Tungkal township, will mainly carry the primary commodities (agriculture, fishery and wooden products) from both within and outside the IDEP area to the "Growth triangle" and supply the agro-based raw materials to the industrial center in Jambi city.
- 2) In the long run, with the construction of a sea port at Muara Sabak and a road connecting the sea port to Jambi city, the eastern development axis will be formed to expand the export oriented gateway function not only in relation to the "Growth triangle" but to other destinations.

To achieve the above development concept as well as to cope the major issues in the IDEP area (lack of road network, isolated villages and poverty), the development strategies of each zone are formulated on the basis of the present conditions, development potentials and its roles as follows:

(1) Coastal Zone

The potentials in the coastal zone are marine fishery and gateway function. On the other hand, the issues identified in this zone are conservation of mangrove ecosystem and betterment access to the isolated villages. In this connection, the main roles of coastal zone is set as (i) marine fishery base aiming at the growth triangle, (ii) gateway to the growth triangle and (iii) conservation of mangrove ecosystem. In line with above, the main development strategies are formulated as follows:

- 1) to develop sustainable marine fisheries,
- 2) to improve and develop the sea ports,
- 3) to increase and improve road networks,
- 4) to develop control and management system of mangrove forest,
- 5) to improve social infrastructures in the isolated villages, and
- 6) to improve living standard through above activities

**Integrated
Development
Program**

TANJUNG JABUNG

**"Growth in
Harmony with
Nature"**

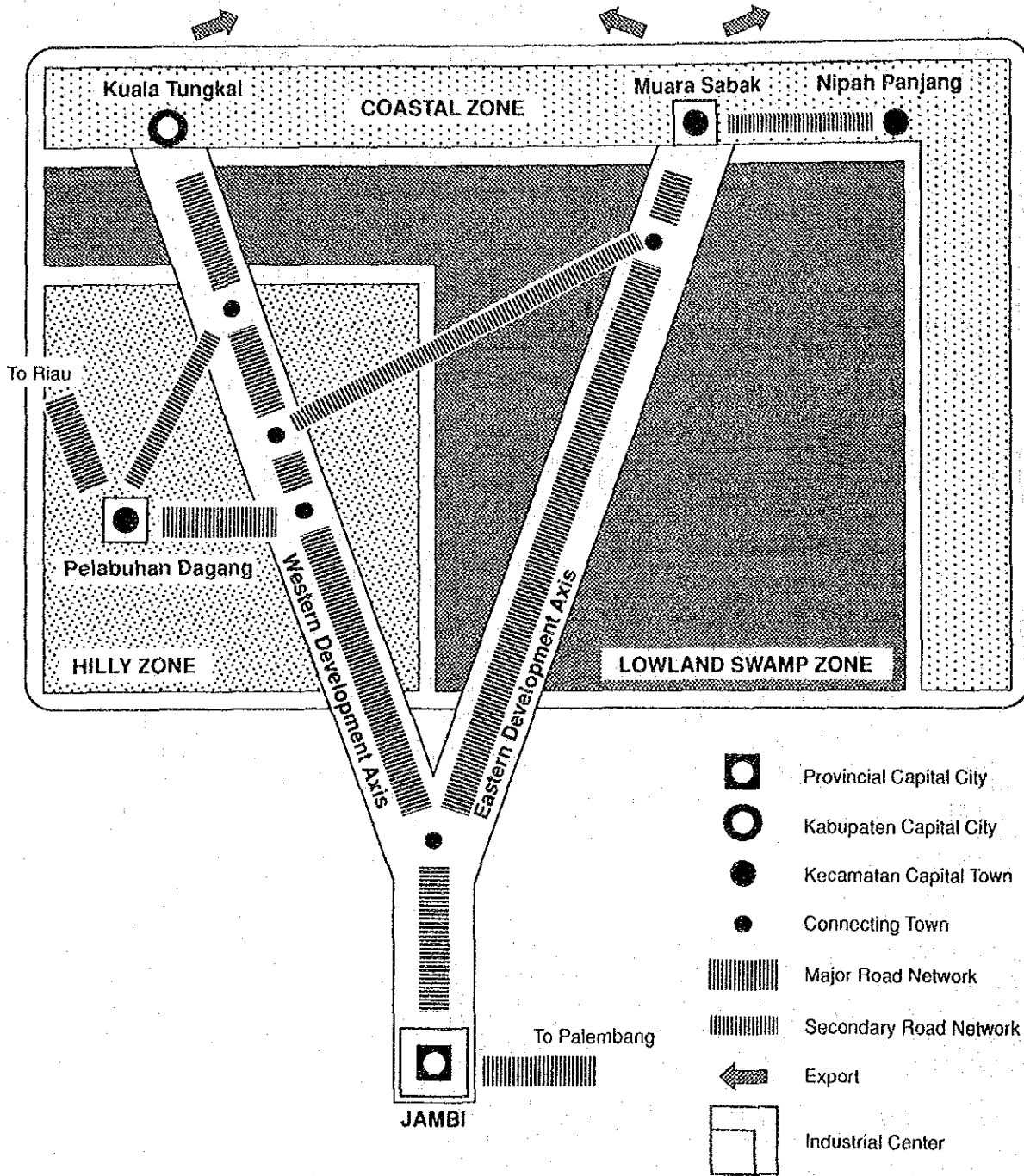


Figure 1.3.1 Schematic Concept of Development

(2) Lowlands Swamp Zone

The potentials in the lowlands swamp zone are agriculture development through intensification. On the other hand, the issues identified in this zone are conservation of swamp forests ecosystem, betterment access to the isolated villages and poverty alleviation. In this connection, the main roles of lowlands swamp zone is (i) agricultural (food crops and coconuts) base aiming at the growth triangle, (ii) rice bowl in Jambi province and (iii) conservation of swamp forest ecosystem. In line with above, the main development strategies are formulated as follows:

- 1) increase agricultural production through intensification,
- 2) develop sustainable swamp agriculture,
- 3) increase and improve road networks,
- 4) protect the both unique fresh water and peat swamp ecosystem,
- 5) improve social infrastructures in the isolated villages, and
- 6) improve living standard through above activities

(3) Hilly Zone

The potentials in the hilly zone are agriculture (estate crops) development through both extensification and intensification. On the other hand, the issues identified in this zone are betterment access to the isolated villages and poverty alleviation. In this connection, the main roles of hilly zone is (i) agricultural (estate crops) base aiming at the growth triangle and Jambi industrial center and (ii) recipient of transmigrants. In line with above, the main development strategies are formulated as follows:

- 1) develop large scale estate,
- 2) increase small holder tree crop production,
- 3) increase and improve road networks,
- 4) promote transmigration,
- 5) improve social infrastructures in the isolated villages, and
- 6) improve living standard through above activities

1.4 TANJUNG JABUNG INTEGRATED DEVELOPMENT PLAN

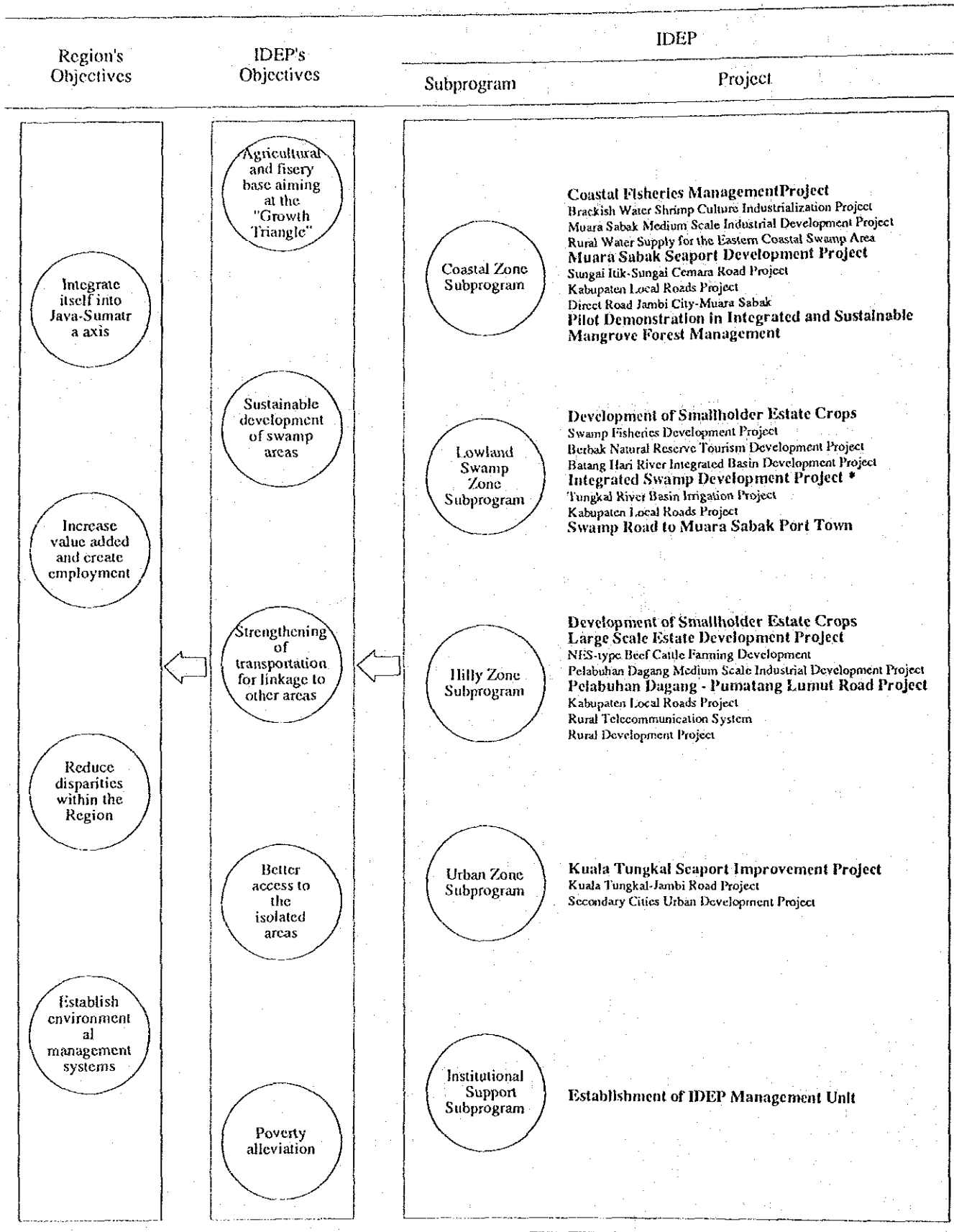
In the Kabupaten Tanjung Jabung, the economic activities are clearly delineated by the physiographic zones which are closely related to the historical settlement pattern or community formation. Even now these zones, however, are not properly integrated in each other. Therefore, an area-wise development approach to integrate the distinct zones applies to the Tanjung Jabung IDEP. The subprograms identified are:

- 1) Coastal zone subprogram,
- 2) Lowlands swamp subprogram,
- 3) Hilly zone subprogram, and
- 4) Urban zone subprogram.

In addition, an institutional support subprogram is proposed because the IDEP is an inter-sectoral program and the establishment of inter-governmental and inter-provincial coordinating body is crucial for promotion, coordinating, management and monitoring of the IDEP. Identified subprograms and their logical relation are shown in Figure 1.4.1. Under these subprograms, 29 projects are identified in Tanjung Jabung IDEP; nine (9) projects for Coastal zone subprogram, eight (8) projects for Lowlands swamp zone, eight (8) projects for Hilly zone, three (3) projects for Urban zone, and one (1) project for Institution subprogram.

1.4.1 Coastal Zone Subprogram

Figure 1.4.1 Objectives, Subprograms and Projects : Tanjung Jabung IDEP



Note: *, On-going Project

This aims to achieve the marine fishery base to the growth triangle, the gateway to the growth triangle and the conservation of mangrove ecosystem, and to cope the major issues. The projects are listed below, with key project indicated by underline.

- 1) Coastal Fisheries Management Project (B-3, B-4 and B-5)
- 2) Brackish Water Shrimp Culture Industrialization Project (B-8)
- 3) Muara Sabak Medium Scale Industrial Development Project (C-14, C-32, C-33 and C-34)
- 4) Rural Water Supply for the Eastern Coastal Swamp Area (F-40)
- 5) Muara Sabak Seaport Development Project (G-25)
- 6) Sungai Itik-Sungai Cemara Road Project (G-46)
- 7) Kabupaten Local Roads Project (G-46)
- 8) Direct Road Jambi City-Muara Sabak (G-48)
- 9) Pilot Demonstration in Integrated and Sustainable Mangrove Forest Management (J-4)

1.4.2 Lowlands Swamp Zone Subprogram

This aims to achieve the agricultural (food crops, vegetables and coconuts) base to the growth triangle, the rice bowl in Jambi province and the conservation of swamp forest ecosystem, and to cope the major issues. The projects are listed below, with key project indicated by underline.

- 1) Development of Smallholder Estate Crops (A-13)
- 2) Swamp Fisheries Development Project (B-18)
- 3) Berbak Natural Reserve Tourism Development Project (E-4)
- 4) Batang Hari River Integrated Basin Development Project (F-1)
- 5) Tungkal River Basin Irrigation Project (F-5)
- 6) Integrated Swamp Development Project (F-8)
- 7) Kabupaten Local Roads Project (G-46)
- 8) Swampland Road to Muara Sabak Port Town (G-47)

1.4.3 Hilly Zone Subprogram

This aims to achieve the agricultural (estate crops) base aiming at the growth triangle and Jambi industrial center and the recipient of transmigrants, and to cope the major issues. The projects are listed below, with key project indicated by underline.

- 1) Development of Smallholder Estate Crops (A-13)
- 2) Large Scale Estate Development Project (A-17)
- 3) NES-type Beef Cattle Farming Development (A-20)
- 4) Pelabuhan Dagang Medium Scale Industrial Development Project (C-20, C-32, C-33 and C-34)
- 5) Pelabuhan Dagang-Pumatang Lumut Road Project (G-45)
- 6) Kabupaten Local Roads Project (G-46)
- 7) Rural Telecommunication System (H-8)
- 8) Rural Development Project (I-25)

1.4.4 Urban Zone Subprogram

This aims to achieve the gateway to the growth triangle. The projects are listed below, with key project indicated by underline.

- 1) Kuala Tungkal Seaport Improvement Project (G-27)
- 2) Kuala Tungkal-Jambi Road Project (G-46)
- 3) Secondary Cities Urban Development Project (I-4)

1.4.5 Institutional Support Subprogram

This aims to promote, coordinate, manage and monitor of the IDEP. The key project indicated by underline is listed below.

1) Establishment of IDEP Management Unit (K-1)

The proposed implementation schedule of the Tanjung Jabung IDEP projects with estimated costs is shown in Figure 1.4.2. The general layout plan of the Tanjung Jabung IDEP is illustrated in Figure 1.4.3.

1.5 DESCRIPTION OF KEY PROJECTS

Among of 29 projects, eleven (11) projects are selected as key projects due to their importance to Tanjung Jabung IDEP. There are three (3) projects for Coastal zone subprogram, three (3) projects for Lowlands swamp zone, three (3) projects for Hilly zone, one (1) project for Urban zone, and one (1) project for Institution subprogram.

1.5.1 Coastal Zone Subprogram

In the Coastal zone, three (3) key projects are identified such as (i) Coastal Fisheries Management Project, (ii) Muara Sabak Seaport Development Project, and (iii) Sustainable Mangrove Forest Management Project. Pre-feasibility study of these key projects has been done by this Study.


(1) Coastal Fisheries Management Project


- a) Code Number: B-3, B-4 and B-5
- b) Executing Agency: Directorate General of Fisheries, Ministry of Agriculture
- c) Objectives:
 - i) to mitigate the excessive fishing activity in near shore, which may lead to resource depression, and control coastal fisheries resources through adoption of appropriate integrated resource management plan.
 - ii) to upgrade small-scale fishermen with creation of new fishing grounds and conversion into aquaculture.
- d) Project Description:
 - i) Phase I: Fishery resources inventory management and enhancement.
 - Bio-geographical, oceanographical, socio-economic, legal and institutional studies,
 - Preparation of data base inventory, and
 - Preparation of resource management plan.
 - ii) Phase II: Research and Implementation
 - Component 1: Artificial Reef Installation
 - selection of new fishing grounds to be created and sanctuary area and season to be set up in terms of resource conservation, based on the result of Phase I Study.
 - designing of most appropriate artificial reef to be installed.
 - construction and installation of model artificial reef.
 - observation of fish aggregating effect and socio-economic return.
 - Component 2: Aquaculture Demonstration
 - construction of aquaculture demonstration farms, i.e. brackish water shrimp pond culture, shellfish culture, at


Figure 1.4.2 Phasing of IDEP Projects: Tanjung Jabung IDEP

Sub-program	Project 1) No.	Project 1) Title	Phasing 2)													Tentative Cost 3) (US\$ mil)							
			Repelita VI			Repelita VII			Repelita VIII - IX														
			94	95	96	97	98	99	00	01	02	03	04	05	06		07	08	09	10	11	12	13
Coastal Zone	B-3,4,5	Coastal Fisheries Management																					9.0
	B-8	Brackish Water Shrimp Culture																					24.0
	C-14,32,33,34	Muara Sabak Medium Scale Industry																					15.4
	F-40	Rural Water Supply for the Eastern Coast																					3.7
	G-25	Muara Sabak Seaport Development																					72.2
	G-46	Sungai Itik-Sungai Cemara Road Project																					2.0
	G-46	Kabupaten Local Roads																					1.5
	G-48	Direct Road Jambi City-Muara Sabak																					18.5
	J-4	Mangrove Forest Management																					2.7
		Sub-total																					149.0
Lowland Swamp Zone	A-13	Smallholder Estate Crops																					4.4
	B-18	Swamp Fishery Development Project																					22.0
	E-4	Berbak National Park Tourism																					5.0
	F-1	Batang Hari Integrated Basin Development																					5.2
	F-5	Tungkal River Basin Irrigation																					12.0
	F-8	Integrated Swamp Development																					34.5
	G-46	Kabupaten Local Roads																					1.5
	G-47	Swampland Road to Muara Sabak																					5.0
		Sub-total																					89.6
Hilly Zone	A-13	Smallholder Estate Crops																					4.5
	A-17	Large Scale Estate Development																					80.5
	A-20	NIS-Type Beef Cattle Farming																					2.5
	C-20,32,33,34	Pelabuhan Dagang Medium Scale Industry																					15.4
	G-45	S.Bengkai (P.Dagang)-P.Lumut Road																					1.7
	G-46	Kabupaten Local Roads																					2.0
	H-8	Rural Telecommunication System																					1.0
		Sub-total																					113.6
Urban Zone	G-27	Kuala Tungkal Seaport Improvement																					20.5
	G-46	Kuala Tungkal-Jambi Road Project																					2.5
	I-4	Secondary Cities Urban Development																					1.4
		Sub-total																					24.4
Institutional Support	K-1	IDEP Management Unit																					1.8
		Sub-total																					1.8
												Total	378.4										

Notes: 1) In bold letters are the key projects.

2)  Pre-implementation study/plan-making

 Implementation

 On-going

3) Some cost estimates only cover study components and do not include construction costs.



Integrated Development Program

"Growth in Harmony with Nature"

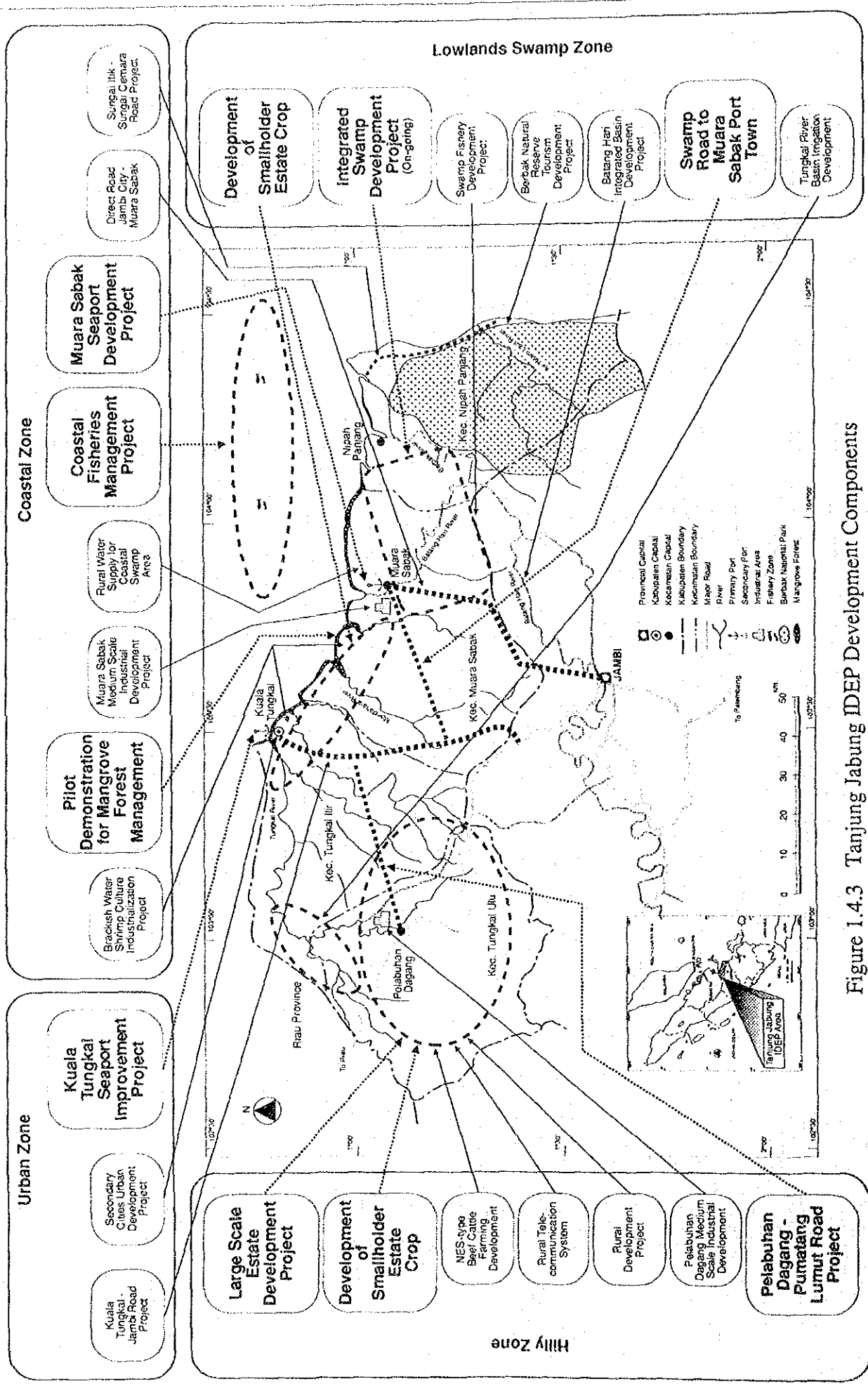


Figure 1.4.3 Tanjung Jabung IDEP Development Components

Kuala Tungkal, Alang-Alang, Nipah Panjang, Air Hitam (Jambi) and Sung Sang (South Sumatra).

- detailed survey and designing for coastal aquaculture extension, in particular for brackish water shrimp ponds (tambak).

- e) Project Duration:
 - i) Feasibility study: 8 months
 - ii) Research work: 60 months
 - iii) Implementation: 36 months (will be started after the 24 months research work)
- f) Project Cost:
 - i) Feasibility study: US\$ 1,000,000
 - ii) Research work: US\$ 3,000,000
 - iii) Implementation: US\$ 5,000,000
- g) Related Aid Projects:
- h) Stage of Project Preparation: Pre-feasibility study has been done by this Study. The project shows technically and economically sound.

(2) Muara Sabak Seaport Development Project

- a) Code Number: G-25
- b) Executing Agency: Directorate General of Sea Communication, Ministry of Communication.
- c) Objectives:
 - i) reduction of the transportation cost through use of large cargo vessels, and
 - ii) increased capability for handling containerized cargo.
- d) Project Description:
 - i) dredging,
 - ii) land reclamation,
 - iii) construction of quay wall with approach bridge,
 - iv) construction of container yard with asphalt pavement,
 - v) construction of container freight station (CFS), and
 - vi) installation of gantry cranes.
- e) Project Duration:
 - i) Feasibility study: 3 years
 - ii) Detailed design: 2 years
 - iii) Implementation: 2 years
- f) Project Cost: US\$ 72,175,000
- g) Related Aid Projects:
- h) Stage of Project Preparation: Pre-feasibility study has been done by this Study. The project shows technically and economically sound.

(3) Pilot Demonstration in Integrated and Sustainable Mangrove Forest Management

- a) Code Number: J-4
- b) Executing Agency: Directorate General of Forest Utilization (PH) in cooperation with Directorate General of Forest Protection and Nature Conservation (PHPA) and Directorate General for Reforestation and Land Rehabilitation (RRL), Ministry of Forestry
- c) Objectives:
 - i) to establish and demonstrate an integrated and sustainable system of mangrove ecosystem management, in particular for marine products and preservation of wildlife habitats,
 - ii) to demonstrate the proper rehabilitation or reforestation with mangrove species where already degraded in and around the reserve,

- iii) to promote income earning activities for local communities through activities such as production of non-timber forest products and wildlife farming, and
- iv) to train selected personnel through on the job training, study tours and fellowships.
- d) Project Description:
 - i) The team of foreign experts would be expected to travel to the location to establish the demonstration areas for sustainable mangrove ecosystem management, provide necessary equipment and train some 12 local professional and technical staff in integrated and sustainable approach.
 - ii) The charcoal export trade is almost entirely based on Sumatra mangrove forests. Mangrove are also exploited for producing wood chips for pulp.
 - iii) Very little research has been done on mangrove rehabilitation and regeneration, and results to date are unsatisfactory.
 - iv) Destruction of the fragile coastal ecosystems has caused so grave concern that introduction of techniques for an integrated and sustainable mangrove management become urgent.
- e) Project Duration:
 - i) Feasibility study: 12 months
 - ii) Implementation: 36 months
- f) Project Cost:
 - i) Feasibility study: US\$ 583,900
 - ii) Implementation: US\$ 2,163,500
- g) Related Aid Projects: PHPA/AWB Sumatra Wetland Project (support to Conservation and Environment Project under UK)
- h) Stage of Project Preparation: Pre-feasibility study has been done by this Study. The project shows socially and environmentally sound. More comprehensive economic evaluation will be necessary.

1.5.2 Lowlands Swamp Zone Subprogram

In Lowlands Swamp Zone, 3 key projects are selected such as (i) Development of Smallholder Estate Crops, (ii) Integrated Swamp Development Project and Swampland Road to Muara Sabak Port Town. Integrated Swamp Development Project will be implemented under World bank.

(1) Development of Smallholder Estate Crops

- a) Code Number: A-13
- b) Executing Agency: Directorate General of Estate, Ministry of Agriculture
- c) Objectives:
 - i) to raise the income and productivity in the traditional smallholder and the existing transmigrants areas by financing the planting/re-planting of high yielding varieties, and upgrading of farm management,
 - ii) to expand and strengthen the smallholder sector export, and
 - iii) to provide technical assistance to smallholder.
- d) Project Description: Planting and/or re-planting of about 8,000 ha coconuts.
- e) Project Duration: 15 years
- f) Project Cost: US\$ 4,400,000
- g) Related Aid Projects:
- h) Stage of Project Preparation:

(2) Integrated Swamp Development Project

- a) Code Number: F-8
- b) Executing Agency: Directorate General of Water Resources Development, Ministry of Public Works
- c) Objectives:
 - i) to improve the agricultural production environment (including livestock, aquaculture and agro-industries),
 - ii) to improve social environment so as to improve the welfare of settlers, and
 - iii) to encourage them to remain in the project area and attract new settlers so as to promote the general level of economic activities.
- d) Project Description:
 - i) rehabilitation and upgrading of existing hydraulic infrastructure, construction of new hydraulic infrastructure in flood-prone areas and construction of 450 ha pilot irrigation system, in total covering about 40,900 ha,
 - ii) upgrading of the hydrological network in the project area to provide the necessary data for planning of future developments,
 - iii) rehabilitation and expansion of the transportation and navigation system,
 - iv) improvement in the availability of potable water supply through provision of rainwater collection and storage facilities and upgrading existing water treatment stations,
 - v) systematic introduction of efficient O&M throughout the Project area,
 - vi) agricultural development including strengthening of agricultural support services, formation of WUA's, improvement of seed supplies and alleviation of the major constraints of pigs, rats and weeds,
 - vii) support to estate crops development in particular the expansion of hybrid coconuts production, and improvements to copra production and marketing,
 - viii) aquaculture development including improving the demonstration and extension capabilities of agriculture support services with respect to potential aquaculture activities,
 - ix) support of agriculture research within the Project area so as to refine those component technologies and farming systems identified under SWAMPS II,
 - x) support agro-industry activities to identify household and small-scale activities suited to the Project area and to provide assistance to ensure their viability,
 - xi) a pilot credit component, covering about 1,000 ha of paddy land, to investigate alternative mechanisms for the dispersal and collection of short-term agricultural production loans,
 - xii) support for assisted supplementary settlement, using the TRANSABANGDEP model, of about 200 households in each of Simpang Pandan and Lagan Hulu schemes,
 - xiii) a non-formal education component to improve literacy among the Project beneficiaries,
 - xiv) a rural health program to improve health delivery throughout the Project area so that basic needs are met, with special emphasis on the needs of women and children,
 - xv) a women in development component to strengthen the role of women in the Project area,
 - xvi) institutional strengthening components to improve the capability of provincial and district agencies, and

- xvii) an environmental component to supervise project implementation and monitor its impact.
- e) Project Duration: 5 years
- f) Project Cost: US\$ 34,480,000
- g) Related Aid Projects:
- h) Stage of Project Preparation: Feasibility study was completed in September 1991.

(3) Swampland Road to Muara Sabak Port Town

- a) Code Number: G-47
- b) Executing Agency: Directorate General of Highways (Local Roads Division), Ministry of Public Works
- c) Objectives: Access road for Muara Sabak port town.
- d) Project Description: Design and construction of provincial road 35 km long from Simpang Tuan to the opposite Muara Sabak on the Batang Hari river.
- e) Project Duration:
 - i) Study: 6 months
 - ii) Implementation: 2 years
- f) Project Cost:
 - i) Study: includable in Highways Department planning system
 - ii) Implementation: US\$ 5,000,000
- g) Related Aid Projects: On-going IBRD Local Roads Project
- h) Stage of Project Preparation: Feasibility study needed.

1.5.3 Hilly Zone Subprogram

In Hilly Zone, three (3) projects are identified such as (i) Development of Smallholder Estate Crops, (ii) Large Scale Estate Development Project, and (iii) Pelabuhan Dagang-Pumatang Lumut Road Project.

(1) Development of Smallholder Estate Crops

- a) Code Number: A-13
- b) Executing Agency: Directorate General of Estate, Ministry of Agriculture
- c) Objectives:
 - i) to raise the income and productivity in the traditional smallholder and the existing transmigrants areas by financing the planting/re-planting of high yielding varieties, and upgrading of farm management,
 - ii) to expand and strengthen the smallholder sector export, and
 - iii) to provide technical assistance to smallholder.
- d) Project Description: Planting and/or re-planting of about 12,000 ha rubber.
- e) Project Duration: 15 years
- f) Project Cost: US\$ 4,500,000
- g) Related Aid Projects:
- h) Stage of Project Preparation:

(2) Large Scale Estate Development Project

- a) Code Number: A-17
- b) Executing Agency: Private sector
- c) Objectives:
 - i) to increase production of estate crops for local and export purpose, and

- ii) to create employment opportunities.
- d) Project Description:
 - i) land development,
 - ii) planting of 23,000 ha rubber (approved concessions), and
 - iii) construction of processing facilities.
- e) Project Duration: 20 years
- f) Project Cost: US\$ 80,500,000
- g) Related Aid Projects:
- h) Stage of Project Preparation:

(3) Pelabuhan Dagang-Pumatang Lumut Road Project

- a) Code Number: G-45
- b) Executing Agency: Directorate General of Highways (Local Roads Division), Ministry of Public Works
- c) Objectives:
 - i) to improve access between IDEP area and interior Jambi Kecamatans and the Eastern Highway, and
 - ii) to improve access between these areas and ports at Kuala Tungkal and Muara Sabak.
- d) Project Description: Improvement of 35 km of local feeder roads and bridges linking points such as Pematang Lumut and Pelabuhan Dagang.
- e) Project Duration:
 - i) Study: 6 months
 - ii) Implementation: 2 years
- f) Project Cost:
 - i) Study: includable in Highways Department planning system
 - ii) Implementation: US\$ 1,700,000
- g) Related Aid Projects: On-going IBRD Local Roads Project, OECF Eastern Highway Study
- h) Stage of Project Preparation: Feasibility study needed.

1.5.4 Urban Zone Subprogram

In Urban Zone, Kuala Tungkal Seaport Improvement Project is selected as key project.

(1) Kuala Tungkal Seaport Improvement Project

- a) Code Number: G-27
- b) Executing Agency: Directorate General of Sea Communication, Ministry of Communication.
- c) Objectives:
 - i) reduction of the transportation cost through use of large cargo vessels, and
 - ii) increased capability for handling containerized cargo.
- d) Project Description: Construction of the conventional wharf with roll on roll off ramp.
- e) Project Duration:
 - i) Feasibility study: 1 year
 - ii) Detailed design: 1 year
 - iii) Implementation: 2 years
- f) Project Cost: US\$ 20,500,000
- g) Related Aid Projects:
- h) Stage of Project Preparation:

1.5.5 Institutional Support Subprogram

For Institutional Support Subprogram, Establishment of IDEP Management Unit (IMU) is selected as key project.

(1) Establishment of IDEP Management Unit

- a) Code Number: K-1
- b) Executing Agency: BAPPEDA Tk.I and Tk.II
- c) Objectives:
 - i) To coordinate the central, provincial and kabupaten/kotamadya governments and foreign donor agencies in preparing and implementing the IDEP programs/projects
 - ii) To assess, revise and prepare the annual and multiyear IDEP programs/projects, and submit them to the National and Local Steering Committee for IDEP (NSCI and LSCI)
 - iii) To take bugetary measures and identify fund sources for the IDEP
 - iv) To improve and strengthen institutional and financial capabilities in the provincial and kabupaten/kotamadya governments
 - v) To monitor the progress/results of the excuted IDEP programs/projects and evaluate them
- d) Project Description:
 - i) to establish the IDEP Management Unit (IMU) in BAPPEDA-I and-II (staffed with ten Indonesian staff workers),
 - ii) to dispatch a foreign expert in order to support the IMU, and
 - iii) to provide some training programs for BAPPEDA-I and-II.
- e) Project Duration:
 - i) IMU: 10 years
 - ii) Experts: 5 years
- f) Project Cost: US\$1,750,000
- g) Related Aid Projects:
- h) Stage of Project Preparation:

1.6 KEY RELATIONS AMONG THE PROJECTS

The fundamental issue in formulating this IDEP is how to improve the linkage to the Growth Triangle. This issue has larger, province-wide implications and the IDEP has addressed other central issues of economic vitalization, poverty alleviation and environmental conservation in line with the linkage formation. Considering those priority issues, following relations among the projects are of particular importance in this Program:

1) **Kuala Tungkal Seaport Improvement (G-27) must precede Muara Sabak Seaport Development (G-25) because of the urgency of the former project. To provide access to the hinterland of the Kuala Tungkal port, Pelabuhan Dagan - Pumatang Lumut Road Project (G-45) must go parallel with the port improvement.**

2) **After Muara Sabak Seaport Development (G-25) is finished, two access roads will be constructed: first, Swamp Road to Muara Sabak Port Town (G-47) and then Direct Road Jambi City - Muara Sabak (G-48).**

3) **Coastal Fisheries Management Project (B-3, 4, 5) and Brackish Water Shrimp Culture Industrialization Project (B-8) needs support from two road projects: Pelabuhan Dagan - Pumatang Lumut Road Project (G-45) on the west side and Sungai Itik - Sungai Cemara Road Project (G-46) on the east coast. Aiming at the Growth Triangle as the market, the two fisheries projects will be benefited from the timely completion of Muara Sabak Seaport Development (G-25).**

4) The Kuala Tungkal and the Muara Sabak ports will also become the vital outlets for agricultural products raised in **Large-Scale Estate Development (A-17)** and **NES-Type Beef Cattle Farming (A-20)**.

5) To break isolation and spread the benefit of development, **Kabupaten Local Road Project (G-46)** must be implemented in the following order: (1) Lowland Swamp Zone, (2) east coastal sections, and (3) other parts in the Coastal Zone and the Hilly Zone.

1.7 SPECIAL CONSIDERATIONS

The water pollution of the Tungkal river is apprehensive due to sewage of the pulp factory in Pelabuhan Dagang which is expected to start the operation within a couple of years. The pulp factory plans to construct the sewage treatment facilities but careful and periodical monitoring of river water will be indispensable by the Provincial and/or Kabupaten governments. If the factory releases the untreated or less treated sewage to the Tungkal river, the serious environmental impacts will be expected in the down stream areas. The water pollution will bring the serious impacts to:

- 1) Wetland rice areas along the river,
- 2) Kuala Tungkal township water supply,
- 3) Brackish water shrimp culture near the coast,
- 4) Coastal marine fishery resources around the estuary of the river,
- 5) Mangrove forests in the tidal swamp, etc.

Establishment of the Environment Monitoring Unit (EMU) under Bupati is recommended for the careful management and control of pollution from the existing and planned industries.

2. PALEMBANG IDEP

This location is characterized by its high growth potential as the all-round industrial center located at a corner of the Sumatra Gateway Triangle. Infrastructural development is essential for industrialization and rapid urban growth as well as to serve as the Region's hub. Its strategic theme is: How to advance industrialization while improving the less privileged communities.

2.1 PRESENT CONDITIONS

2.1.1 General

Palembang, the capital city of South Sumatra province, is located about 100 km inland from the China Sea. The city, which has the population of 1.1 million in 1990, is Sumatra's second largest after Medan and sixth largest in Indonesia. Straddling the Musi river, sprawling Palembang extends for about 20 km to the north and five km to the south along the Musi river. Today Palembang is an economic hub not only for South Sumatra province but also for the southern Sumatra, as one of the significant regional centers serving the entire Sumatra. In South Sumatra, Palembang is also situated at the junction of several transportation modes such as road network, air service, railway and river passenger route.

Palembang is also a major industrial center in the Region. Along the Musi river just downstream of the commercial zone of the city lie a large scale petrochemical industries, whose output shares almost more than half of Palembang's industrial production. In addition, there are around 120 large and medium scale manufacturing enterprises, specializing in resource-based, export-oriented industries such as foods, woods, textiles and non-metals.

Huge tidal swamp area, which is primarily developed as a new transmigration area, spreads in the downstream of Palembang along the Musi river. In the upstream of the city along the Musi river also lies vast lowland swamp, where traditional paddy plantation has been undertaken.

Palembang has long faced crucial urban problems as the city grows faster recently. Rapid population increase outpaces the urban infrastructure. A large number of local transmigrants continuously come into the city, settling as urban squatters and consequently creating slums in the central area. To cope with these urban problems, Integrated Urban Infrastructure Development Program (IUIDP) targeting chiefly urban infrastructural improvement is currently under way, with a financial support from ADB. Hence, with IUIDP as a given condition, IDEP for Palembang is in principle intended only to deal with components which are not covered by IUIDP.

2.1.2 Geography

The Musi river divides the city into two sections: the northern half, Ilir and the southern half, Ulu. Geographically Palembang is rather flat and lies between elevations of around five to ten meters above the sea level, with the highest altitude of approximately 30 meters. In particular, the city center lies about two meters above the high water level of the Musi river. With this low altitude, almost half of the city area is prone to seasonal or frequent flooding due to flood flows from the Musi river, or by the combination of local rainfall and high tides.

Lowland swamp spreads to the southern side along the Musi river, particularly along the Ogan river and Komering river stretches, two large tributaries of the Musi river. Other than these two rivers, there are a large number of streams flowing into the Musi river from within the Palembang city area. To the northern side of the Musi river lies hilly and undulated terrain. The geology in the Palembang area is primarily alluvial material and sandy clay. Some rock outcropping is found on the southern side of the Musi river in Kecamatan Seberang Ulu.

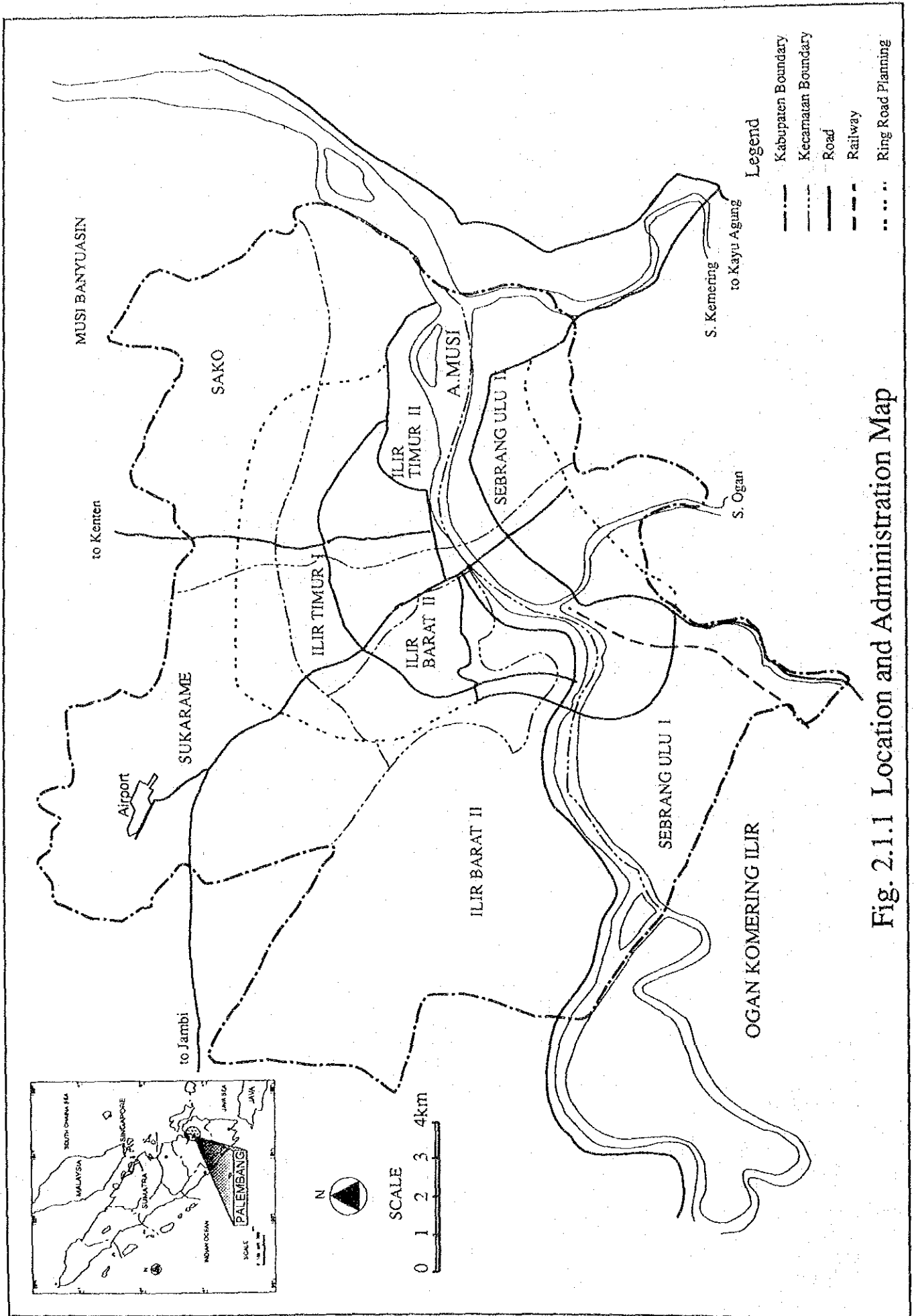


Fig. 2.1.1 Location and Administration Map

2.1.3 Administration

Palembang has an administrative area of 358.8 km² as of 1990, comprising eight Kecamatans, which are further subdivided into 72 subdistricts as shown in Figure 2.1.1. Before December 1988, the city was composed of six Kecamatans and 62 subdistricts with an administrative area of 224 km²: Ilir Barat II, Seberang Ulu I, Seberang Ulu II, Ilir Barat I, Ilir Timur I and Ilir Timur II.

In accordance with the governmental ordinance dated Dec.8, 1988, ten desas consisting of nine desas from Kecamatan Talong Kepala, Kabupaten Musi Banyuasin (MUBA) and one desa from Kecamatan Indralaya, Kecamatan Ogan Komering Ilir (OKI) were transferred into Palembang's administration. Five desas from Kecamatan Talang Kepala constitute new Kecamatan Sukarami and four desas forms Kecamatan Sako on the north, while one desa from Kecamatan Indralaya was incorporated into Kecamatan Seberang Ulu I.

2.1.4 Population and Employment

According to the 1990 Population Census, the population of Palembang is 1,139,694, which accounts for 18.2 % of the provincial total. The population of Palembang is unevenly distributed. Around 80% of the population lives in densely populated central area, and 70 % population settles on the north side of the Musi river, while 30% on the south side. Three Kecamatans in the central area consisting of Seberang Ulu II, Ilir Barat I and Ilir Timur I, have extremely high population densities: 6,159 persons/km², 7,152 persons/km² and 11,426 persons/km² in 1990, respectively.

Palembang's population increased in a upturn trend in the last three decades. In 1980-90, the population grew at an average growth rate of 3.78 % per annum, far exceeding the provincial corresponding rate of 3.09 %. This clearly implies substantial influx of local transmigrants possibly from surrounding Kecamatans in MUBA and OKI. Table 2.1.1 shows population, annual growth rates and its densities.

Table 2.1.1 Population, Annual Growth Rates and Densities of Palembang

Kecamatan	Land Area (km ²)	Population				Annual Growth Rate (%)			Percentage Share (%)				Population Density (Person/km ²)			
		1961	1971	1980	1990	1961-1971	1971-1980	1980-1990	1961	1971	1980	1990	1961	1971	1980	1990
1. Ilir Barat II	75.0	-	-	79,367	98,045	-	-	2.14	-	-	10.1	8.6	-	-	1,058	1,307
2. Seberang Ulu I	60.0	-	-	142,992	196,328	-	-	3.22	-	-	18.2	17.2	-	-	2,383	3,272
3. Seberang Ulu II	24.0	-	-	116,353	147,810	-	-	2.42	-	-	14.8	13.0	-	-	4,848	6,159
4. Ilir Barat I	20.0	-	-	113,963	143,038	-	-	2.30	-	-	14.5	12.6	-	-	5,698	7,152
5. Ilir Timur I	15.5	-	-	147,415	175,873	-	-	1.78	-	-	18.7	15.4	-	-	9,511	11,347
6. Ilir Timur II	53.5	-	-	186,517	237,418	-	-	2.44	-	-	23.7	20.8	-	-	3,486	4,438
7. Sako	42.5	-	-	-	50,937	-	-	-	-	-	4.5	-	-	-	-	1,199
8. Sukarami	63.3	-	-	-	90,247	-	-	-	-	-	7.9	-	-	-	-	1,426
Palembang	353.8 (0.32)	474,971 (17.1)	582,581 (16.9)	786,607 (17.0)	1,139,694 (18.2)	2.06	3.39	3.78	100.0	100.0	100.0	100.0	1.342	1.647	2.223	3.221
South Sumatra	109,254	2,773,464	3,438,061	4,621,719	6,276,482	2.17	3.36	3.09	-	-	-	-	25	31	42	57

Source: BPS, Population Census 1980 South Sumatra, 1990

BPS, South Sumatra in Figures 1990.

BPS, Palembang Dalam Angka 1990.

Note: Figures in parentheses denote percentage share of Palembang against South Sumatra.

Viewed by urban and rural classification, urban population is 1,084,251, while rural population of 55,443 as shown in Table 2.1.2. Three Kecamatan in central area (Seberang Ulu II, Ilir Barat I, and Ilir Timur I) and suburban Kecamatan Sukarumi on the northwest are fully urbanized. This exhibits high urbanization of Palembang city with urbanization rate of 95.1 %, in sharp contrast with the provincial figure of 29.3 %.

Table 2.1.2 Population, Household and Family Size by Kecamatan in 1990

Kecamatan	Population			Urbanization Ratio (%)	Household			Family Size (Person/family)		
	Urban	Rural	Total		Urban	Rural	Total	Urban	Rural	Total
1. Ilir Barat II	86,615	11,428	98,043	88.3	16,668	2,506	19,174	5.20	4.56	5.11
2. Seberang Ulu I	180,562	15,766	196,328	92.0	34,425	3,022	37,447	5.25	5.22	5.24
3. Seberang Ulu II	147,810	-	147,810	100.0	27,501	-	27,501	5.37	-	5.37
4. Ilir Barat I	143,038	-	143,038	100.0	27,772	-	27,772	5.15	-	5.15
5. Ilir Timur I	175,873	-	175,873	100.0	32,476	-	32,476	5.42	-	5.42
6. Ilir Timur II	211,055	26,363	237,418	88.9	38,845	4,627	43,472	5.43	5.70	5.46
7. Sako	49,051	1,886	50,937	96.3	9,330	333	9,663	5.26	5.66	5.27
8. Sukarumi	90,247	-	90,247	100.0	17,283	-	17,283	5.22	-	5.22
Palembang	1,084,251 (59.0)	55,443 (1.3)	1,139,694 (18.2)	95.1	204,300 (57.1)	10,488 (1.2)	214,788 (17.0)	5.31	5.29	5.31
South Sumatra	1,836,710	4,439,772	6,276,482	29.3	357,745	902,748	1,260,493	5.13	4.92	4.98

Source : BPS, Population Census 1990 South Sumatra.

Note : Figures in parentheses denote percentage share of Palembang against South Sumatra.

Households in the city total 214,788, classified into urban households of 204,300 (95.1 %) and rural households of 10,488 (4.9 %). The urban households in Palembang accounts for 57.1 % of the total provincial households, while the rural of only 1.2 %. Five central Kecamatan share around 80 % of the total households in the city.

With respect to the family size, Palembang's figure is 5.31 persons/family in 1990, compared with the provincial one of 4.98 persons/family. There is no significant difference in terms of family size between the urban and rural in Palembang, while the provincial urban household averages 5.13 persons/family and the rural of 4.92 persons/family. Thus, Palembang's household has a larger family size than the provincial average in both urban and rural.

According to the regional statistics office in Palembang, total employment is estimated at around 310,000 in 1991, which increased from 256,000 in 1984, with an annual rate of increase of around 2.8 %. Male employment increased from 200,200 in 1984 to 244,600 in 1991, with an annual rate of increase of 2.9 %, while female employment increased from 55,800 to 66,000, with an increase rate of 2.4 % annually. Thus, the rate of increase in employment is far behind the population growth (3.78 % per annum in the 1980s), suggesting to create substantial urban unemployment which is possibly absorbed in informal sectors.

In analyzing employment situation by labor force participation ratio, which is derived from dividing employment by working age population over 10 years old (883,000), Palembang's figure comes to 34.2 % in 1990, which is far below compared with the provincial figure of 53.4 % and the national of 57.8 %. Urban unemployment in 1990 is 67,389 comprising 40,901 male and 26,488 female (around 90 % in Palembang). This highlights unemployment rate as high as 16.7 %.

One thing unique to Palembang is that high educated unemployment shares a large portion, in particular high school graduates, which account for around 75 % of total unemployment in terms of registration. Moreover, female unemployment in Palembang is also high compared with the provincial and national figures. This situation comes to be more serious when underemployment and disguised employment are actually counted. Unemployment in Palembang is aggravated seasonally when rural people temporarily migrate into the city seeking employment, particularly in pre-harvest season. A large parts of social tension and unrest, and high rates of urban crimes are all increasingly associated with this urban unemployment.

2.1.5 Economy

Gross Domestic Product (GDP) excluding oil/gas of Palembang was Rp 938 billion in 1989 at 1983 constant prices, while GDP with oil/gas was Rp 1,269 billion. Thus, pure GDP amounting to Rp 331 billion which accrued from oil/gas, almost shares one-fourth of Palembang's oil/gas GDP. Viewed by GDP share in South Sumatra, Palembang slightly decreased from 29.1 % in 1983 to 25.5 % in 1989 in South Sumatra's non-oil/gas GDP.

Non-oil/gas GDP of Palembang grew at 4.0 % per annum over the period of 1983-89, which is more than 2 % lower than that of the provincial figure of 6.3 %. In particular Palembang's GDP growth almost leveled off between 1985 and 1988, even though its growth recovered onward. Table 2.1.3 shows non-oil/gas GDP by industrial origin.

By sectoral analysis, industry and trade were the largest single sectors, sharing 34.8 % and 32.2 % in 1989, respectively. With respect to annual growth by industrial origin, these two sectors increased at moderate rates in 1983-89: 3.5 % per annum by industry and 2.0 % by trade. On yearly basis, growth rates of these two industries widely fluctuated, marking minus (-) growths in trade between 1985 and 1988.

Table 2.1.3 Gross Domestic Product by Industrial Origin (1983 Constant Prices)

(a) Non-oil gas GDP

Industrial Origin	GDP (Rp billion)								Annual Growth Rate (%)						Percentage Share (%)						
	1983	1984	1985	1986	1987	1988	1989	83-84	84-85	85-86	86-87	87-88	88-89	83-89	1983	1984	1985	1986	1987	1988	1989
Agriculture	12	11	12	14	15	16	17	4.7	5.8	20.8	3.7	7.9	5.9	6.1	1.6	1.4	1.4	1.7	1.7	1.8	1.8
Industry	265	293	316	320	325	313	326	10.4	7.9	1.1	1.7	-3.6	4.0	3.5	35.7	36.4	36.0	36.9	36.8	35.6	34.8
Energy	6	7	7	7	9	10	11	7.2	5.8	8.0	17.7	13.3	8.9	10.1	0.8	0.8	0.8	0.9	1.0	1.1	1.2
Construction	19	18	18	19	20	22	23	4.7	-1.0	4.6	6.4	8.3	5.0	3.0	2.6	2.3	2.0	2.2	2.3	2.5	2.4
Trade	269	287	330	298	291	283	302	6.5	15.1	9.7	2.2	3.0	7.0	2.0	36.2	35.6	37.5	34.3	32.9	32.1	32.2
Transportation	74	78	83	90	100	104	111	5.8	5.4	3.6	10.8	4.9	6.3	7.0	10.0	9.7	9.4	10.4	11.3	11.9	11.8
Services	97	112	114	119	125	131	148	15.1	2.0	4.6	4.6	5.4	12.3	7.2	13.1	13.9	13.2	13.7	14.1	14.9	15.7
GDP	743	806	880	867	885	880	938	8.5	9.2	1.4	2.0	0.5	6.6	4.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
GDP Share (%) in South Sumatra	29.1	30.2	31.9	29.5	28.7	25.9	25.5														
GDP of South Sumatra	2,555	2,665	2,760	2,942	3,141	3,398	3,678	4.3	3.6	6.6	6.8	8.2	8.2	6.3							

(b) Oil/gas GDP

Industrial Origin	GDP (Rp billion)							Annual Growth Rate (%)							Percentage Share (%)						
	1983	1984	1985	1986	1987	1988	1989	83/84	84/85	85/86	86/87	87/88	88/89	83/89	1983	1984	1985	1986	1987	1988	1989
Agriculture	12	11	12	14	15	16	17	-4.7	5.8	20.7	3.7	7.9	5.0	6.1	1.3	1.1	1.1	1.3	1.3	1.4	1.3
Industry	366	420	460	536	526	519	584	14.8	9.3	16.6	-1.9	-1.2	12.4	8.1	40.6	41.7	42.0	46.9	45.5	41.9	46.0
Energy	6	7	7	7	9	10	11	7.2	5.8	8.0	17.7	13.3	8.9	10.1	0.7	0.6	0.6	0.7	0.8	0.9	0.9
Construction	19	18	18	19	20	22	23	-4.7	-1.0	4.6	6.4	8.3	5.0	3.0	2.1	1.8	1.6	1.7	1.7	1.9	1.8
Trade	328	361	402	356	360	355	375	9.9	11.5	-11.5	2.0	-2.3	5.9	2.3	36.4	35.8	36.7	31.2	31.4	30.6	29.6
Transportation	74	78	83	90	100	104	111	5.8	5.4	8.6	10.8	4.9	6.3	7.0	8.2	7.8	7.5	7.9	8.6	9.0	8.8
Services	97	112	114	119	125	131	148	15.1	2.0	4.6	4.6	5.4	12.3	7.2	10.8	11.1	10.4	10.4	10.8	11.4	11.6
GDP	903	1,007	1,095	1,142	1,157	1,158	1,269	11.6	8.7	4.2	1.3	0.1	9.6	5.8	100.0	100.0	100.0	100.0	100.0	100.0	100.0
GDP Share (%) in South Sumatra	26.3	26.1	27.0	26.9	27.2	25.7	26.2														
GDP of South Sumatra	3,438	3,857	4,051	4,249	4,248	4,510	4,813	12.2	5.0	4.9	0.0	6.2	7.2	5.8							

Source: BAPPEDA TKI South Sumatra, Produk Domestik Regional Bruto Sumatera Selatan 1990.
BPS, Pendapatan Regional Kotamadya Palembang 1989.

With oil/gas, the industrial sector accounts for 45 % of Palembang's GDP in 1989 at 1983 constant prices and its share tends to increase in 1983-89. This implies that oil/gas-related GDP shares a large portion of Palembang's GDP. Although South Sumatra province intends in its Repelita V to diversify the present oil/gas dependent economic structure, oil/gas-related industries still continue to play a significant role in Palembang's economy.

2.1.6 Industry

Palembang has established its firm position as an industrial base not only for South Sumatra province but also in the entire Sumatra. In observing growth of industry from the number of establishment, large and medium scale manufacturing enterprises, which was 69 in 1987, increased to 113 in 1988 and 141 in 1989, respectively. The figure dropped to 120 in 1990, showing some 15 % decline. Palembang shares more than half (52.4 %) of the total enterprises of 229 in South Sumatra.

Estimated from the available data, Palembang shares around 56 % of employment and 62 % of the total output in South Sumatra, respectively. Main lines of subsector in terms of output are chemicals, foods, and woods, followed by textiles and non-metals.

Industry in Palembang, mainstay for the municipal and the provincial economies, also has several issues as listed below:

(1) Decrease of Number of Enterprises

The number of enterprises in Palembang sharply decreased 15 % in 1990 over the previous year. This might result from fair competition among enterprises under the market mechanism, conforming to the principle of the survival of the fittest. However, this also implies involuntary unemployment of some 3,500 manpower, causing negative impact on the economy and society.

(2) Low Growth or Decrease in Commodities Production

Table 2.1.4 exhibits trend in production of selected 12 commodities in South Sumatra province in 1987-90. Analyzed from the magnitude in production from Palembang in South Sumatra province, data also suggests production trend in Palembang, which are nonetheless indirect.

Table 2.1.4 Production of Selected Commodities in South Sumatra Province (1987-1990)

Item	Unit	Production				Production ratio 1990 ($\frac{\quad}{1987}$)
		1987	1988	1989	1990	
1. Oxygen	Cylinder	336,696	468,372	103,065	76,959	22.9
2. Sawn Timber	M3	399,996	622,073	322,299	175,098	43.8
3. Plywood	M3	199,559	225,954	209,272	221,329	110.9
4. Beverages	Bottle	1,068,000	1,129,292	867,560	1,126,800	105.5
5. Metal Products	Piece	244,245	17,300	2,684,947	2,089,481	855.5
6. Crumb Rubber	Ton	174,175	210,883	202,602	184,391	105.9
7. Yawn	Bobbin	11,153	11,015	2,037	11,552	103.6
8. Urea Fertilizer	Ton	1,481,221	1,381,326	1,473,040	1,505,075	101.6
9. Kaoline	Ton	29,132	97,901	109,654	100,172	343.9
10. Tyres	Piece	127,406	187,369	9,428	15,919	12.5
11. Ceramic	Piece	135,027	57,511,568	13,360,677	35,364,847	26,190.9
12. Cement	Ton	429,878	407,497	455,492	434,452	101.1

Source : Sumatera Selatan Dalam Angka, 1988,1989,1990.

Among 12 commodities, production of four items such as oxygen, sawn timber, plywood and tyre, sharply dropped, while production of five items (beverages, crumb rubber, yawn, urea fertilizer and cement) increased less than 10 % in three years or 3.3 % per annum. Two non-metal products (kaolin and ceramic), which showed remarkable growths in production, are primarily produced in Kabupatens other than Palembang. Thus, only one item, namely, metal products show vigorous expansion in production, most of which are produced in Palembang. In case of urea fertilizer, its production remains flat since the major producer, Pusri complex, has been under way its expansion of annual 570,000 capacity plant.

(3) Dependence on Giant Industries

The monstrous hydro-carbon-related industries are located in and around Palembang: Plaju petrochemical complex, Sungai Goreng Refinery, and Pusri urea fertilizer plant. Output from Pusri accounts for around 40 % of Palembang's industrial production. These industries, while contributing to the economy not only for Palembang but also South Sumatra province, bring in few industrial linkage with other industries and downstream industries.

This might unconsciously cause Palembang and South Sumatra province to overly rely on these industries in every respect. Consequently the economic viability and even social stability in Palembang largely rely on the giant industries, which secure little diversification of industrial linkage. However, perspective without these giant industries add more drive toward prospective industrial development, which will serve Palembang' economy and South Sumatra as well in the long run.

2.1.7 Infrastructure

(1) Urban Roads

The urban road system in Palembang is strongly influenced by the Musi river which divides the city into two sections. All traffic coming from the Trans Sumatra Highway to the central area and through traffic to adjacent cities must pass through the city center along the Jl. Sudirman. Due to the above situation, coupled with influx of local traffic streams and pedestrians, particular problems develop at the city's conjunction point, the Ampera Bridge area.

Road length in Palembang totals about 295 km in 1990, which are classified into 275 km asphalt paved and 20 km soil roads. By road condition, 134 km span falls into good, 120 km fair, and 41 km poor.

Improvement program of the traffic situation to mitigate the traffic congestion in the central zone and to upgrade the urban road network system has been under implementation. In line with the detailed plan formulated by the central government for Palembang urban development, western ring road between section I and III will become operational soon, including Musi II bridge, which is located at about 8 km upstream of the Ampera Bridge. However, the plan runs short of funding to implement further new road construction. The remainder of the plan for the south ring road section was committed to be implemented under IUIDP scheduled up to 1997.

(2) Water Supply

Palembang obtains its water supply at the very downstream of the Musi II bridge by pumping from the Musi river, which is a city's major source. It is treated by the municipal water treatment company (PDAM) who also operates and maintains the whole water supply system.

Approximately 500,000 households, nearly half of the total population of the city, receive water supply from PDAM whose production capacity is 134,000 cubic meters per day. With huge water losses accounting for around 40 % and a large amount of supplies to commercial and industrial use, only about 70,000 cubic meters per day are available for domestic use.

Apart from the absolute deficiency in water supply, Ulu area on the southern side of the Musi river, where around 30 % population reside, is supplied by only two small pipes, which are totally inadequate to meet present demand. To cope with this, new treatment plant with 600 lps capacity is scheduled to be installed under the present IUIDP. Areas on the northeast, northwest and west sides of the city, where new urban development with around 2,000 - 4,000 housing is under way, have no piped water supply.

The quality of water after treatment by PDAM is good enough but the quantity of water supply is totally deficit to meet even current demands apart from the increasing needs in the future. To overcome these problems, by 1995 it is proposed to expand the distribution capacity and improve the level of service to supply a population of about 1,063,000, or 80 % of the population in Palembang. This will increase distribution and treatment capacity by 103,700 cubic meter/ day.

(3) Drainage System

Flooding is one of the major serious problems in Palembang since the central city area, which almost accommodates three quarters of the total population, is extremely flat with the elevation of one to two meters above the Musi river high tide levels. The total tidal variation is as high as 2.5 m. During the rainy seasons in particular when the water surface

level of the Musi river rises up to one meter, approximately half of the city area are frequently inundated or are slow to drain after rain.

To cope with this problem, a crash program is presently under progress as a pilot scheme, whose principal elements are lining of all primary channels and secondary drainage systems, covering 1,200 ha in the central area on the north of the Musi river.

Moreover, to reinforce the existing drainage system, urban drainage and flood control program will be implemented under IUIDP, aiming at improving the flow in many channels through presently built-up areas in order to relieve flooding in outer residential areas. This program covers around 3,000 ha surrounding a crash program area in Kecamatan Barat I, Ilir Timur on the north and Ulu area on the south. When the new drainage system is in operation, large part of the urban area will be free from the ever chronic flooding.

2.1.8 Social Services

Social services in Palembang is rather well established, compared with other capital cities in the Region and major cities in South Sumatra province. There are some 1,320 educational facilities as of 1990, classified into 148 kindergartens, 791 elementary schools, 225 junior high schools, 156 high schools and 10 universities. Around 200,000 children are attending school education.

Except for educational facilities, there are 10 hospitals with 1,832 beds, 20 markets which accommodate some 5,000 tenants, and five other public facilities including orphanage and disabled person's hospitals.

2.1.9 Urban Structure and System

In viewing Kotamadya Palembang from urban structure and system, every kind of urban function covering administration, commerce, services, and business, is presently accommodated in the central area. This is bringing about excessive concentration and congestion in the urban center, leaving the rest of the city with a few urban functions and systems. Due to this problematic structure, even rural people in Palembang tend to come to the urban center. This is particularly the case with urban markets.

Thus, extremely high concentration of urban systems and functions in the central area is the main culprit of the urban problems in Palembang today. They include transportation congestion, shortage of urban infrastructure and aggravation of living environment in the central area. This concentration also causes partly to attract a large number of local migrants who tend to settle in the urban center, seeking to live on market agglomeration.

2.1.10 Environment

Waste water from local residents living along the Musi river and its tributaries, and from markets are directly discharged in the rivers due partly to no sewerage treatment system. Any kinds of solid wastes are also dumped directly into the rivers without any care. This has long exacerbated the water quality of the Musi river.

Furthermore, untreated industrial waste fluids disposed of from factories located along the river banks adjacent to residential areas are also being discharged into the Musi river. In particular, oil film can be frequently seen on the river surface near the oil refinery complex. Even though factories are obligated to install waste water treatment facilities, waste water is drained without any treatment in practice.

Solid wastes mostly consisting of vegetable and fruit wastes are piled up in heap along the river banks, causing offensive odor to the environment nearby. Industries situating

along the Musi river such as wood and rubber processing factories emit offensive smell as well.

Compared with river pollution, air quality level in Palembang is still acceptable for the time being. However, SO_x and NO_x concentrations emitted mostly from automobiles seem quite high particularly during peak time. Hence, without any measures today, situation will be aggravated further and bring about a serious urban problem.

2.2 KOTAMADYA PALEMBANG IN PERSPECTIVE

2.2.1 Roles in the Regional/Provincial Development

(1) Roles of South Sumatra Province

Repelita V is an indicative national plan comprising largely government development programs, which provides direction of development policies, objectives, and directives of development process. In addition, Repelita V determines targets of development, overall framework and the scale of priorities.

In line with the national Repelita V, South Sumatra province also elaborates its own provincial Repelita V, which provides direction of development, objectives, strategies, framework and programs. Furthermore, South Sumatra province has already formulated its provincial spatial planning (RSTRP) as a long-term plan, in which South Sumatra's roles are described: a) to link its economy with Java, in particular Jakarta as the most accessible hinterland for Java, and b) to integrate itself with the national development axis by mobilizing all development resources and potentials.

On the other hand, with due consideration on the regional development concept, the Team identifies Sumatra's roles in the long-term development within the overall framework of the Region as indicated in Interim Report:

- 1) Palembang : economic and communication hub of the Region,
- 2) Palembang : primary all-round industrial center,
- 3) Agro-industrial zone: part of the "Sumatra gateway triangle",
- 4) Agro-zone 2: agricultural base for the "Sumatra gateway triangle",
- 5) Island zone: major tourism destination, and
- 6) Sustainable energy base.

(2) Roles of Kotamadya Palembang

The provincial Repelita V also stipulates direction of development, objectives and strategies by Kabupaten/ Kotamadya or regional administrative level II, in which Palembang's roles and functions are described: a) industrial base, b) service center, c) physical infrastructure (road, bridges, drainage, water supply, waste disposal, market improvement, bus terminal improvement), and d) tourism promotion.

Furthermore, Kotamadya Palembang formulated the master plan of its own, which covers basic policy and structural plan as an urban development program for the time horizon of 1984 - 2004. This urban master plan stipulates roles and functions of Kotamadya Palembang: a) regional government center, b) trade center, c) cultural and tourism center, d) hub of transportation, and f) industrial and business center.

Taking into account these roles formulated in line with the consistent policies and objectives from the central government down to kotamadya, the Team identified Palembang's roles within the overall context in the long-term development:

- 1) develop itself as the all-round industrial center located at a corner of the Sumatra gateway triangle by taking advantage of high growth potentials and mobilizing available resources, and
- 2) serve as the Region's hub by further promoting infrastructural development for industrialization and rapid urban growth.

2.2.2 Development Objectives

(1) Regional Objectives

Development objectives for the Region are explicitly elaborated and described in Interim Report as below:

- 1) Integrate itself into Java-Sumatra axis,
- 2) Increase value added and create employment,
- 3) Reduce disparities within the Region, and
- 4) Establish environmental management systems.

(2) Provincial Objectives

South Sumatra has definitely specified, in provincial Repelita V and RSTRP, its development objectives as follows:

- 1) improve people's living standard and social welfare, and sustain prosperous society based upon the five principles of state establishment (Pancasila) and Guideline of State Policy,
- 2) establish balanced, harmonious, and well developed society, ultimately aiming at human resource development,
- 3) improve equitable distribution of development benefits and regional economic resilience by consolidating the agricultural sector and diversifying industrial foundation by promoting non-oil/gas field.

(3) IDEP Objectives

Based upon the Region's concrete objectives and taking into account the provincial objectives above, IDEP objectives for Kotamadya Palembang are formulated as follows:

- 1) Industrial development based on resource and export orientation, which aims to absorb substantial manpower and create new productive employment opportunities, focusing on production of high value added commodities, improvement of technological levels, and reinforcement of inter-industrial linkage,
- 2) Improvement of services center serving for the Region's hub with multiple functions consisting of commerce, trade, transportation, tourism, culture, and business,
- 3) Development of distribution center aiming at enhancing export of industrial commodities and products manufactured in the industrial base, and improving agricultural produce marketing facilities for better consumer services in urban population, and

- 4) Urban community development with particular emphasis on Kampung development covering such components as Kampung Improvement Program (KIP) for physical infrastructural improvement, human resource development for disadvantaged people and credit union.

2.3 DEVELOPMENT STRATEGY FOR KOTAMADYA PALEMBANG

2.3.1 Main Themes of Kotamadya Palembang IDEP

As described in the previous section, roles for Kotamadya Palembang centers primarily on growth orientation, due to its high growth potentials and advantages in the Region. Hence, this is regarded as the macro-level view in the development perspective, since central theme much focuses on development-related issues.

However, IDEP for Palembang itself is regarded as the long-term urban development plan at the same time. From this viewpoint, IDEP should also consider development issues based on local needs and development perspective peculiar to Palembang. Hence, IDEP must involve such programs and components that will improve the standard of living and social welfare, bring about fair distribution of benefits from growth, focusing on disadvantaged people who are mostly neglected from the development process.

Taking into account objectives and the above, main themes of IDEP for Kotamadya Palembang are elaborated as follows:

(1) Resource-based, Export-oriented Secondary Processing Industrial Development

- 1) Production of high value-added commodities,
- 2) Upgrading of existing technological level,
- 3) Absorption and creation of employment, and
- 4) Reinforcement of inter-industrial linkage.

(2) Kampung Development Program

- 1) Kampung Improvement Program (KIP),
- 2) Human resource development, and
- 3) Credit union.

2.3.2 Development Strategies

(1) Provincial Strategies

Taking into account resources endowment and its own development perspective, South Sumatra province has identified in its provincial Repelita V projects from its strategic importance as follow:

- 1) Komerling irrigation,
- 2) Banyuasin seaport (Tanjung Api Api),
- 3) Deepening the Musi river and land reclamation (Seberang Ulu),
- 4) Artery and outer ring roads construction,
- 5) Betterment of road network,
- 6) Development of large-scale plantation,
- 7) Development of tidal swamp areas (drainage and transmigration),
- 8) Improvement of villages and slums comprising integrated area development program, traditional irrigation program, drinking water supply programs,
- 9) Sriwijaya archeological park development,
- 10) Reforestation and development of production forest, and
- 11) Industrial estate development.

(2) IDEP Strategies

South Sumatra province has already formulated its spatial structural plan (RSTRP), which is fundamentally consistent with the development strategy for the Region formulated by the Team as compiled in the Interim Report. In this plan, Palembang is recognized as the national development center, which needs directly to serve for and sustain the national economic development. Figure 2.3.1 shows its plan in 2010, which is originally extracted from RSTRP and simplified. As can be seen, Palembang is situated at the junction of the transportation axis, connecting with inter-regional, regional and local development centers within the province.

Palembang will also need to serve for the provincial distribution center, where agricultural raw materials produced in agro-industrial zone, agro-zone 1 and agro-zone 2, will be transported to Palembang and redistributed to all over the province and to neighboring provinces. Moreover, accommodating industrial estates which will produce resource-based secondary processed commodities and products, Palembang will serve as a trade center for export.

To improve high urban concentration, some urban systems and functions are proposed to be relocated and distributed along ring roads as a spatial strategy so as to discontinue further urban concentration in the central area. Figure 2.3.2 shows schematic future urban structure and system.

IUIDP program focusing primarily on improvement of urban infrastructure is presently being under way as a middle-term development scheme up to 1997. With this program as a given condition, and taking into account spatial structure and system, Palembang will need such strategies as follows:

- 1) Industrial development on the basis of resource base and export orientation comprising development of industrial estates, improvement of technological levels, investment promotion and upgrading R & D institutes, with particular attention to absorption of substantial manpower, creation of new productive employment and production of high value-added commodities.
- 2) Infrastructural improvement covering energy supply, water supply and urban drainage, upgrading of telecommunication system serving for Region' hub.
- 3) Upgrading of transportation services comprising Sultan Badarudin II airport, existing Palembang port improvement and improvement of outer ring road.
- 4) Establishment of urban sub-centers with sufficient urban facilities and functions, aiming at relieving high concentration in the central zone.

2.4 KOTAMADYA PALEMBANG IDEP

2.4.1 Identified Subprograms and Their Relations

Based upon the IDEP objectives and its strategies accordingly, nine IDEP subprograms are identified with their logical relations as listed in Figure 2.4.1 and summarized below:

(1) Establishment of Industrial Base

Identified as the prime objective for IDEP formulation, industrial development is of vital importance. To realize this end, establishment of industrial base within or in the vicinity of Palembang is the most desirable way, taking advantage of present accumulation of industrial technology and knowhow, available infrastructure, advantageous location as a distribution center, and abundant labor force.

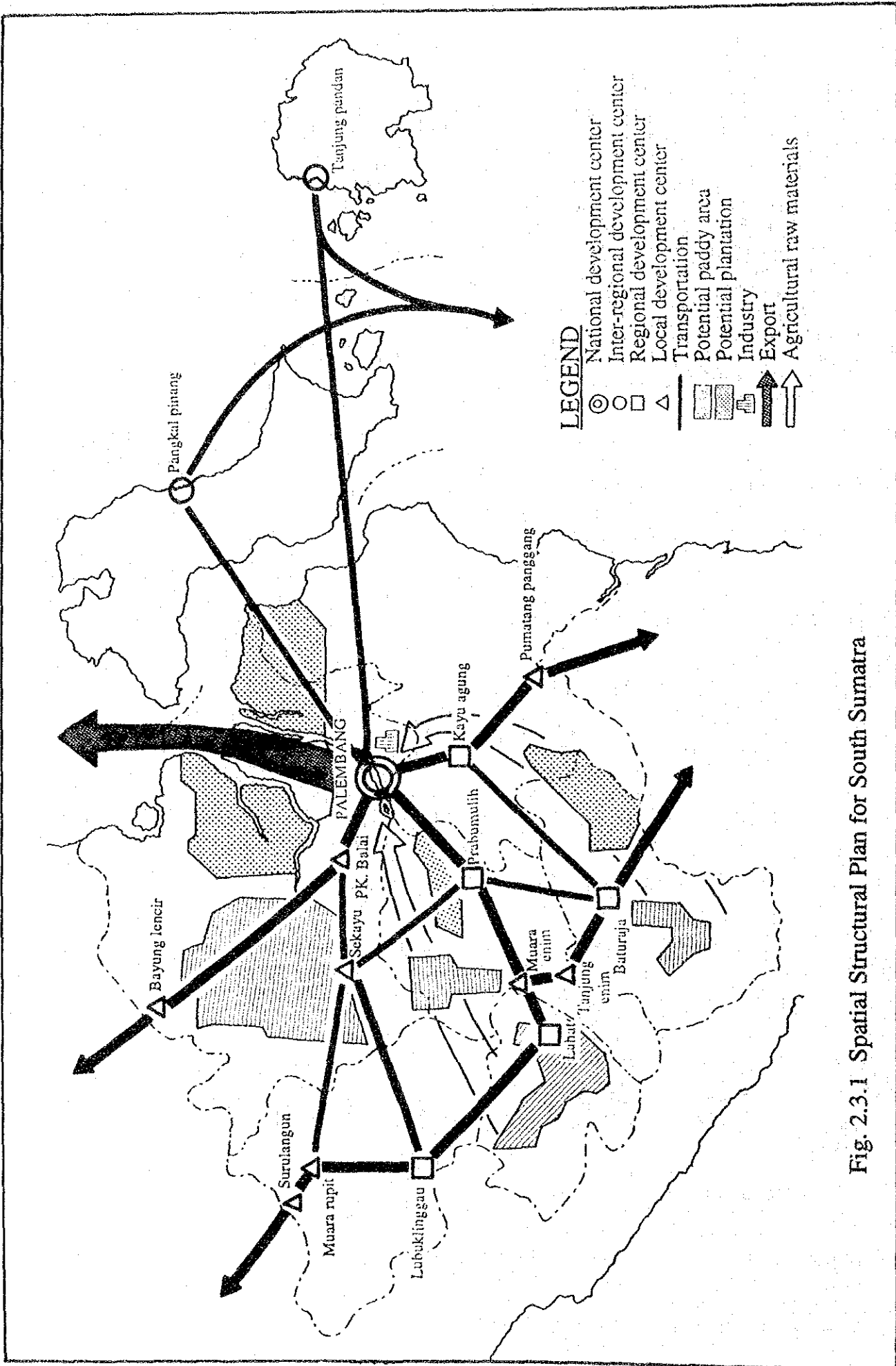
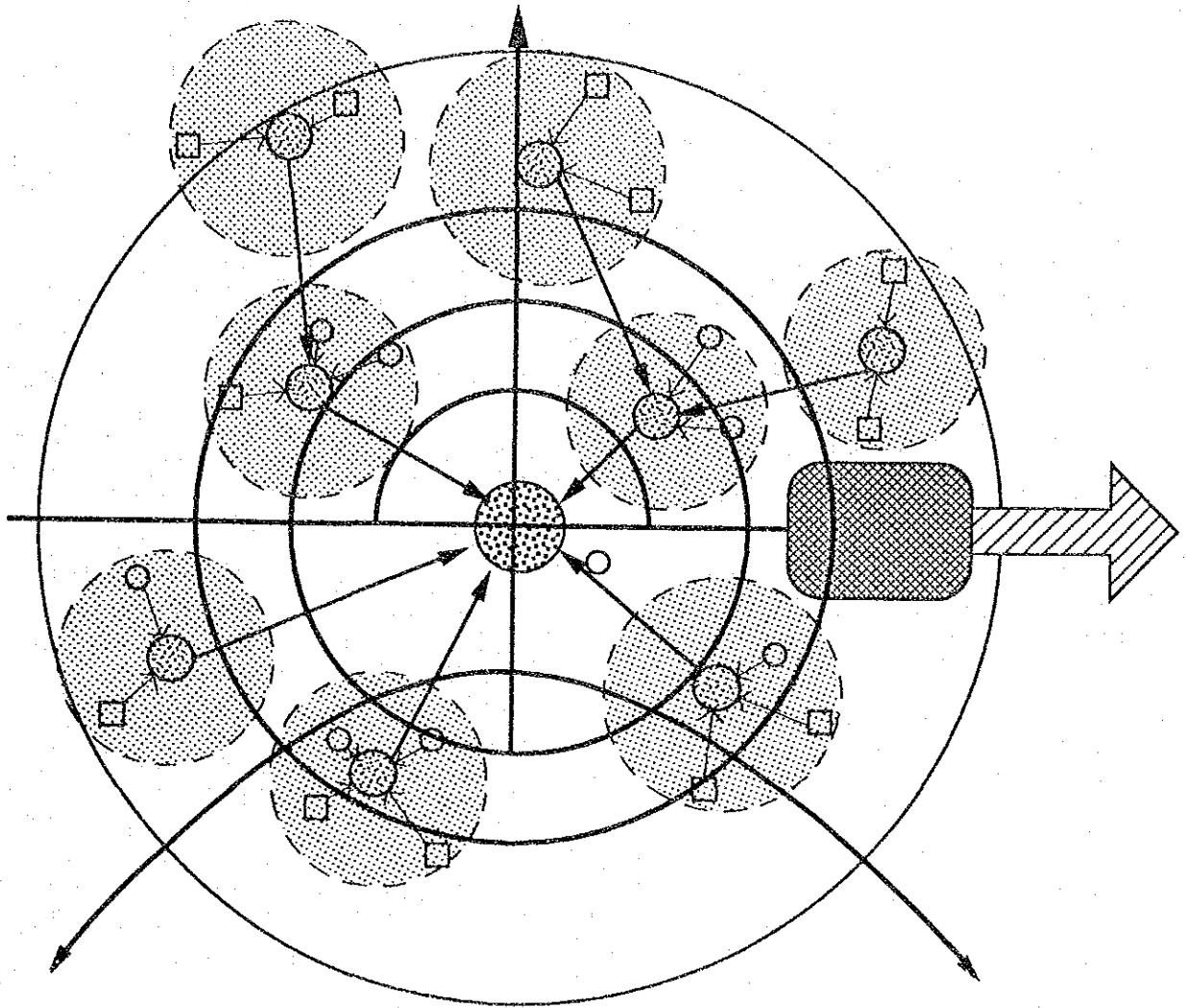


Fig. 2.3.1 Spatial Structural Plan for South Sumatra



LEGEND










- | | | | |
|---|-----------------|---|---------------------|
|  | Urban Center |  | Desa |
|  | Satellite Town |  | Arterial Road |
|  | Industrial Zone |  | Urban Fringe |
|  | Kampung |  | Economic Activities |
| | |  | Export |

Fig. 2.3.2 Future Urban Structure and System

Figure 2.4.1 Objectives, Subprograms and Projects .Palembang IDEP

Region's Objectives	IDEP's Objectives	I D E P	
		Subprogram	Project
Java-Sumatra Axis	Industrial Development	Establishment of Industrial Base	Development of Industrial Estates Upgrading of Institutes of R&D in Industry Improvement of Vocational Training Centers Investment Promotion Various Private Investments
		Utilities Development	Gas-fired Thermal Power Plant City Gas Delivery System Integrated Energy Center
Growth and Employment	Services Center Improvement	Upgrading of Transportation Services	Sultan Badarudin II Airport Upgrading Commuter Docks Improvement Seaport Improvement Outer Ring Road
		Improvement of Telecom. System	Expansion of Exchange System Expansion of Outside Plant Diffusion of OPMC Software Center Development CAI System Development Establishment of Demand Forecast System
Equity	Distribution Center Development	Water Resources Development	M/P for Urban Drainage and Sewerage Treatment System F/S for Palembang Water Supply F/S for Banyuasin Floodway
		Tourism Promotion	Old Quarter Rehabilitation & Conservation Sriwijaya Park Museum Development Sriwijaya Festival Promotion
Environment	Urban Community Development	Kampung Development Program	Kampung Development Program
		Agricultural Produce Marketing	Development of Cold Storage Facilities Improvement of Slaughter Facilities
		Institutional Support	Establishment of IDEP Management Unit (IMU)

Note : Bold letter highlights key project.

Development of this industrial base should target resource-oriented, secondary processing industry, whose products are primarily to be exported. Industries, which will be accommodated in the industrial base, aim to produce more value-added commodities and products, and to absorb substantial manpower and create new employment opportunities. Moreover, enterprises in the industrial base will be expected to apply higher technology and diffuse it so as to reinforce inter-industrial linkage and diversify industrial foundation.

(2) Utilities Development

Utilities are indispensable for every facet of economic activities, covering industry, commerce, business, trade and so forth. Utilities development is prerequisite and broadly considered as an input for all other subprograms so as to realize IDEP objectives. In particular, availability of utilities in both quantity and quality is one of the decisive factors in selecting investment location.

(3) Upgrading of Transportation Services

Accessibility, availability and convenience of transportation system is one of the significant factors for sustainable development. This is particularly the case with Palembang as the Region's hub. To support urban systems and functions as the regional center, this subprogram covers improvement of existing transportation system such as road network, port and air services.

(4) Improvement of Telecommunication System

Since telecommunication is one of the necessities for urban infrastructure as well as one of the decisive factors in selecting industrial location, this subprogram deals with system expansion and improvement of existing systems for better services. Hence, telecommunication subprogram will mostly benefit establishment of industrial base subprogram, serving existing industrial entities and advantageous in promoting investment and attracting new industries to Palembang.

This subprogram will also contribute to promoting tourism as well. Coupled with better transportation services, improved telecommunication system will be able to attract more outside tourists not only foreigners into the city directly but also transit tourists and passengers through Palembang to the rest of the Region.

(5) Water Resources Development

This subprogram consisting of drainage improvement and water supply will greatly improve economic activities in Palembang and its vicinity. Hence, the subprogram directly contributes to such subprograms as establishment of industrial base, transportation services and improvement of agricultural produce marketing. This subprogram is more or less related to Kampung development program, one of the components of urban community development.

(6) Tourism Promotion

Without provision of well-established urban infrastructure, tourism development is hard to succeed. This subprogram is, therefore, closely linked with infrastructural improvement subprograms such as upgrading of transportation services and improvement of telecommunication system. Thus, urban infrastructural development is prerequisite and deemed as an input for this subprogram.

(7) Kampung Development Program

Kampung development program is primarily concerned with improvement of living environment for disadvantaged urban people by providing livelihood-related physical infrastructure. This subprogram is designed to be implemented as one of the components of urban infrastructure development comprising such subprograms as utilities, water resources, transportation, and telecommunication.

(8) Improvement of Agricultural Produce Marketing

Dealing with improvement of cold storage facilities for urban markets, this subprogram will be best served by the utilities development. Transportation services will also enhance better and quick distribution of agricultural produce, without losing fresh quality. Improved telecommunication system will influence distribution mode and timing of supply according to demand. On the other hand, urban people who will be able to raise their income level by being employed by the industry and accelerated service activities may tend to demand high quality of agricultural produce itself and better services. This may result in improvement of agricultural marketing facilities.

(9) Institutional Support

Institutional support is essential to undertake IDEP programs effectively and efficiently, since IDEP calls for better coordination and management among multiple government levels as well as sectors concerned, and respective projects. From the reason above, successful IDEP achievement will greatly rely on implementation of this subprogram.

2.4.2 Subprograms and Projects

Based on identified respective projects, each subprogram is formulated with these sectoral projects. With due consideration on appropriate timing and project sequence, proposed implementation schedule including estimated cost by project is indicated in Figure 2.4.2. All the project costs for IDEP are estimated at US\$470.7 million at 1990 price. Schematic concept for development of Kotamadya Palembang IDEP is illustrated in Figure 2.4.3 and proposed projects are listed below according to subprogram. Taking into account maturity, viability and importance relevant to each subprogram, 14 key projects are selected and listed in bold letter below:

(1) Establishment of Industrial Base

- 1) **Development of industrial estates,**
- 2) **Upgrading of institutes of R & D in industry,**
- 3) **Improvement of vocational training centers,**
- 4) **Investment promotion, and**
- 5) **Various private investments.**

(2) Utilities Development

- 1) **Gas-fired thermal power plant,**
- 2) **City gas delivery system, and**
- 3) **Integrated energy center.**

(3) Upgrading of Transportation Services

- 1) **Sultan Badarudin II airport upgrading,**
- 2) **Commuter docks improvement,**
- 3) **Seaport improvement, and**
- 4) **Outer ring road.**

Fig. 2.4.2 Phasing of IDEP Projects: Palembang IDEP

Sub-program	Project 1)		Phasing 2)											Tentative Cost 3) (US\$ mil)										
	No.	Title	Repelita VI	Repelita VII	Repelita VIII - IX																			
			'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13		
Establishment of Industrial Base	C-4	Industrial Estates	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	14.0	
	C-5	Institutes of R & D in Industry	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	1.0
	C-6	Vocational Training Centers	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	1.6
	C-10	Investment Promotion	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	3.0
			Various Private Investments	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	23.2
		Sub-total																					42.8	
Utilities Development	D-3	Gas-fired Thermal Power Plant	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	150.8
	D-4	City Gas Delivery System	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	38.6
	D-5	Integrated Energy Center	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	1.5
		Sub-total																						190.9
Upgrading of Transportation Services	G-3	Sultan Badarudin II Airport	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	53.3
	G-19	Commuter Docks Improvement	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	0.5
	G-30	Seaport Improvements	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	30.0
	G-55	Outer Ring Road	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	4.5
		Sub-total																						88.3
Improvement of Telecommunication System	H-1	Expansion of Exchange System	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	50.0
	H-2	Expansion of Outside Plant	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	77.0
	H-12	Diffusion of OPMC	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	0.1
	H-13	Maintenance Center	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	0.3
	H-15	Software Center Development	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	0.3
	H-16	CIA System Development	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	0.2
	H-17	Demand Forecast System	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	0.3
		Sub-total																						128.2
Water Resources Development	F-9/I-6	Drainage/Sewerage Treatment	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	3.7
	F-10	F/S for Palembang Water Supply	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	4.6
	F-18	F/S for Banyuasin Floodway	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	1.5
		Sub-total																						9.8
Tourism Promotion	E-6	Old Quarter Rehabilitation	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	4.5
	E-7	Sriwijaya Archeological Park Museum	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	3.3
	E-11	Sriwijaya Festival Promotion	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	0.5
		Sub-total																						8.3
Kampung Development	I-8	Kampung Development Program	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	0.1
		Sub-total																						0.1
Agriculture Produce Marketing	A-12	Cold Storage Facilities	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	0.2
	A-22	Improvement of Slaughter Facilities	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	0.3
		Sub-total																						0.5
Institutional Support	K-1	IDEP Management Unit	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	1.8
		Sub-total																						1.8
		Total																						470.7

Notes: 1) In bold letters are the key projects.

2) █ Pre-implementation study/plan-making

█ Implementation

█ On-going

3) Some cost estimates only cover study components and do not include construction costs.