

No.	Project Title	Location	Suggested Type of Implementation	Description	Priority
<u>Technical Assistance</u>					
G-79	Rural Roads Development Project	All provinces	T, F	- Development of road management skills for improved road maintenance and planning at the kabupaten level (continuation of ongoing IBRD programs)	M
G-80	Study of Appropriate Marine Technology	All provinces	T, F	- Study of shallow draft cargo vessels and related technology used in swampland/shallow water navigating areas in other countries to determine suitability for conditions in Sumatra.	H
G-81	Program for the Strengthening of Local Government Capacity for Transportation Management and Planning	All provinces	T, F	- Training of transportation officials at national and provincial levels in areas such as: 1) institutional realignment of resources and responsibilities per decentralization 2) creation of mixed enterprises to operate infrastructure 3) planning in a decentralized and liberalized environment 4) private sector participation in transportation	L

Sumatra and Java, between the interior of Sumatra and the periphery where cities and ports are located, between Southern Sumatra and Northern Sumatra, between Sumatra and abroad, and between the West Coast of Sumatra and the remainder (the interior). Key projects figuring in this process include completion of the Eastern Highway, upgrading of seaports, construction of new ferry ports, the upgrading of the airport at Palembang, two new rail lines, and the strengthening of provincial and local roads.

3.8 TELECOMMUNICATION

3.8.1 Current Conditions

The telecommunication system in the Region is organized into a hierarchy, composed of one tertiary center (Palembang), four secondary centers and 27 primary centers. Those centers are interconnected with two main transmission systems, the trans-Sumatra and cross-Sumatra microwave systems. Telephone service, however, is still largely confined to urban centers. Out of 239 kecamatan in the Region, 80% lack any telephone service. Even in those areas where the service is available, supply is not enough (huge application backlog) and its quality is poor (low successful call ratio). There are a number of problems with the telephone company. Equipment in smaller centers is generally outdated and does not take rapid expansion. Qualified personnel is in short supply in many areas (e.g., maintenance, demand forecasting) and leased line service is very limited thus causing severe traffic congestion.

3.8.2 Development Concept

According to a projection, total demand (in terms of subscribers) in 2010 will be ten-times larger than the current capacity. Most of them will live in big urban centers, where social and economic activities concentrate. Nonetheless, it is also important from the social viewpoints to extend telephone service to rural areas. Thus, the telecommunication development concept is summarized as follows and illustrated in Figure 3.8.1.

- (1) Expand the telephone service networks in large cities eliminating application backlog;
- (2) Extend the networks to surrounding rural areas;
- (3) Expand the capacity of transmission systems to accommodate future traffic and improve the successful call ratio; and
- (4) Improve service quality by strengthening the maintenance operations.

3.8.3 Strategy

To improve the large cities' telephone networks, following measures should be implemented: (1) exchange capacity expansion, and (2) copper cable replacement.

To extend telephone service into rural areas, the Team suggests an extensive route plan (Figure 3.8.2 shows the Lampung plan for example). The Team also proposes a model of a new rural telecommunication system (digital radio multiple access system), whose installment, however, may call for a government subsidy to the telephone company.

The transmission system expansion should rely on the fiber optic technology. Two major routes are proposed which are totally separate from the existing microwave routes. One route runs along the eastern trans-Sumatra highway whereas the other links Palembang to Pangkalpinang and further to Pontianak, Jakarta and Batam.

Quality improvement should be promoted through diffusing the Outside Plant Maintenance Center, innovating the Outside Plant, establishing the Maintenance Center and introducing more leased lines. It is also imperative to improve the managerial aspects.

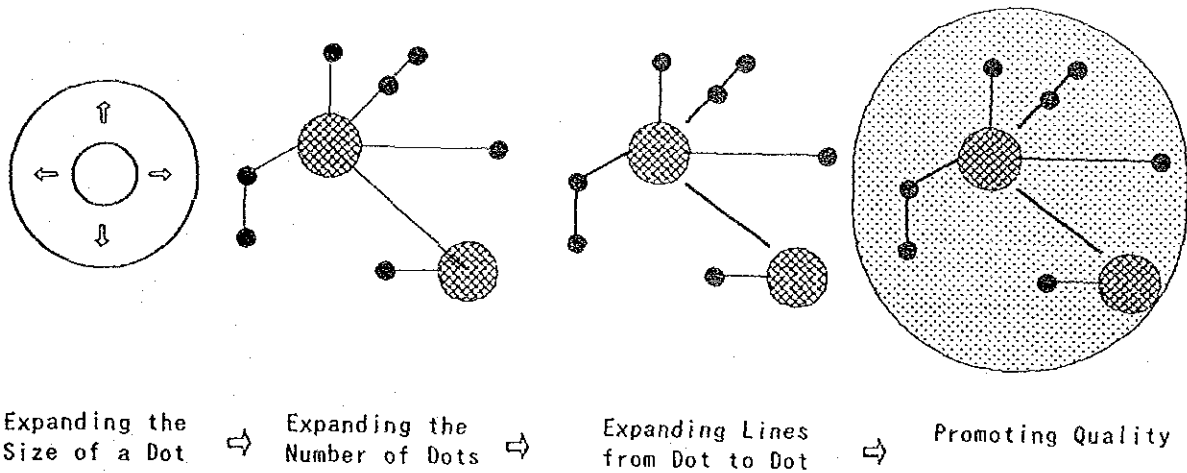


Figure 3.8.1 Concept of Telecommunication Development Strategy

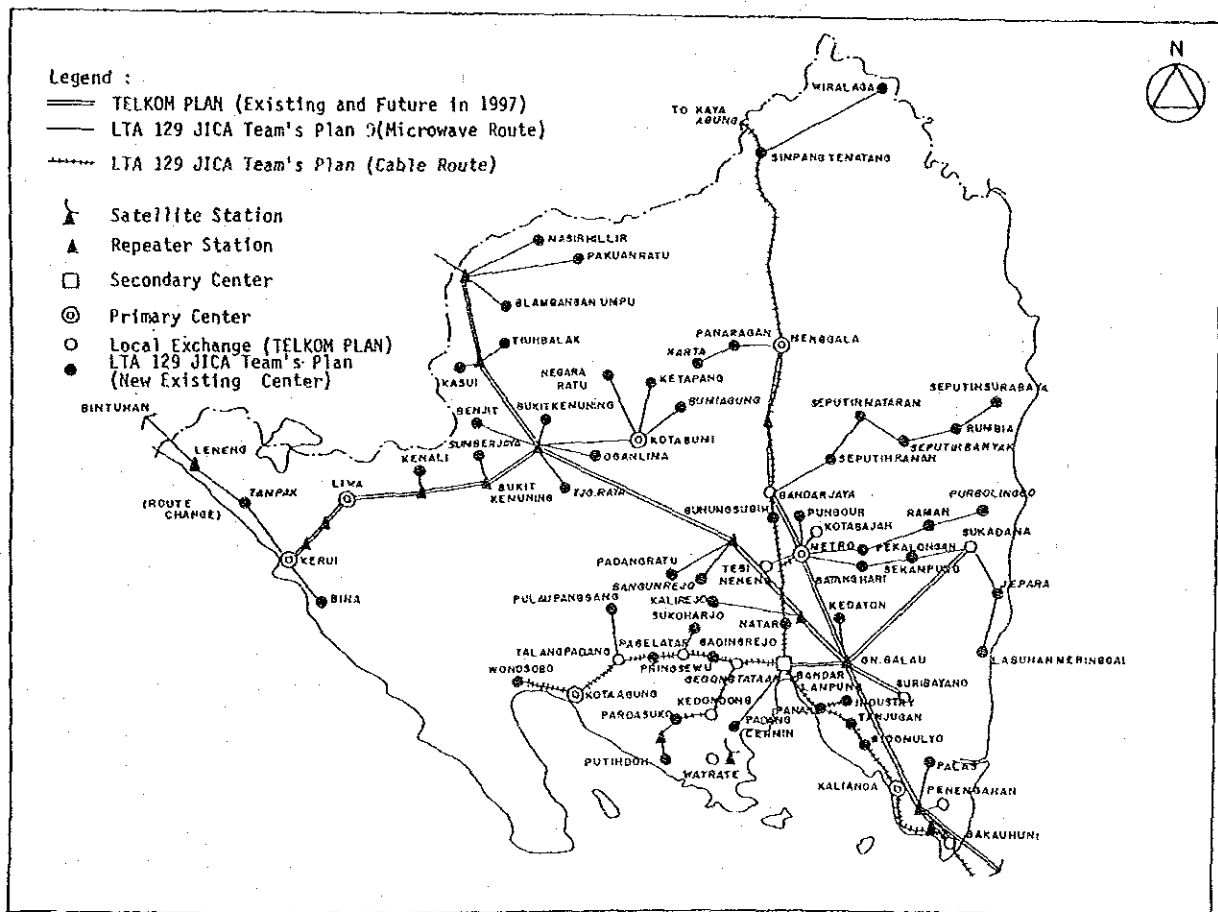


Figure 3.8.2 Telecommunication Planning Route Map of Lampung Province

Table 3.8.1 Project Long List (Telecommunication)

No.	Project Title	Location	Suggested Type of Implementation	Description	Priority
H-1	Expansion of Exchange System	Major cities	F	- Switching equipment	H
H-2	Expansion of Outside Plant	Major cities	F	- Cable	H
H-3	Expansion of Junction Circuits	Cities of multiple exchange centers	F	- Fiber optic system	M
H-4	Extension of Cross-Sumatra Microwave System	Palembang to Muntok, Sungai Liat, Pangkal Pinang, Koba, Tanjung Pandan and Manggar	F	- Terrestrial system with big capacity	On-going (Credit Lyonnais)
H-5	Terrestrial Transmission System Extending from Trans- and Cross-Sumatra Transmission Systems	To Sungaipenuh, Muara Bungo, Kuala Tungkal, Muaraaman, Manna, Bintuhan, Pendopo, Muaradua, Krui, Kotaagung, Wayrata, Kalianda, Jepara, Menggala, and others	F	- Locations which are currently accessible only via satellite transmission	On-going (Credit Lyonnais)
H-6	New Backbone Transmission Fiber Optic System	Medan-Jambi-Palembang-Bandar Lampung-Jakarta Palembang-Pangkal Pinang-Pontianak/Batam/Jakarta	F	- Increase the capacity, digital transmission system	H
H-7	Introduction of ISDN	Provincial capital	I	- Digital local network system (digital subscriber network) - For multiple line subscribers, local optical fiber cable network	L
H-8	Rural Telecommunication System	All desas in the southern part of Sumatra	F, T	- Wireless system for small demand area including public telephone service	H
H-9	Leased Line Service	For big traffic subscribers in the southern part of Sumatra	I	- Not only speech channel service but also high speed digital channel service	M
H-10	Unattended Exchange and Transmission Supervision and Control Center	All primary centers	I, T	- Introduce unattended supervision and control centers for exchange and transmission equipment to save manpower	L

Notes:

Suggested Type of Implementation indicates:

R: Government self-financed ("Rupiah project")

T: requires technical assistance

F: requires financial assistance

I: private investment

Priority is indicated as:

H: high M: medium L: low

Shaded projects are IDEP components. Bold letter projects are prefeasibility projects.

No.	Project Title	Location	Suggested Type of Implementation	Description	Priority
H-11	Innovation of Outside Plant	All southern part of Sumatra	T	- Development of new outside plant system	L
H-12	Diffusion of OPMC	Primary centers and next main local centers	F, T	- Maintenance car - Technical adviser	On-going (OBCF)
H-13	Maintenance Center	Palembang, next provincial capitals	F, T	- Maintenance car - Technical adviser	L
H-14	Establishment of Construction Center	WITEL-III, next provincial capitals	F, T	- CAD system - Training and on-the-job training	L
H-15	Software Center Development	WITEL-III	F, T	- Computer for making software - Technical adviser and on-the-job training	L
H-16	CAD System Development	WITEL-III	F, T	- Personal computer - Training and on-the-job training - Make software of curriculum	L
H-17	Establishment of Demand Forecast System	Primary centers	T	- Training and on-the-job training - Computers	M
H-18	Building for Long Term Demand	All southern part of Sumatra	I	- Based on long term demand forecast	L
H-19	Construction of Basement of Outside Plant	All southern part of Sumatra	I	- Based on long term demand forecast: cable tube, cable tunnel, with good coordination with electric power supplier, water supplier and government in charge of road	L
H-20	Replacement of Paper Cables	All southern part of Sumatra	I	- With plastic sheath cable	On-going (Telkom)
H-21	Replacement of Analog Switching System	All southern part of Sumatra	I	- With digital switching system	On-going (Telkom)
H-22	Replacement of Analog Transmission System	All southern part of Sumatra	I	- With digital transmission system	On-going (Telkom)

3.9 URBAN AND RURAL DEVELOPMENT

3.9.1 Current Conditions

Currently in Indonesia 30% of population live in urban areas. The figure is about 20% in the Region. Although urbanization is a persistent national trend, it has been moderate in the Region during the past decade. The percentage of urban population is exceptionally low in Lampung (12%, 1990) and this is the only province where rural population grew faster than urban population between 1980-90 (2.7% and 2.6%, respectively), presumably because of the continuing arrival of spontaneous migrants. By contrast, urban residents increased rapidly in the smaller provinces, Jambi and Bengkulu.

The Region's structure of urban centers demonstrates a large discrepancy between the primary cities (i.e., provincial capitals) and the secondary and lower-rank centers. Lack of a strong intermediate city in the interior of the Region thus represents a strategic issue in urban development. Urban infrastructure is generally poor, but the well established IUIDP (Integrated Urban Infrastructure Development Program) and its variation, SCUDDP (Secondary Cities Urban Development Project), are in progress.

The most serious issue in rural development is pervasive poverty. In terms of number, 19% of rural villages are ranked "poor" in the Region. Specifically to alleviate poverty, a special nationwide program (Integrated Area Development Program: PKT) was initiated in 1990, aiming at poor and isolated kecamatan.

3.9.2 Development Concept and Strategy

The Team proposes a new urban system modifying the one proposed in the National Urban Development Study (NUDS, 1985). The most significant changes are seen in the second tier, Interregional Development Center, to which those cities are newly promoted: Kuala Tungkal, Lubuk Linggau, Baturaja and Bakauheni. Demoted cities are Pringsewu, Pangkal Pinang and Tanjung Pandan. Functions and problems of those high-rank urban centers are summarized in Table 3.9.1. A newly emerging approach of IUDP (Integrated Urban Development Program) which encompasses a wider range of urban infrastructure and social services is a natural outgrowth of IUIDP. The Team suggests that this approach be promoted for effective urban development.

Rural development necessitates integrated actions on various fronts, which are summarized in Table 3.9.2. Though the Team basically recommends to pursue the existing rural development programs/projects, it also emphasizes the importance of urban-rural linkage or their functional integration. Thus rural centers should be promoted. As the keys to rural development, decentralization and participation are also stressed.

3.10 LAND USE/FORESTRY/ENVIRONMENT

3.10.1 Current Conditions

About 40% of land in the Region is forest-covered. The resource, however, is diminishing gradually because of population pressure as well as the fast-growing wood industries. Some watersheds have already turned into critical conditions and 1.9 million ha awaits rehabilitation. Some 0.8 million people still practice shifting cultivation inside the forests, affecting about 2 million ha of land. In Indonesia natural forests are classified into five categories: conservation, protection, limited production, regular (fixed) production and conversion forests. Out of the 110,000 km² forest land in the Region, 41% is designated for conservation (the first two categories) and the rest for production (Figures 3.10.1, 3.10.2 and 3.10.3). More than half of their territories are still forested in Jambi and Bengkulu. Lampung, by contrast, has less than 20%. Major conservation/protected forests are located in the Barisan range (e.g., Kerinci Seblat National Park) and on the east coast (e.g., Berbak National Park,

Table 3.9.1 Functions and Problems of the Strategically Important Cities

city	functions	role for and/or relation with IDEP	problems
Palembang	-economic and communication hub of the Region -primary all-round industrial center	-proposed site of IDEP to lead the Region's and nation's economy	-poor infrastructure & services, esp. water supply, drainage, sanitation, -lack of city dev. plan
Bandar Lampung	-connecting point between Sumatra and Java -primary agro-industrial center	-proposed site of IDEP with a role of agro-industrial center -support base for agricultural production in Lampung Utara	-poor infrastructure & services, esp. water supply, sanitation, drainage, electricity -lack of city dev. plan
Jambi	-secondary agro-industrial center	-support center for agricultural base (Tj. Jabung) in financial, marketing & management requirement	-insufficient water supply, flood control -insufficient transportation infrastructure
Bengkulu	-tertiary agro-industrial center -outlet on the western side	-support center for Bengkulu Selatan	-lack of agglomeration of city functions as IDC -insufficient infrastructure, esp. water supply
Kuala Tungkal	-access point to Northern Sumatra and growth triangle	-proposed site of IDEP with a role of linking the functions of Kab. Tj. Jabung with growth triangle	-insufficient infrastructure, & services in general
Lubuk Linggau	-hub for agro-zone 2 -connecting point to Bengkulu and Jambi	-proposed site of IDEP with a role of trade & commerce center for products of agro-zone 2	-insufficient agglomeration of city functions as IDC -insufficient infrastructure
Baturaja	-connecting point between agro-industrial zone and agro-zone 2 -part of Sumatra Gateway Triangle	-role to link and support four IDEP sites: Palembang, Musi Rawas/Lahat, Lampung Utara and Bandar Lampung/Lampung Selatan	-insufficient infrastructure & services -insufficient agglomeration of city functions as IDC
Bakauheni	-access point to Java	-proposed site of IDEP with a role of carrying materials, products and passengers to and from Java as a port city	-insufficient infrastructure & services -insufficient agglomeration of city functions as IDC

Table 3.9.2 Concept of Rural Development Program Components

Productive Sector	
Agriculture	diversification of products, multiple cropping, quality improvement: technology, supply of pesticides, training
Non-agriculture	promotion of small-scale industry, trade and services, fishery, forestry, cattle breeding, mining
Non-productive Sector	
Infrastructure	
desa/rural center	irrigation, drainage, access and feeder roads, storage and processing facilities, waterway, small bridges, local road network
district/region centers	main road, bridges, radio and tele-communications, public transport, market centers
Public utilities	water supply, drainage, human waste disposal, garbage disposal, power and energy supply
Basic services	education, health service, food if necessary
Housing	housing improvement
Other social and economic services	cultural, religious, recreational and sports facilities, shops, markets, provision of credit
Training	training for health, participating development activities (planning, implementation, O & M)
Local organization	formal: cooperatives for extension services, training (to minimize costs of supplying inputs and farm implements, to promote the marketing of rural production, to increase access to productive resources), LKMD, PKK, etc. informal: P3A (water user association), traditional social institutions

Table 3.9.1 Project Long List (Urban and Rural Development)

No.	Project Title	Location	Suggested Type of Implementation	Description	Priority
I-1	Sumatra Secondary Cities Urban Development Project (SCUDP)	All Region	T	- Technical assistance to extend existing SCUDP for long-term urban infrastructure plans	L
I-2	Master Plan for Jambi Water Supply and Sewerage System	Kodya Jambi	T	- Long-term water supply plan - Long-term sewerage treatment plan - See 6 Water Resources	M
I-3	Master Plan for Jambi Flood Control	Kodya Jambi	T	- Drainage plan in flood prone areas	M
I-4	Secondary Cities Urban Development Project (SCUDP)	Kuala Tungkal	T, F, I	- Long-term urban infrastructure plan - Mid-term investment plan - Financial assistance for investment	H
I-5	Master Plan for Palembang City Development	Kodya Palembang	T	- Long-term urban development plan	H
I-6	Master Plan for Palembang Urban Drainage and Sewerage Treatment	Kodya Palembang	T	- Long-term drainage system expansion plan - Long-term sewerage treatment plan - See 6 Water Resources	M
I-7	Water Supply Project for Palembang	Kodya Palembang	T, F	- Expansion of water treatment capacity - Improvement of distributing water - See 6 Water Resources	L
I-8	Kampung Development Program	Kodya Palembang	R, T, F	Kampung Improvement Program (KIP) - Evaluation and complementing current KIP Human Resource Development - Skills training - Informal education Credit Union - Credit unit for people working in both formal and informal sectors	H
I-9	Spatial Plan	Kab. Bangka	T	- Long-term spatial plan - Reconsideration of land use - Infrastructure plan especially for tourism	L

Notes:

Suggested Type of Implementation indicates:

R: Government self-financed ("Rupiah project")

T: requires technical assistance

F: requires financial assistance

I: private investment

Priority is indicated as:

H: high M: medium L: low

Shaded projects are IDEP components. Bold letter projects are prefeasibility projects.

No.	Project Title	Location	Suggested Type of Implementation	Description	Priority
I-10	Spatial Plan	Kab. Belitung	T	- Long-term spatial plan - Reconsideration of land use - Infrastructure plan especially for tourism	M
I-11	Integrated Urban Infrastructure Development Program (UIDP)	Lubuk Linggau	T, F, I	- Long-term urban infrastructure plan - Mid-term investment plan - Financial assistance for investment	M
I-12	Spatial Plan	Lahat	T	- Long-term spatial plan	L
I-13	Secondary Cities Urban Development Project (SCUDP)	Lahat	T, F, I	- Long-term urban infrastructure plan - Mid-term investment plan - Financial assistance for investment	M
I-14	Secondary Cities Urban Development Project (SCUDP)	Baturaja	T, F, I	- Long-term urban infrastructure plan - Mid-term investment plan - Financial assistance for investment	On-going (ADB)
I-15	Master Plan for Bengkulu Sewerage Treatment	Kodya Bengkulu	T	- Long-term sewerage plan - See 6 Water Resources	L
I-16	Spatial Plan	Manna, Bintuhan	T	- Long-term spatial plan	L
I-17	Secondary Cities Urban Development Project (SCUDP)	Manna, Bintuhan	T, F, I	- Long-term urban infrastructure plan - Mid-term investment plan - Financial assistance for investment	M
I-18	Secondary Cities Urban Development Project (SCUDP)	Kota Bumi, Menggala	T, F, I	- Long-term urban infrastructure plan - Mid-term investment plan - Financial assistance for investment	M
I-19	Master Plan for Bandar Lampung City Development	Bandar Lampung	T	- Long-term urban development plan	H
I-20	Water Supply for Bandar Lampung	Bandar Lampung	T, F	- Securing water resources - Increasing institutional capacity of water supply enterprise	M
I-21	Master Plan for Bandar Lampung Sewerage Treatment	Bandar Lampung	T, F	- Long-term sewerage treatment plan to deal with human waste and waste water - See 6 Water Resources	M
I-22	Kampung Improvement Program (KIP)	Bandar Lampung	T, F	- Evaluation of the current KIP program - Formulation of a KIP plan - Financial assistance for implementation	H
I-23	Spatial Plan	Bakauheni	T	- Long-term spatial plan	M
I-24	Integrated Urban Infrastructure Development Program (UIDP)	Bakauheni	T, F, I	- Long-term urban infrastructure plan - Mid-term investment plan - Financial assistance for investment	H

No.	Project Title	Location	Suggested Type of Implementation	Description	Priority
I-25	Rural Development Project (Support for Trans Bandep)	Tanjung Jabung (Jambi)	R, T, F	<ul style="list-style-type: none"> - Assessment of land - Assessment of environment impacts - Survey of economic conditions and socio-cultural profile of local people and transmigrants - establishment of land title 	M
I-26	Rural Development Program	Musi Rawas/Lahat	R, T, F	<ul style="list-style-type: none"> - Social Services - health care - Rural Roads - improvement of rural roads 	M
I-27	Participatory Rural Development Program	Kec. Blambangan Umpu, Lampung Utara	R, T, F	<ul style="list-style-type: none"> - Agriculture Research and Extension - participatory research and extension with sarjanas as partners - Skill Training for Women - training of various business skills - basic education - Credit Scheme - provision of credit to farmers - Rural Infrastructure - rural roads and small bridges - water supply (public wells) - processing and storage facilities - market facilities 	H
I-28	Rural Development Program for Conservation and Agricultural Diversification	Western part of Lampung Selatan	R, T, F	<ul style="list-style-type: none"> - Alternative Crops - promotion of non-coffee crops - support for local initiatives - Rural Roads - improvement of kabupaten roads - Leader Training - training for community leaders (support for KPD and UED programs) - provision of scholarships - Land Titling - promotion of land titling 	H
I-29	Integrated Area Development Program (PKT)	Sarolangun Bangko, Batang Hari (Jambi)	R, F, T	<ul style="list-style-type: none"> - Advice for planning - Financial assistance for implementation 	M
I-30	Integrated Area Development Program (PKT)	OKU, Muara Enim, MUBA (South Sumatra)	R, F, T	<ul style="list-style-type: none"> - Advice for planning - Financial assistance for implementation 	M
I-31	Integrated Area Development Program (PKT)	Bengkulu Utara, (Bengkulu)	R, F, T	<ul style="list-style-type: none"> - Advice for planning - Financial assistance for implementation 	M
I-32	Integrated Area Development Program (PKT)	Lampung Tengah, (Lampung)	R, F, T	<ul style="list-style-type: none"> - Advice for planning - Financial assistance for implementation 	M

Way Kambas National Park). Ecologically unique or important aspects include: mangrove forests (Jambi), lowland dipterocarp forests (South Sumatra), Rafflesia aronoldi (Bengkulu) and leatherback turtle nesting sites (Bengkulu).

3.10.2 Development Concept

In 2030, the Region's demand for industrial wood will be two- to four-fold while supply from the natural forests will drop by 25 to 35%. To close the gap, large-scale industrial forest plantations should be promoted. Major environmental issues to be addressed in the long-term perspective are: uncontrolled clear-cutting in the Kerinci valley, mangrove forests severely affected by human settlement, logging and unlicensed sawmill operation (Jambi); illegal logging in the swamp forests, ineffectively protected reserves, lack of waste treatment by the factories (South Sumatra); degrading watersheds, threats to the unique flora (Bengkulu); settlements in the protected forests (20,000 households), illegal logging, hunting, road construction and shifting cultivation in the Way Kambas National Park, water pollution in the urban areas (Lampung).

3.10.3 Strategy

Strategy for sustainable environmental development and management is as follows:

- (1) Forest inventory and land use planning. The first step is to make an inventory of the existing forests on which land use planning is to be based.
- (2) Incentives and controls in natural forest management. Give secured tenure and performance-linked rewards to the concessionaires.
- (3) Residue reduction and improved utilization. Reduce the current 40% level of logging residue. Fully utilize both well- and lesser-known species.
- (4) Forest plantations. Develop industrial forest plantations to supply raw materials and relieve pressure on the natural forests.
- (5) Efficiency in forest-based processing and trade. Support small-scale industries using forest products.
- (6) Environmental conservation. Remove constraints on environmental conservation with proper measures.
- (7) Welfare of Forest Communities. Give attention and incentives to forest-dwelling communities to induce them to participate in the sustainable forest management.

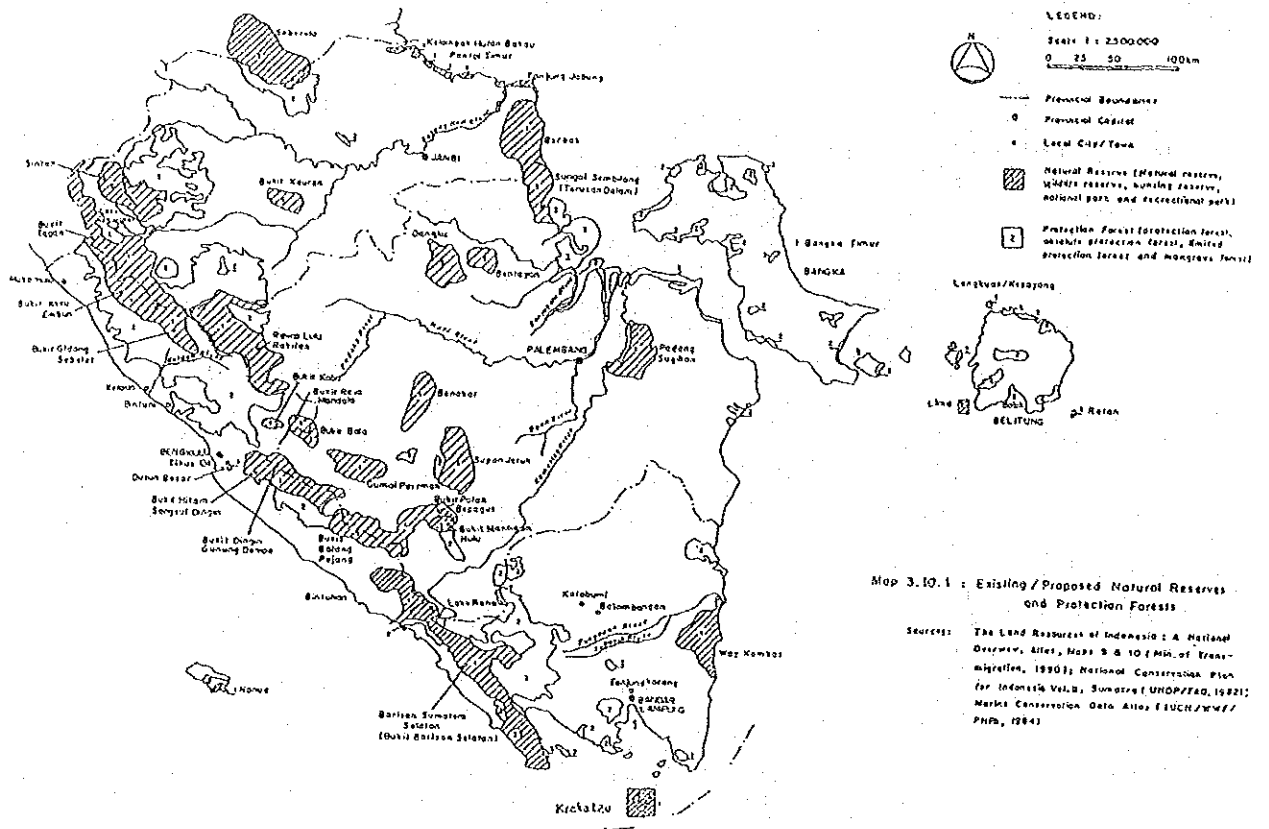


Figure 3.10.1 Existing/Proposed Natural Reserves and Protection Forests

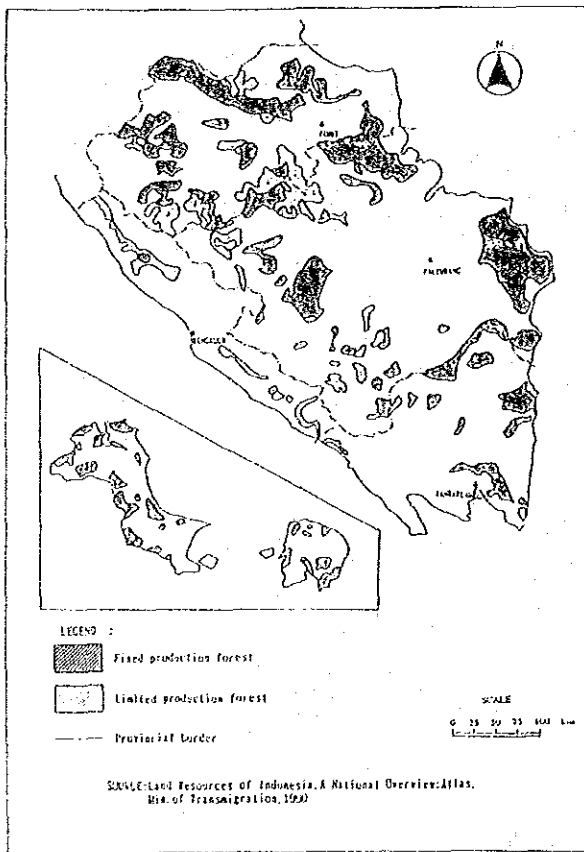


Figure 3.10.2 Location of Production Forest: 1982

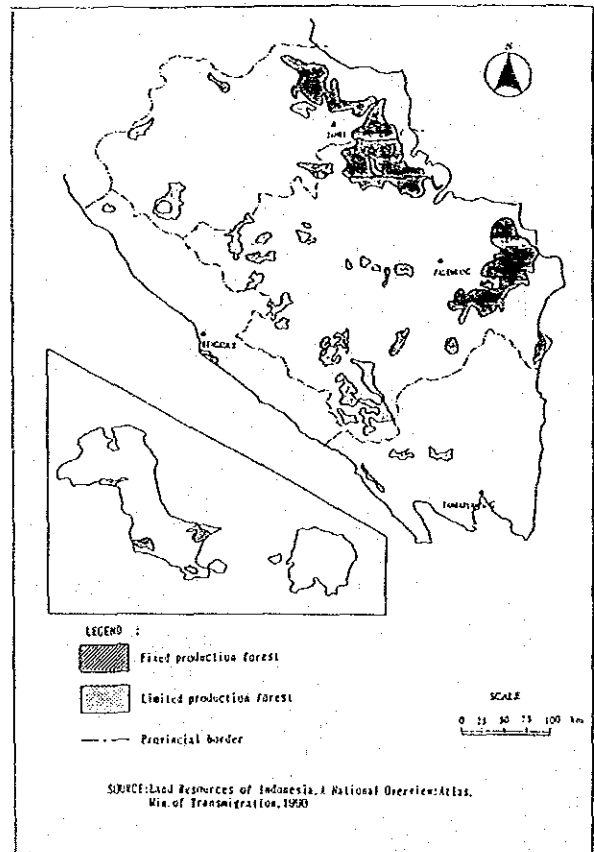


Figure 3.10.3 Suggested Zoning of Production Forest: TGHK

Table 3.10.1 Project Long List (Land Use/Forestry/Environment)

No.	Project Title	Location	Suggested Type of Implementation	Description	Priority
JAMBI					
J-1	Pilot Demonstration on Sustainable Integrated Management of Natural Forest	Sarolangun Bangko or Bungo Tebo	T, I	- A demonstration forest plot to apply the Indonesian Selective Cutting and Planting system properly - An example for forest concession holders (HPH)	M
J-2	Small Scale Industry Development for Forest Dwellers	Pegmungana Duakla, Sarolangun Bangko	T, I	- Technical assistance to timber companies which collaborate - To enhance living standards and control shifting cultivation	H
J-3	Participatory Development of Forest Product Collectors	Suku Kubu and Sarolangun Bangko	F, T	- Review of the knowledge system of forest product collectors - Sustainable and benign development based on their knowledge and experience	L
J-4	Pilot Demonstration on Integrated and Sustainable Mangrove Forest Management	In and around Hutan Bakau Pantai Timur Strict Nature Reserve, Tanjung Jabung	F, T	- Demonstration of proper silvicultural system - Mangrove management manual - Income earning activities - Personnel training	H
J-5	Utilization of Logging Residues	Pelabuhanadangang, Tanjung Jabung	T, I	- Technical and economic evaluation - Include oil palm trees felled for replantation	M
SOUTH SUMATRA					
J-6	Plantation Mechanization Training and Demonstration Unit	Ogan Komering Ilir, Musi Rawas and Musi Banyuasin	F	- Mechanization of estate operations for cost reduction	L
J-7	Industrial Forest Plantation	South Sumatra	I	- To increase timber supplies from forest plantations to supplement diminishing natural forests	H

Notes:

Suggested Type of Implementation indicates:

R: Government self-financed ("Rupiah project")

T: requires technical assistance

F: requires financial assistance

I: private investment

Priority is indicated as:

H: high M: medium L: low

Shaded projects are IDEP components. Bold letter projects are prefeasibility projects.

No.	Project Title	Location	Suggested Type of Implementation	Description	Priority
BENGKULU					
J-8	Rehabilitation of Critical Forest Land	Bengkulu Selatan	F, T	- A pilot area (100 ~ 500 ha) requiring urgent rehabilitation	L
J-9	Rehabilitation of Degraded Lands through Agro-Forestry System	Ipuh transmigration area, Bengkulu Utara	F, T	- A pilot project to establish appropriate agro-forestry systems	H
J-10	Conservation and Management of Turtle Nesting Beaches	Tikus Island and coastal line	F, T	- To protect turtle population by establishing a more rational and sustainable way of egg harvesting	L
J-11	Natural Resources Research and Management	Whole province	F, T	- Post-graduate programs at local universities - Master planning for natural resource research - Developing strategy for natural resource management - In-situ and ex-situ conservation of generic resources	L
LAMPUNG					
J-12	Eco-Tourism and Recreation at the Way Kambas National Park	Way Kambas, Lampung Tengah	F, T, I	- Conservation of the Park's ecosystem - Proper zoning - Park management training - Public awareness raising	L
J-13	Comprehensive Environmental Management of the Lampung Bay	Lampung Bay	F, T	- Ecosystem protection - Management strategy for tourism and fishery development - Environmental management training	L
INTERPROVINCIAL/REGIONAL					
J-14	Elephant Migration Management	Ogan Komering and Musi Banyuasin (South Sumatra), Bengkulu Selatan and Lampung Utara	F, T	- Study on damages of elephants' invasion - Developing culturally and economically acceptable managerial programs	L
J-15	Integrated and Sustainable Development of Swamp Areas	South Sumatra (Ogan Komering Ilir and Musi Banyuasin) and Lampung (Lampung Utara)	F, T	- To maintain and enhance the value of swamp areas by developing multi-purpose management strategy in collaboration with local communities and concessionaires	L

No.	Project Title	Location	Suggested Type of Implementation	Description	Priority
J-16	Kerinci Seblat National Park Development (partly on-going financed by World Bank)	Jambi, South Sumatra and Bengkulu	F, T, I	<ul style="list-style-type: none"> - Assistance to PHPA to develop and implement a 5-year management plan - Establishment of a buffer zone program - Preparation for tourism development - Strengthening of PHPA capability 	M
J-17	Study on Communities of Upland Forest Dwellers	Jambi, Bengkulu and Lampung	F, T	<ul style="list-style-type: none"> - Documentation of traditional knowledge, values and adat rights in preparation for sustainable social forestry development 	L
J-18	Forest Engineering Training Schools	Region (4 selected mills)	F, T	<ul style="list-style-type: none"> - Improve logging and loading operations in plantation forests 	L
J-19	Utilization of Wood Processing Industry Residues	Region	T, I	<ul style="list-style-type: none"> - Establish satellite industries using residues from wood processing 	M
J-20	Rural Rattan Development for Smallholders	Region	T, I	<ul style="list-style-type: none"> - Improve rattan resources from the natural forest - Smallholder rattan plantation 	M
J-21	Resin-Based Rural Industries	Dry mountainous areas (above 500-m elevation) in the Region	T, I	<ul style="list-style-type: none"> - F/S for pine plantation under NES scheme - F/S for resin processing industry 	M
J-22	Pilot Wood Energy Development	Region	F	<ul style="list-style-type: none"> - Study of fuelwood consumption - Promote energy efficient devices for household and industrial uses 	L
J-23	Integrated Social Forestry for the Production of Fuelwood, Food and Cash Crops	Highlands in the Region	T, F	<ul style="list-style-type: none"> - Protect highland forests from soil erosion and excessive cutting for domestic uses - Promote alternative energy source to fuelwood 	M
J-24	Rehabilitation of Critical Watersheds	Critical forest areas in the Region	T, F	<ul style="list-style-type: none"> - Establish a pilot site (500 ha per province) - Develop appropriate technological package 	M

No.	Project Title	Location	Suggested Type of Implementation	Description	Priority
J-25	Center for Integrated Development of Shifting Cultivators	Areas with high-density shifting cultivation in the Region	F, T	<ul style="list-style-type: none"> - Develop appropriate models to rationalize shifting cultivation - Center for information on shifting cultivation - Provide access to social services (e.g., family planning) 	M
J-26	Management of Protection Forests	Region	F, T	<ul style="list-style-type: none"> - Assess the present legal and field status of protection forests - Formulate and implement management policy and strengthen institutions/agencies 	L
J-27	Water Quality Protection Management	Provincial capitals, and the downstreams of the Batanghari and Musi Rivers	T, F	<ul style="list-style-type: none"> - Establish water quality standards - Establish monitoring mechanism of water pollution 	M
J-28	Protection of West Coast	Bengkulu and Lampung	R, T, F	<ul style="list-style-type: none"> - Assess the present erosive damages and the future fragile areas - Formulate and implement protection programs in line with a national global warming (sea-level rise) action plan 	L

4. IDEPS (INTEGRATED DEVELOPMENT PROGRAMS)

In Chapter 2 above, six sites have been identified for IDEP and the process of their formulation was described. The resultant six IDEPs are detailed in Part 1 of Volume 4. This Chapter summarizes them in the following order:

- | | |
|-----------------------------------|-----------------|
| 1) Tanjung Jabung | (Jambi) |
| 2) Palembang | (South Sumatra) |
| 3) Musi Rawas/Lahat | (South Sumatra) |
| 4) Bengkulu Selatan | (Bengkulu) |
| 5) Lampung Utara | (Lampung) |
| 6) Bandar Lampung/Lampung Selatan | (Lampung) |

4.1

TANJUNG JABUNG IDEP

Region's Objectives	IDEP's Objectives	Subprogram	Key Projects
Java-Sumatra Axis	Agro-fisery for Growth Triangle	Coastal zone	1 Coastal Fisheries Management
			2 Muara Sabak Seaport Development
			3 Mangrove Forest Management
	Sasustainable Swamp	Lowlands swamp zone	4 Smallholder Estate Crops Developmet
			5 Integrated Swamp Development*
			6 Swamp Road to Muara Sabak Sea Port
Growth and Employment	Transportation Linkage	Hilly zone	7 Smallholder Estate Crops Developmet
			8 Large Scale Estate Development
			9 Pelabuhan Dagang-Pumatang Lumut Road
Equity	Isolated Area	Urban zone	10 Kuala Tungkal Seaport Improvement
Environment	Poverty Alleviation	Institutional support	11 Establishment of IDEP Management Unit

Note: *, On-going

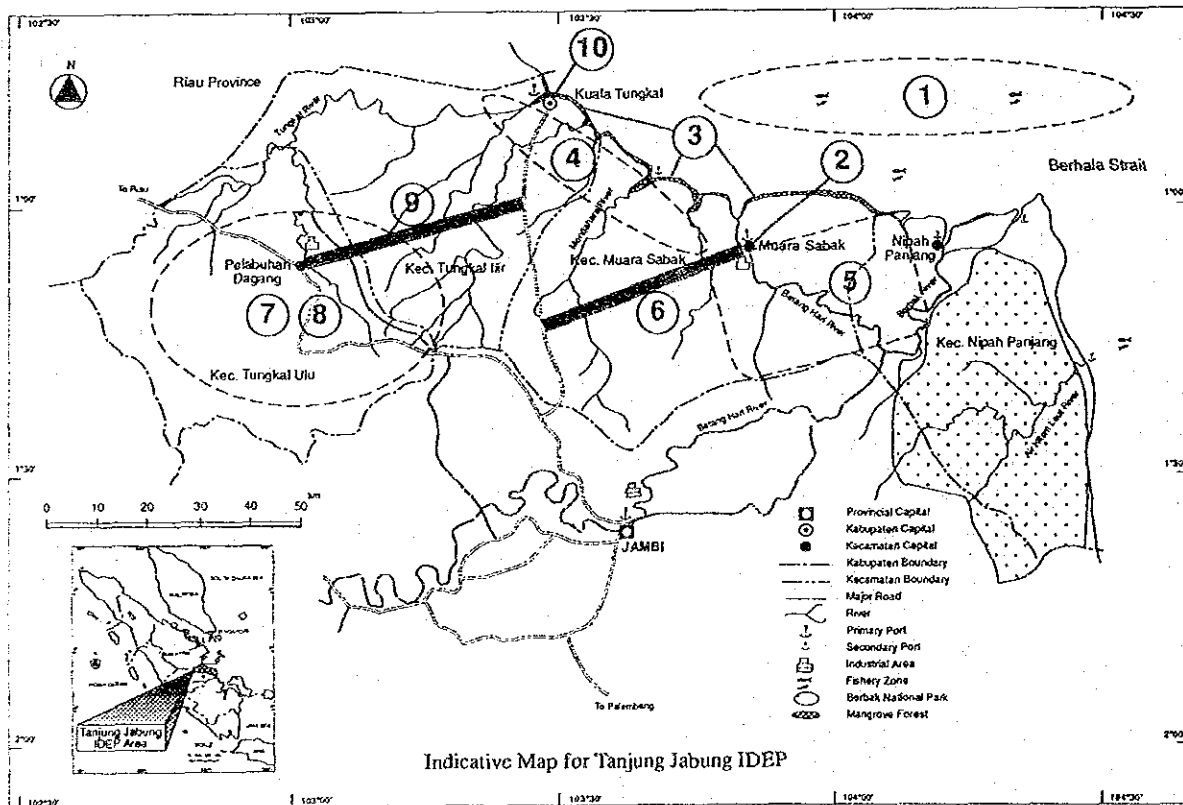





Figure 4.1.1 Tanjung Jabung IDEP

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
Coastal Zone	1	Coastal Fisheries Management																					9.0
		<i>Brackish Water Shrimp Culture</i>																					24.0
		<i>Muara Sabak Medium Scale Industry</i>																					15.4
		<i>Rural Water Supply for the Eastern Coast</i>																					3.7
		2	Muara Sabak Seaport Development																				72.2
		<i>Sungai Itik-Sungai Cemara Road Project</i>																					2.0
		<i>Kabupaten Local Roads</i>																					1.5
		<i>Direct Road Jambi City-Muara Sabak</i>																					18.5
		3	Mangrove Forest Management																				2.7
			Sub-total																				149.0
Lowland Swamp Zone	4	Smallholder Estate Crops																				4.4	
		<i>Swamp Fishery Development Project</i>																				22.0	
		<i>Berbak National Park Tourism</i>																				5.0	
		<i>Balang Hari Integrated Basin Development</i>																				5.2	
		<i>Tungkal River Basin Irrigation</i>																				12.0	
		5	Integrated Swamp Development																				34.5
		<i>Kabupaten Local Roads</i>																					1.5
	6	Swampland Road to Muara Sabak																				5.0	
		Sub-total																				89.6	
Hilly Zone	7	Smallholder Estate Crops																				4.5	
	8	Large Scale Estate Development																				80.5	
		<i>NES-Type Beef Cattle Farming</i>																				2.5	
		<i>Pelabuhan Dagang Medium Scale Industry</i>																				15.4	
		9	S.Bengkai(P.Dagang)-P.Lumut Road																				1.7
		<i>Kabupaten Local Roads</i>																					2.0
		<i>Rural Telecommunication System</i>																					1.0
	<i>Rural Development Project</i>																					6.0	
		Sub-total																				113.6	
Urban Zone	10	Kuala Tungkal Seaport Improvement																				20.5	
		<i>Kuala Tungkal-Jambi Road Project</i>																				2.5	
		<i>Secondary Cities Urban Development</i>																				1.4	
		Sub-total																				24.4	
Institutional Support	11	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.

Figure 4.1.2 Phasing of IDEP Projects: Tanjung Jabung IDEP

Region's Objectives	IDEP's Objectives	Subprogram	Key Projects		
Java-Sumatra Axis	Industrial Development	Industrial Base	1 Development of Industrial Estates 2 Vocational Training Centers 3 Investment Promotion		
		Utilities	4 Gas-Fired Thermal Power Plant		
		Transportation	5 Sultan Badarudin II Airport Upgrading 6 Seaport Improvement 7 Outer Ring Road		
		Services Center	Telecommunication	8 Expansion of Exchange System 9 Expansion of Outside Plant	
			Water Resources	10 M/P for Urban Drainage/Sewerage Treatment	
		Growth and Employment	Distribution Center	Tourism	11 Old Quarter Rehabilitation and Conservation
				Kampung Development	12 Kampung Development Program
Equity	Urban Community Development	Agricultural Produce Marketing	13 Development of Cold Storage Facilities		
		Institutional Support	14 Establishment of IDEP Management Unit		

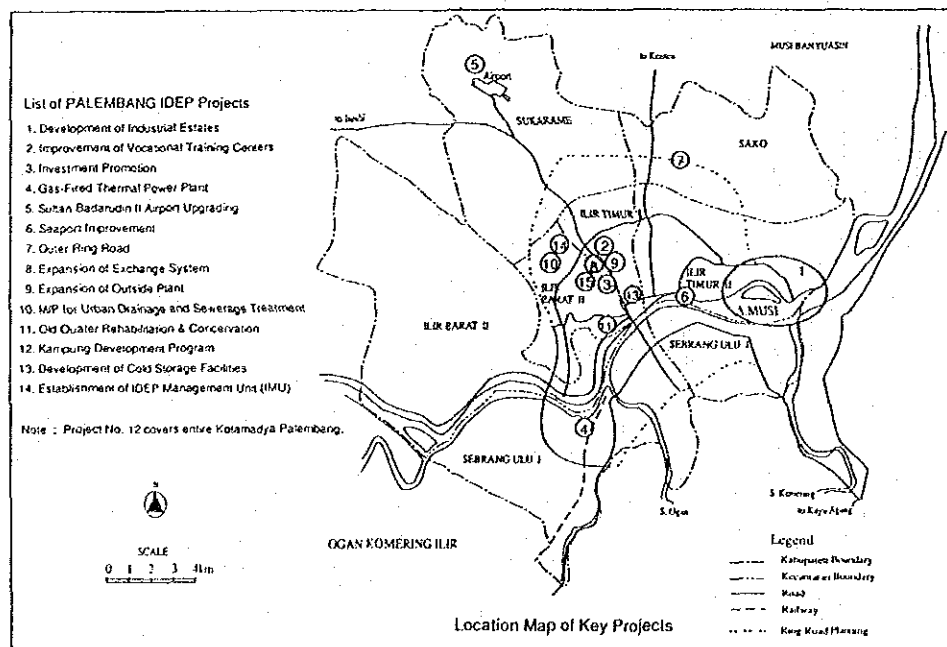


Figure 4.2.1 Palembang IDEP

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
Establishment of Industrial Base	1	Industrial Estates	[Implementation]											14.0					
		Institutes of R & D in Industry	[Implementation]											1.0					
	2	Vocational Training Centers	[Implementation]											1.6					
	3	Investment Promotion	[Implementation]											3.0					
		Various Private Investments	[Implementation]											23.2					
		Sub-total												42.8					
Utilities Development	4	Gas-fired Thermal Power Plant	[Implementation]											150.8					
		City Gas Delivery System	[Implementation]											38.6					
		Integrated Energy Center	[Implementation]											1.5					
		Sub-total												190.9					
Upgrading of Transportation Services	5	Sultan Badarudin II Airport	[Implementation]											53.3					
		Commuter Docks Improvement	[Implementation]											0.5					
	6	Seaport Improvements	[Implementation]											30.0					
	7	Outer Ring Road	[Implementation]											4.5					
		Sub-total												88.3					
Improvement of Telecommunication System	8	Expansion of Exchange System	[Implementation]											50.0					
	9	Expansion of Outside Plant	[Implementation]											77.0					
		Diffusion of OPMC	[Implementation]											0.1					
		Maintenance Center	[Implementation]											0.3					
		Software Center Development	[Implementation]											0.3					
		CIA System Development	[Implementation]											0.2					
		Demand Forecast System	[Implementation]											0.3					
		Sub-total												128.2					
Water Resources Development	10	Drainage/Sewerage Treatment	[Implementation]											3.7					
		F/S for Palembang Water Supply	[Implementation]											4.6					
		F/S for Banyuasin Floodway	[Implementation]											1.5					
		Sub-total												9.8					
Tourism Promotion	11	Old Quarter Rehabilitation	[Implementation]											4.5					
		Sriwijaya Archeological Park Museum	[Implementation]											3.3					
		Sriwijaya Festival Promotion	[Implementation]											0.5					
		Sub-total												8.3					
Kampung Development	12	Kampung Development Program	[Implementation]											0.1					
		Sub-total												0.1					
Agriculture Produce Marketing	13	Cold Storage Facilities	[Implementation]											0.2					
		Improvement of Slaughter Facilities	[Implementation]											0.3					
		Sub-total												0.5					
Institutional Support	14	IDEP Management Unit	[Implementation]											1.8					
		Sub-total												1.8					
		Total												470.7					

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

2) [White box] Pre-implementation study/plan-making

[Black box] Implementation

[Hatched box] On-going

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

Figure 4.2.2 Phasing of IDEP Projects: Palembang IDEP

Region's Objectives	IDEP's Objectives	Subprograms	Key Projects
Java-Sumatra Axis	Local Food Security and Surplus Paddy	Water Resources Development	1 Rehabilitation and Expansion of Irrigation Schemes 2 On-Farm Land Development
	Inland Collection and Distribution Center	Market-Oriented Agricultural Development	3 High Altitude Horticulture Development 4 Freshwater Giant Prawn Culture Development
Growth and Employment	Resource-Based Industrial Development	Agroindustry Development	5 Starch (or Modified Starch) from Cassava 6 Furniture or Modules of Furniture 7 Rubber Processing
Equity	Conservation of Environment	Mining & Energy Development	8 Boring Exploration in Musi Rawas Coal Field
		Forest Conservation and Sustainable Forestry	9 Rehabilitation of Critical Watersheds 10 Industrial Forest Plantation*
Environment	Poverty Alleviation	Infrastructure Development	11 Rural Development Program
	Supportive Infrastructure Development	Institutional Support	12 Establishment of IDEP Management Unit

* Partly on-going

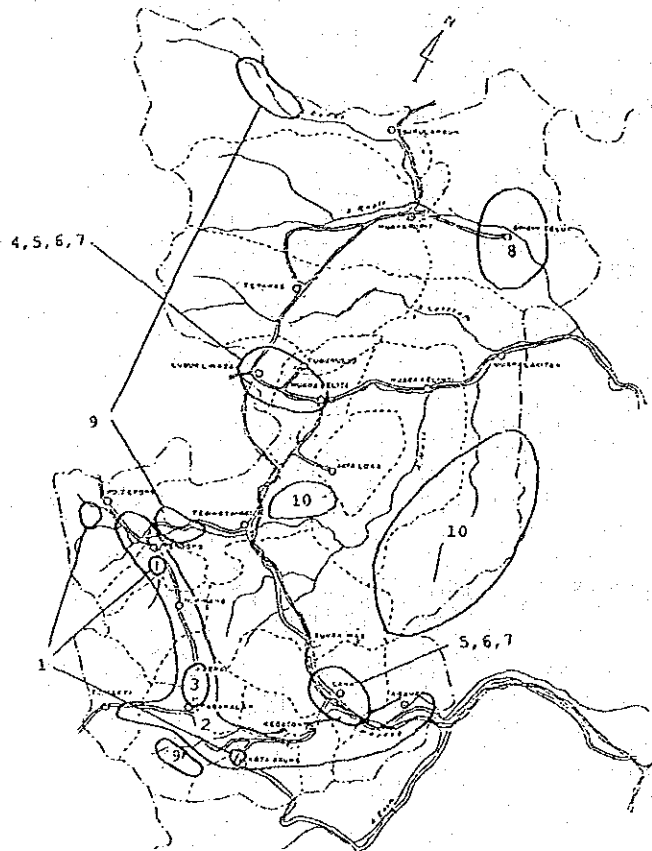


Figure 4.3.1 Musi Rawas/Lahat IDEP

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
Water Resources Development	1	Rehabilitation of Irrigation	[Implementation]													9.6			
	2	On-Farm Land Development	[Implementation]													9.7			
		Upper Musi River Basin Water Resources	[Implementation]													149.2			
		Sub-total														168.5			
Market-oriented Agricultural Development	3	High Altitude Horticulture	[Implementation]													9.6			
	4	Freshwater Giant Prawn Culture	[Implementation]													5.3			
		Smallholder Tree Crop Marketing	[Implementation]													2.4			
		Large Scale Estate Development	[On-going]													200.0			
		Upland Cropping Systems Development	[Implementation]													1.8			
		Commercial Poultry Farms	[Implementation]													0.4			
		Sub-total														219.5			
Agroindustry Development	5	Starch/Modified Starch	[Implementation]													0.2			
	6	Furniture/Furniture Modules	[Implementation]													2.5			
	7	Rubber Processing	[Implementation]													0.2			
		Poultry/Fish Feeds	[Implementation]													0.3			
		Dehydration of Vegetables	[Implementation]													1.4			
		Frozen Vegetables and Prawns	[Implementation]													1.4			
		Pickles of Vegetables	[Implementation]													0.1			
		Canning of Vegetables	[Implementation]													1.5			
		Particle Board	[Implementation]													2.5			
		Fiber Board	[Implementation]													2.5			
		Wood Wool Cement Board	[Implementation]													2.5			
	Sub-total														15.1				
Mining and Energy Development	8	Boring Exploration in Coal Field	[Implementation]													2.3			
		Lematang-4 Hydropower	[Implementation]													369.8			
	Subprogram Total														372.1				
Forest Conservation and Sustainable Forestry	9	Rehab. of Critical Watersheds	[Implementation]													0.4			
	10	Industrial Forest Plantation	[Implementation]													10.2			
		Integrated Social Forestry	[Implementation]													0.8			
	Sub-total														11.4				
Infrastructure Development	11	Rural Development Program	[Implementation]													9.9			
		Spatial Plan (Lahat)	[Implementation]													0.1			
		Secondary Cities Urban Dev. (Lahat)	[Implementation]													4.0			
		Integrated Urban Infra. Dev. (L. Linggau)	[Implementation]													4.0			
		Road Safety Improvement	[Implementation]													3.0			
		Mangun Jaya - Muara Beliti Road	[Implementation]													8.3			
		Sarolangun-Sekayu-Betung Trunk Road	[Implementation]													11.2			
		Lubuk Linggau Airfield Improvement	[Implementation]													2.0			
	Sub-total														42.5				
Institutional Support	12	IDEP Management Unit	[Implementation]													1.8			
		Sub-total														1.8			
		IDEP Total														830.9			

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

2) [White box] Pre-implementation study/plan-making

[Black box] Implementation

[Hatched box] On-going

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

Figure 4.3.2 Phasing of IDEP Projects: Musi Rawas/Lahat IDEP

Region's Objectives	IDEP's Objectives	Subprogram	Key Projects
Java-- Sumatra Axis Growth and Employment Equity Environment	Integration into Regional Economy Increased Productivity Conservation/ Sustainable Exploitation	Agriculture	1 On-Farm Land Development 2 Development of Smallholder Estate Crops
		Fishery	3 Fishing Village Community Development
		Water Resources	4 Peninjauan Integrated Swampland Development
		Transportation	5 Cross Mountain Road Tg Iman--Ujan Mas
		Energy	6 Manna-1 Hydropower Development Project
		Urban/ Environment	7 Management of Protection Forest
		Institutional Support	8 Establishment of IDEP Management Unit

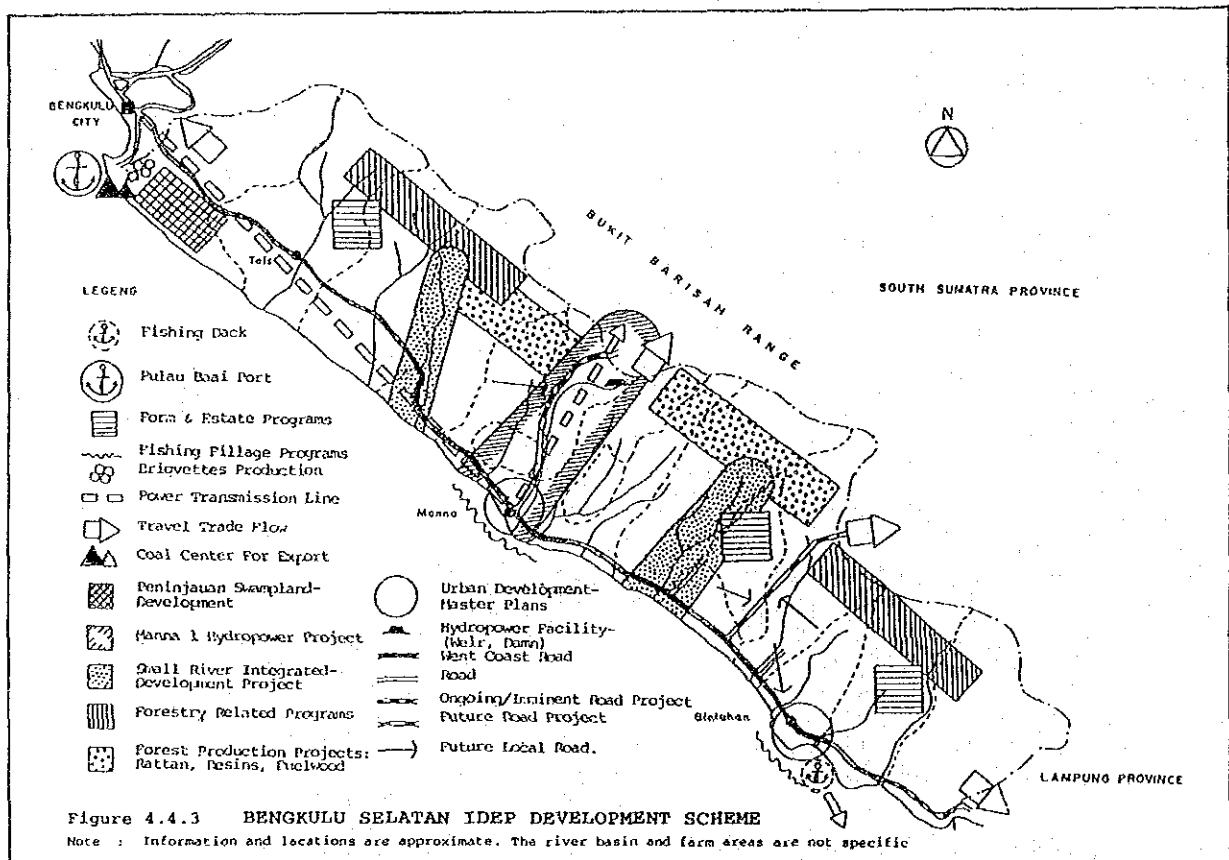




Figure 4.4.1 Bengkulu Selatan IDEP

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'	
Agriculture	1	On-Farm Land Development																					3.2
	2	Smallholder Estate Crops																					4.2
		Large Scale Estate Development																					639.0
		Canning of Vegetables and Fishes																					1.5
		Dehydration of Vegetables																					1.4
		Frozen Vegetables and Fruits																					1.4
		Instant Coffee/Cocoa																					2.0
		Rural Rattan Development																					2.7
		Resin-Based Rural Industries																					1.0
		Sub-total																					656.4
Fishery	3	Fishing Village Community Dev.																					5.3
		Offshore Fisheries Development Project																					6.8
		Fisheries Education and Training																					0.5
		Iodine from Seaweed																					1.4
		Dried Seaweed																					0.1
	Sub-total																					14.1	
Water Resources	4	Peninjauan Swampland Development																					11.2
		Integrated Small Rivers Development																					3.0
	Sub-total																						14.2
Transportation	5	Cross Mountain Road																					3.3
		West Coast Road Improvement Program																					5.0
		Local Roads Network Improvement																					2.5
	Sub-total																						10.8
Energy	6	Manna-I Hydropower Development																					150.0
		Briquettes Promotion Project																					12.2
		Power System Interconnection																					104.0
		Sub-total																					266.2
Urban / Environment	7	Management of Protection Forests																					0.5
		Rehabilitation of Critical Forest Land																					0.6
		Integrated Social Forestry																					0.8
		Spatial Plan (Manna, Bintuhan)																					0.1
		Secondary Cities Urban Development																					2.1
		Rural Telecommunication System																					1.5
	Sub-total																					5.6	
Institutional Support	8	IDEP Management Unit																					1.8
		Sub-total																					1.8
	IDEP Total																						969.1

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.

Figure 4.4.2 Phasing of IDEP Projects: Bengkulu Selatan IDEP

Region's Objectives	IDEP's Objectives	Subprogram	Key Projects
Java-Sumatra Axis	Development of Potential Resources	Agriculture	1 Development of Smallholder Estate Crops 2 Large Scale Estate Development
		Agro-industry	3 Starch (or Modified Starch) from Cassava
	Sustainable Development of Swamp Areas	Irrigation Development	4 Way Mesuji and Way Agung Irrigation Development 5 Tulang Bawang River Basin Irrigation
Environment		6 Sustainable Development of Swamp Areas	
Growth and Employment	Improvement of Transportation Network	Transportation	7 Sp. Sinar Asahan-Rawajitu East-West Road 8 Pakuan Ratu-Sp.Tulang Bawang Road
		Fisheries	9 Swamp Fishery Development Project
Equity	Reduction of Disparities	Participatory Rural Development	10 Participatory Rural Development Program
		Urban Development	11 Secondary Cities Urban Development Project for Kota Bumi and Menggala
Environment		Institutional Support	12 Establishment of IDEP Management Unit Support

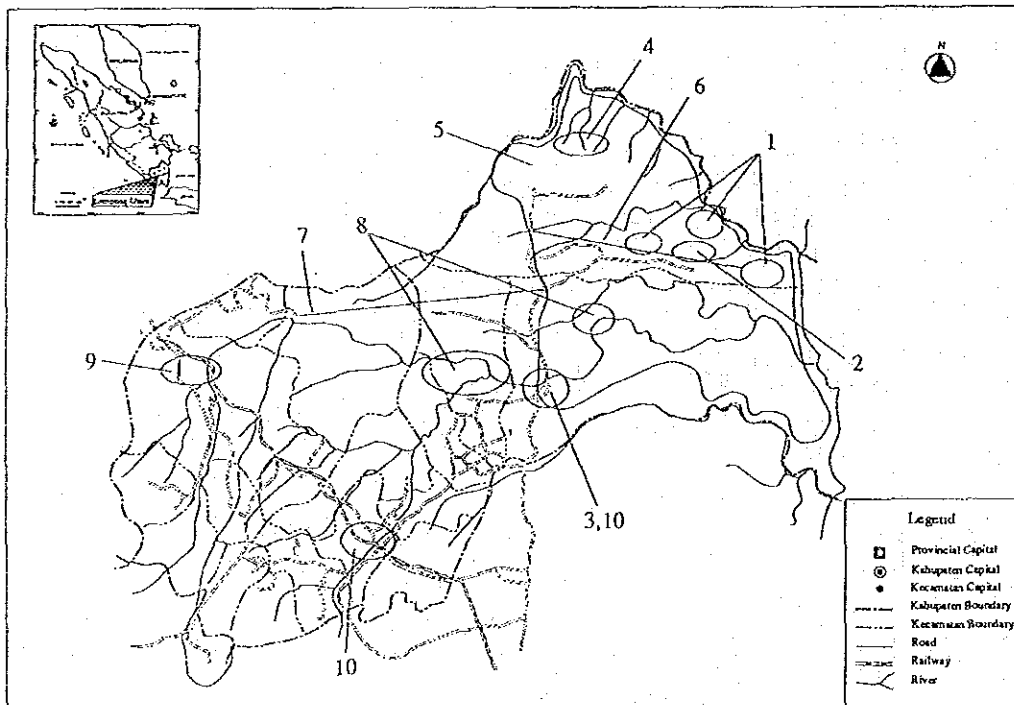




Figure 4.5.1 Lampung Utara IDEP

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		
Agriculture Development	1	Smallholder Tree Crops																					5.0	
	2	Large Scale Estate Development																						85.0
		NES-Type Beef Cattle Farming																						3.0
		Upland Cropping Systems Development																						1.5
		Sub-total																						94.5
Agro-industry	3	Starch/Modified Starch																					0.2	
		Canning of Fruits, Vegetables and Fishes																					1.5	
		Meat Processing																					0.2	
		Sub-total																					1.9	
Irrigation Development	4	Way Mesuji and Way Agung Irrigation Development																					60.0	
	5	Tulang Bawang River Basin Irrigation																					196.1	
		Way Rarem Irrigation Project																					24.0	
		Sub-total																					280.1	
Transportation	6	Sp. Sinar Asahan-Rawajitu Road																					7.4	
	7	Pakuan Ratu-Sp. Tulang Bawang Road																					9.5	
		Pakuan Ratu-Negara Ratu Road																					4.2	
		Rawajitu/Teladas to Seputih Surabaya Road																					11.0	
		Selected Transmigration and Private Roads																					7.5	
	Sub-total																						39.6	
Environment	8	Integrated and Sustainable Development of Swamp Areas																					0.5	
		Sub-total																					0.5	
Fisheries	9	Swamp Fishery Development																					24.5	
		Freshwater Aquaculture Infrastructure																					6.6	
		Sub-total																					31.1	
Participatory Rural Development	10	Participatory Rural Development																					1.3	
		Sub-total																					1.3	
Urban Development	11	Secondary Cities Urban Development (Kota Bumi, Menggala)																					6.0	
		Coal-Fired Thermal Power Plant																					151.0	
		Sub-total																					157.0	
Institutional Support	12	IDEP Management Unit																					1.8	
		Sub-total																					1.8	
		IDEP Total																					607.8	

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.

Figure 4.5.2 Phasing of IDEP Projects: Lampung Utara IDEP

Region's Objectives	IDEP's Objectives	Subprogram	Key Projects
Java-- Sumatra Axis	High- Potential Economic Sectors	Industry	1 Development of Industrial Estates 2 Investment Promotion 3 Vocational Training Centers
		Tourism	4 Krakatau Tourism Development 5 Merak Belantung Beach Resort Development*
		Fisheries	6 Brackishwater Shrimp Culture Industrialization 7 Fisheries Education and Training
		Gateway City	8 Master Plan for Bandar Lampung
		Gateway Transportation	9 Eastern Sumatra Highway 10 Outer Bypass around Bandar Lampung 11 Krui--Biha--Bengkunat--Sanggi Road
Growth and Employment	Gateway Functions		
Equity	Environment	Water	12 Water Allocation Study for Way Sekampung 13 Bandar Lampung Sewage Treatment 14 Flood Control and Sabo Project
		Energy	15 Way Semangka Hydropower Development
Environment	Human Resources	Forest Conservation/ Agricultural Diversification	16 Rural Development Program for Conservation and Agricultural Diversification
		Institutional Support	17 Establishment of IDEP Management Unit

* On-going

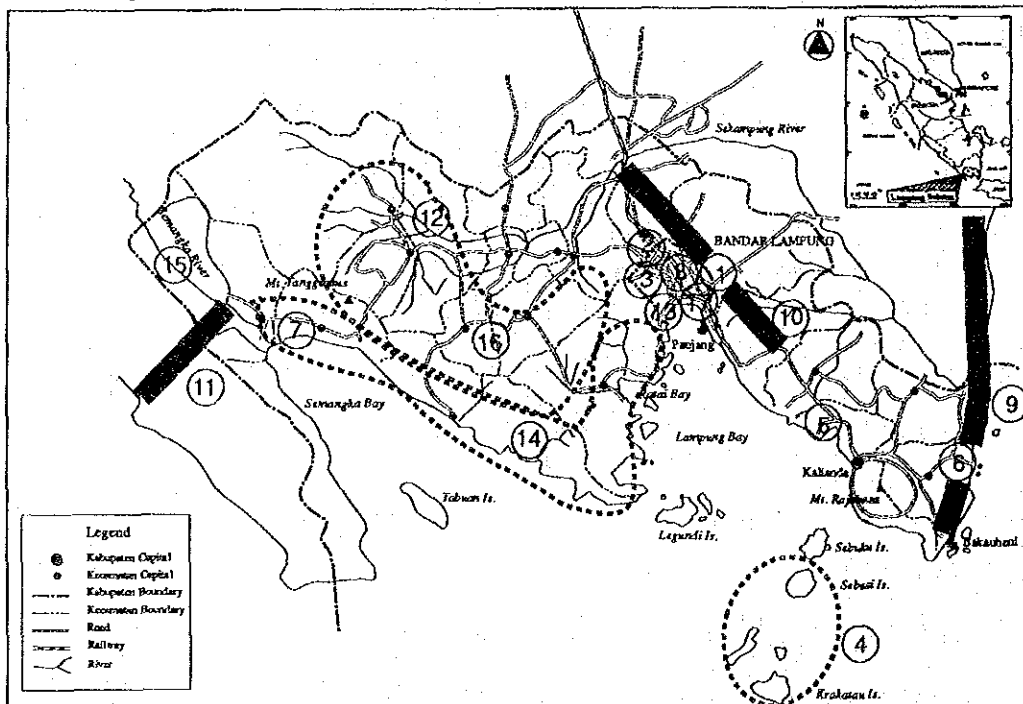


Figure 4.6.1 Bandar Lampung/Lampung Selatan IDEP

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		
Industry	1	Industrial Estate																					10.0	
	2	Investment Promotion																						3.0
	3	Vocational Training Centers																						3.0
		Institutes of R&D in Industry																						1.0
		Various Private Investments																						5.0
Tourism	4	Krakatau Tourism Development																						3.7
	5	Merak Belantung Beach Resort																						10.0
		Bandar Lampung Waterfront																						4.2
		Krakatau Festival Promotion																						0.5
		Tourism Training Program																						0.3
Fisheries	6	Brackishwater Shrimp Culture																						20.4
	7	Fisheries Education and Training																						5.6
		Mariculture Development Project																						4.3
		KUD-Based Fish Processing/Marketing																						1.2
Gateway City	8	Muster Plan for Bandar Lampung KIP (Bandar Lampung)																						1.5
		Spatial Plan (Bakauheni)																						0.5
		IUIDP (Bakauheni)																						0.8
		Cold Storage Facilities																						0.2
		Slaughter Facilities/Cold Storage																						0.3
		Expansion of Exchange System																						50.0
		Expansion of Outside Plant																						77.0
		Terrestrial Transmission System																						200.0
		Rural Telecommunication System																						7.0
	Gateway Transportation	9	Eastern Sumatra Highway																					
10		Outer Bypass Bandar Lampung																						7.0
11		Krui-Sanggi Road																						10.0
		Branti Airport Upgrade																						13.0
		Bakauheni Rail Access Line																						70.0
		Bandar Lampung City Rail Bypass Line																						21.0
		Ferry Terminal Expansion (Bakauheni)																						21.4
		Port Improvement (Panjang)																						110.0
		Facilities for Nontraditional Seacraft																						0.3
		Sanggi-Suwah-Kotabesi Valley Road																						7.0
		Coastal Road P. Cermin-K. Agung																						15.0
		Rajabasa Bus Terminal Expansion																						0.2
Water	12	Water Allocation Study																						1.1
	13	Bandar Lampung Sewage																						2.5
	14	Flood Control and Sabo Project																						25.5
		Batuteji Dam/Reservoir																						310.0
		Water Supply for Bandar Lampung																						3.6
		Institutional Management PDAM																						0.5
	Environmental Management																						0.8	
Energy	15	Way Semangka Hydropower																						511.0
		Geothermal Survey (Kalianda)																						4.0
		Geothermal Power (Ujubelu)																						4.0
		Power System Interconnection																						138.0
Forest Conservation/Agricultural Diversification	16	Rural Development Program																						4.0
		On-Farm Land Development																						3.2
		Upland Cropping Systems																						1.8
Institutional Support	17	IDEP Management Unit (IMU)																					1.8	
		IDEP Total																					1,788.7	




- 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.

Figure 4.6.2 Phasing of IDEP Projects: Bandar Lampung/Lampung Selatan IDEP

5. PROJECT/PROGRAM IMPLEMENTATION

5.1 INSTITUTIONAL AND FINANCIAL FRAMEWORK FOR REGIONAL DEVELOPMENT

5.1.1 Institutional Framework for Implementing Programs/Projects

The national framework for planning and resource allocation is provided by the Five-Year Development Plans (Rencana Pembangunan Lima Tahun or Repelita). The National Development Planning Agency (BAPPENAS) is a non-department institution that assumes a key role in development in Indonesia. BAPPENAS is responsible at national level for overall planning, setting of intersectoral and interagency priorities and coordination and allocation of funds. The Ministry of Finance deals with development program/project through budget planning and execution. In the field of regional development, the Directorate General of Regional Development (BANGDA) of the Ministry of Home Affairs and various sectoral ministries/agencies are concerned.

The Ministry of Home Affairs is a line ministry and occupies a central role in the coordination and monitoring of the national planning and budget process at provincial level. The ministry draws its legislative basis from Basic Law No. 5/74 (Undang-Undang No. 5/74), which provides for the establishment of autonomous regions, Ministerial Instruction No. 4/1981 (Inmendagri 4/1981) and Ministerial Regulation No. 9/1982 (Pemendagri 4/1982), which provides for bottom-up planning. Within the framework of this legislation, the Ministry of Home Affairs is charged with the task of administering and supporting the development of local government agencies. Its principal goal is to promote the decentralization process and the coordination of the planning and budgeting process between the central and local governments, excluding sectoral ministries/agencies. In line with this, BANGDA and the Directorate General of Public Administration and Regional Autonomy (PUOD) of the ministry provide guidance and supervise the activities of local (provincial and kabupaten/kotamadya) governments. BANGDA deals with development aspects of local governments, and PUOD handles administrative matters.

Under the Ministry of Home Affairs, local, especially provincial governments are responsible for overall planning, guidance and resource allocation for all provincial and kabupaten/kotamadya activities. The local heads, Governor (Gubernur) for a province, Regent (Bupati) for a kabupaten and Mayor (Walikota) for a kotamadya, have two characteristics, which distinguish between their roles as heads of their respective administrative areas and as representatives of the central government. The provincial governors appointed by the president/the Ministry of Home Affairs play an important role in deciding the priority of provincial and kabupaten/kotamadya development programs/projects within the framework of national policies and guidelines. The governors also provide general supervision and guidance to the lower level (kabupaten/kotamadya) governments and coordinate the activities between the central and local government agencies. Local government authorities are in a hierarchical relationship to each other : kabupaten/kotamadya budgets and laws are subject to approval by the provincial government, village (desa) budgets by the kabupaten.

Regional Development Planning Board (Badan Pembangunan Perencanaan Daerah or BAPPEDA), was introduced in 1974 at the provincial level and subsequently established at the kabupaten/kotamadya level, has a particularly important role in planning and implementing regional development programs/projects. Under each local head, BAPPEDA deals with the preparation of annual and midterm development plans at provincial and kabupaten/kotamadya levels, and it gives priority to development programs/projects and allocates resources. The regional development programs/projects through the local government budget are executed by sectoral departments (dinas) of the local government under the administrative control of the governor, regent and mayor in cooperation with local vertical offices (kanwil for a province and kandep for a kabupaten/kotamadya) under that of the central ministries/agencies.

Local vertical offices, kanwils and kandeps, are staffed and paid for by their central ministries/agencies and carry out their programs/projects through the central government budget (Daftar Isian Proyek or DIP). Although the relationship between kanwil and dinas varies according to the practice of each central ministry/agency, the head of kanwil is frequently also the head of the dinas. The aggregate budget of these local vertical offices is usually much larger than that of the provincial government.

5.1.2 Financial Framework for Implementing Programs/Projects

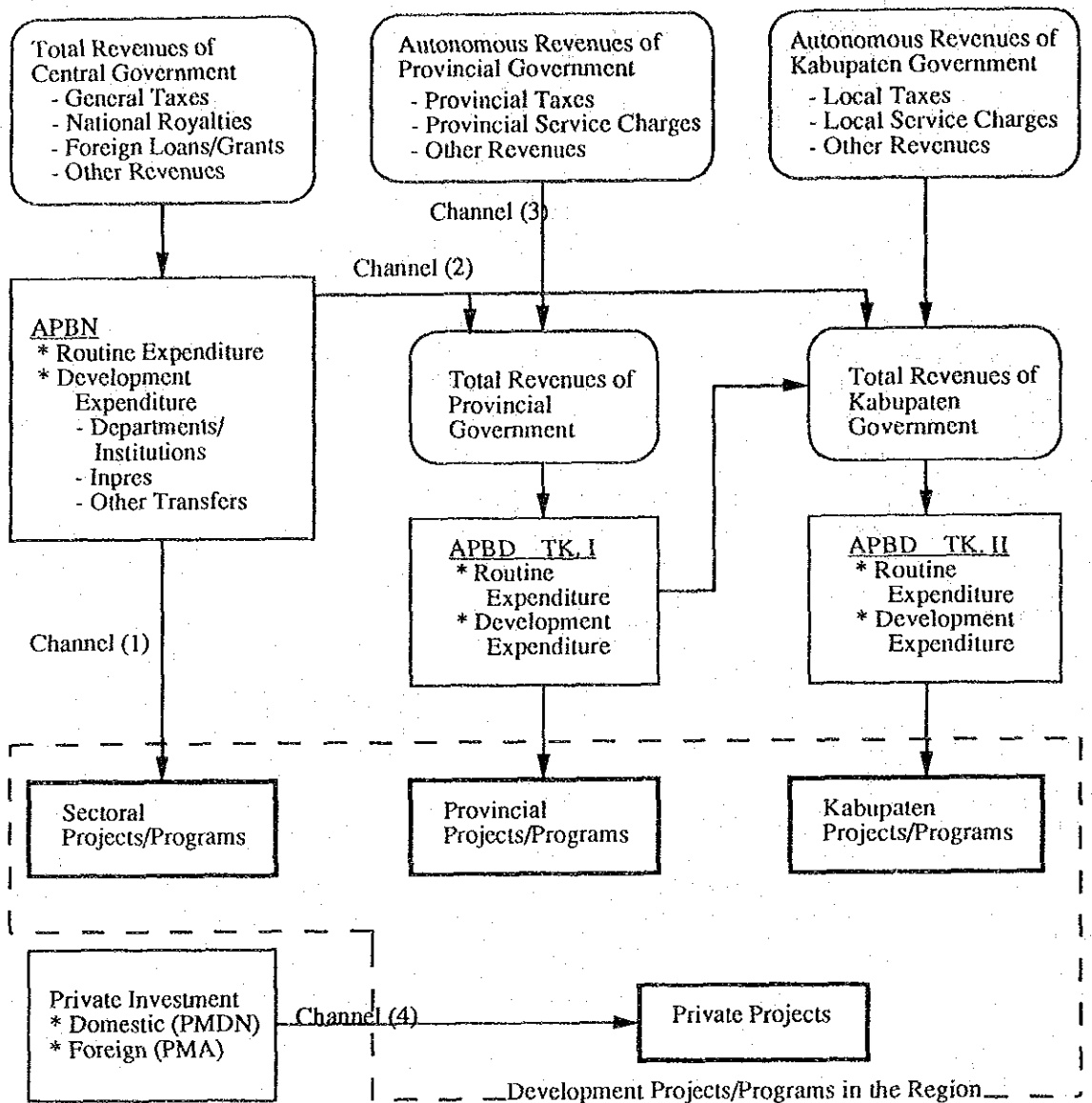
The government of Indonesia has taken advantage of the national budget, which is known as APBN (Anggaran Pendapatan dan Belanja Negara), as one of the influential policy measures for its development at the regional as well as the national level. By far the largest part of total public expenditure has been spent through APBN. In the fiscal year 1990/91, APBN amounted to Rp 47.8 trillion, which accounted for almost 24% of GDP. APBN comprises internal and external revenues on the revenue side and routine and development expenditures on the expenditure side. According to Nota Keuangan issued by the Ministry of Finance, about 90% of the development budget is disbursed through the sectoral departments/institutions (DIP) and Presidential Instruction (Inpres).

In order to finance regional development programs/projects, there are three major public sources: allocations from the sectoral departments/institutions, transfers from the central government, and autonomous revenues obtained by local government. Figure 5.1.1 shows the structure of regional development financing in Indonesia.

The first source for financing regional development in Indonesia is the funding through the sectoral departments/institutions, which has been the largest share in regional development budgets and is represented by channel (1) of Figure 5.1.1. The central government departments/institutions allocate APBN funds to the local sectoral offices (kanwil), and these funds do not pass through local government accounts and budgets. According to Table 5.1.1 showing major financial sources in regional development, which are estimated based on data from BAPPENAS, BPS, and the Ministry of Home Affairs, the four provinces of Jambi, South Sumatra, Bengkulu, and Lampung are highly dependent on these sectoral expenditures in executing development programs/projects. During 1984/85-1989/90, the share of the sectoral expenditures accounted for about 72% of the major public sources in the Region.

Second, for the purposes of providing public services and realizing the equitable distribution of public services among the regions, the central government (higher level government) transfers grants to local government (lower level government). The most substantial grants in this category are Inpres and SDO (subsidies for autonomous region). The Inpres programs, whose funds go through channel (2) of Figure 5.1.1, also have a great influence on regional development. Currently, there are eight Inpres programs, which are grant aid to the regions on the basis of Presidential Instruction; Inpres Propinsi (province), Inpres Kabupaten (district), Inpres Desa (village), Inpres Sekolah Dasar (primary schools), Inpres Kesehatan (health), Inpres Pasar (markets), Inpres Penghijauan dan Reboisasi (regreening/reforestation), and Inpres Jalan (roads). The share of the Inpres grants accounted for about 18% of the major development budgets in the Region for the period of 1984/85-1989/90 (see Table 5.1.1). In the programs, Inpres province, district, and village, which are called general Inpres programs, allow greater scope for local decision making. The share of these general Inpres programs was almost 52% of the total Inpres programs in the Region during the same period. The others are called sectoral Inpres programs, which have strict spending conditions.

SDO, which is also included in channel (2) of Figure 5.1.1, is provided by the Ministry of Home Affairs to local governments for financing routine expenditures. This helps provinces employ their staff on equal conditions all over Indonesia regardless of local fiscal capacity. In addition, assigned revenues through channel (2) in Figure 5.1.1 such as PBB, duties on petrol, and royalties on timber are one of fund transfers from the central government.



Legend: Receipt Expenditure Projects/Programs

Source: Ministry of Public Works and JICA, The Study on the Integrated Regional Development Plan for the Northern Part of Sumatra (Final Report)

Figure 5.1.1 Financial Flow for Regional Development in Indonesia

Table 5.1.1 Major Public Sources in Regional Development Financing

	(Unit : Rp. Million)						
	Repelita IV					Repelita V	
	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	Total
Jambi	157,920 (100.0)	125,933 (100.0)	77,649 (100.0)	59,110 (100.0)	93,848 (100.0)	111,338 (100.0)	625,798 (100.0)
Departments	112,573 (71.3)	80,849 (64.2)	33,274 (42.9)	24,660 (41.7)	53,972 (57.5)	59,004 (53.0)	364,332 (58.2)
Inpres	28,373 (18.0)	28,565 (22.7)	30,334 (39.1)	21,523 (36.4)	23,488 (25.0)	31,493 (28.3)	163,776 (26.2)
Other Transfers*	11,379 (7.2)	10,983 (8.7)	10,688 (13.8)	12,049 (20.4)	16,293 (17.4)	19,625 (17.6)	81,017 (12.9)
Own Sources*	5,595 (3.5)	5,536 (4.4)	3,353 (4.3)	878 (1.5)	95 (0.1)	1,216 (1.1)	16,673 (2.7)
South Sumatra	285,364 (100.0)	286,326 (100.0)	271,603 (100.0)	244,418 (100.0)	447,587 (100.0)	343,671 (100.0)	1,878,969 (100.0)
Departments	212,303 (74.4)	204,740 (71.5)	194,324 (71.5)	180,179 (73.7)	379,083 (84.7)	260,620 (75.8)	1,431,249 (76.2)
Inpres	51,349 (18.0)	55,882 (19.5)	53,474 (19.7)	37,177 (15.2)	45,625 (10.2)	49,466 (14.4)	292,973 (15.6)
Other Transfers*	15,343 (5.4)	15,828 (5.5)	20,251 (7.5)	24,614 (10.1)	22,311 (5.0)	32,408 (9.4)	130,755 (7.0)
Own Sources*	6,369 (2.2)	9,876 (3.4)	3,554 (1.3)	2,448 (1.0)	568 (0.1)	1,177 (0.3)	23,992 (1.3)
Bengkulu	112,527 (100.0)	98,693 (100.0)	67,727 (100.0)	68,621 (100.0)	149,511 (100.0)	97,204 (100.0)	594,283 (100.0)
Departments	78,419 (69.7)	62,134 (63.0)	34,119 (50.4)	39,382 (57.4)	114,935 (76.9)	57,641 (59.3)	386,630 (65.1)
Inpres	21,834 (19.4)	23,351 (23.7)	22,407 (33.1)	18,747 (27.3)	20,497 (13.7)	23,933 (24.6)	130,769 (22.0)
Other Transfers*	9,026 (8.0)	10,246 (10.4)	10,206 (15.1)	10,440 (15.2)	13,596 (9.1)	15,071 (15.5)	68,585 (11.5)
Own Sources*	3,248 (2.9)	2,962 (3.0)	995 (1.5)	52 (0.1)	483 (0.3)	559 (0.6)	8,299 (1.4)
Lampung	193,659 (100.0)	194,398 (100.0)	152,275 (100.0)	197,725 (100.0)	315,261 (100.0)	301,943 (100.0)	1,355,261 (100.0)
Departments	135,429 (69.9)	139,633 (71.8)	103,137 (67.7)	157,671 (79.7)	259,784 (82.4)	241,440 (80.0)	1,037,094 (76.5)
Inpres	46,239 (23.9)	41,490 (21.3)	38,794 (25.5)	29,246 (14.8)	37,118 (11.8)	40,310 (13.4)	233,197 (17.2)
Other Transfers*	10,897 (5.6)	11,378 (5.9)	10,332 (6.8)	10,808 (5.5)	16,654 (5.3)	20,193 (6.7)	80,262 (5.9)
Own Sources*	1,094 (0.6)	1,897 (1.0)	12 (0.0)	0 (0.0)	1,705 (0.5)	0 (0.0)	4,708 (0.3)
Region	749,470 (100.0)	705,350 (100.0)	569,254 (100.0)	569,874 (100.0)	1,006,207 (100.0)	854,156 (100.0)	4,454,311 (100.0)
Departments	538,724 (71.9)	487,356 (69.1)	364,854 (64.1)	401,892 (70.5)	807,774 (80.3)	618,705 (72.4)	3,219,305 (72.3)
Inpres	147,795 (19.7)	149,288 (21.2)	145,009 (25.5)	106,693 (18.7)	126,728 (12.6)	145,202 (17.0)	820,715 (18.4)
Other Transfers*	46,645 (6.2)	48,435 (6.9)	51,477 (9.0)	57,911 (10.2)	68,854 (6.8)	87,297 (10.2)	360,619 (8.1)
Own Sources*	16,306 (2.2)	20,271 (2.9)	7,914 (1.4)	3,378 (0.6)	2,851 (0.3)	2,952 (0.3)	53,672 (1.2)

Notes : * These figures do not include routine revenues. Also, they do not cover the second-level (kabupaten) government data.

Sources : Compiled from data provided by BAPPENAS, BPS, and Ministry of Home Affairs.

For example, PBB or Land and Building Tax is a transformation of what was previously called Ipesta (Area Development Contribution), and it is levied under national government legislation, assigned to local government, and mainly collected by it. Foreign donor loans/grants aiming at specific regional development projects/program are another type of transfer. In this case, local government can receive loans/grants from foreign donors through the central government. There are some examples; IUIDP (Integrated Urban Infrastructure Development Program) in each province funded by the Asian Development Bank, Second Swamp Reclamation Project in South Sumatra funded by the World Bank, etc.

The third financial source for regional development programs/projects is autonomous revenues obtained by local government through channel (3) of Figure 5.1.1 in the form of local taxes, service or user charges, departmental revenues, profits of local enterprises, etc. Although there are a wide range of possible sources, local governments levy only a few of the taxes and charges, in which taxes on motor vehicles are the only significant revenues for provincial routine budgets. Currently, these autonomous revenues are not large enough to finance regional budgets. Its share declined from 2.2% in 1984 to 0.3% in 1989 among the major public sources in the Region including sectoral expenditures through central departments/institutions (see Table 5.1.1).

In addition to the above mentioned public sources, private investment already described earlier in Section 2.3.3, Chapter 2 of this Volume, and indicated in channel (4) of Figure 5.1.1 can also contribute to regional development financing. Since the public funds that can be mobilized are limited, the role of private investment has been extremely important for financing regional development programs/projects. Tables 2.3.9 and 2.3.10 above in the Section show the approved amounts of domestic private investment (PMDN) and foreign private investment (PMA) in the Region during 1984-1990. These Tables, which only represent approximate amounts of approved, not realized investment, nonetheless show broad trends of private investment into the Region. Although approved investment amounts of both categories are fluctuating, they basically show upward trends. The total amount of approved PMDN and PMA in the Region for six years during 1984-1989 was approximately Rp 6.3 trillion, which is about 1.4 times as much as that of the major public financial sources for the same period.

5.2 INSTITUTIONAL AND FINANCIAL CONSTRAINTS

5.2.1 Institutional Constraints

Section 5.1.1 above has briefly drawn the institutional framework related to regional development in Indonesia. Taking into account the current conditions, there are some problems, which the central and local governments have to tackle from now on. This Section points out what are the institutional constraints for Indonesia in promoting regional development.

- 1) Even though there have been various laws to provide for the establishment of autonomous regions and for bottom-up planning such as Basic Law No. 5/74 (Undang-Undang No. 5/74), Ministerial Instruction No. 4/1981 (Inmendagri 4/1981) and Ministerial Regulation No. 9/1982 (Pemendagri 4/1982), the local governments are, in practice, not really autonomous from the administrative and financial viewpoints. In other words, the central government tends to heavily control the local governments in the fields of management positions, decision making and financial resources in implementing regional development.
- 2) In planning and executing regional development programs/projects, relationships at various levels among the central ministries/agencies, among the local departments/agencies and between the central and local governments are not well coordinated and organized.

- 3) The capability to plan, implement and finance regional development programs/projects has not necessarily been developed in the provincial and kabupaten/kotamadya institutions.
- 4) In addition to the lack of an adequate information system, a function of monitoring, evaluating and reporting the progress or result of executed programs/projects has not been well developed in the local institutions. This causes difficulties in getting feedback of the past failures and reflecting them in new programs/projects.
- 5) In the local institutions, the number of staff dealing with planning, implementing, and managing regional development programs/projects efficiently has been limited.

5.2.2 Financial Constraints

Section 5.1.2 has described the current structure of regional development financing. Judging from these descriptions, there are some problems, which the central and local governments have to improve or resolve from now on. These are summarized as follows.

- 1) The local governments have not dealt with programs/projects in the area financed by the central government departments/institutions at the stage of implementation. Therefore, the local governments have not felt immediate responsibilities for implementing such programs/projects.
- 2) Since the size of autonomous revenues obtained by the local governments have been very small (see Table 5.1.1), it is difficult for the local governments to plan and implement local programs/projects on the basis of their own ideas or needs. The local governments do not have much discretionary funds for development.
- 3) Referring to Table 2.6.12 in Chapter 2 of this Volume showing the amount of past investment, the share of private investment in regional development has been very large. Taking into account investment requirements up to 2010 calculated in Table 2.6.14 above, this tendency will have to continue because the public financial sources are limited. Therefore, it is necessary to consider how to induce both domestic and foreign investments as much and as constantly as possible in the future.
- 4) The local governments have not uniformly controlled development programs/projects in the Region financed by different kinds of funds. Accordingly, they cannot organize, systematize, and harmonize such programs/projects.

5.3 STRENGTHENING LOCAL INSTITUTION AND FINANCE

Indonesia has established a bottom-up planning system, which allows participation of local governments in the annual planning and budgeting process and links regional development preferences to national decision-making processes. According to comments provided by some local governments and the analysis described before, however, this system does not seem to be functioning as it is supposed to.

Since we have to recognize specific regional conditions due to their own nature, regional development planning cannot be fully taken into account at the national level. National objectives are not always in line with aspirations of the region. In this sense, it is desirable for local governments to have enough institutional capability and discretionary funds that can take advantage of their own ideas in regional development within the national framework. Also, for

the purpose of effectively implementing integrated regional development plans, we need to manage and coordinate development activities at the local level rather than at the national level. In this context, local governments are required to improve and strengthen their institutional and financial capability.

The following are some general ideas on how to improve and strengthen local governments from institutional and financial viewpoints.

- 1) Since it is very difficult to implement regional development effectively unless provincial and kabupaten/kotamadya governments are autonomous, institutional and financial decentralization should be strongly and continuously enhanced as a national policy.
- 2) It is necessary to coordinate development activities at various levels among the central ministries/agencies, among the local departments/agencies and between the central and local governments in planning and implementing regional development programs/projects.
- 3) It is necessary to assess the role of each local institution, provide it with functional responsibilities and improve the capability especially to plan, implement and finance regional development programs/projects.
- 4) It is required to establish adequate information systems, in which a function of monitoring, evaluating and reporting the progress or result of executed regional development programs/projects would be included.
- 5) The local governments should make a plan for human resource development, give attention to the management of human resources and increase the number of staff dealing with planning, implementing, and managing regional development programs/projects efficiently. An introduction of programs for local training to improve project coordination, tax administration and financial management is essential for better local administration. An approach to overcome shortages of local staffing is to assign central government staff temporarily to local authorities. Another approach for local government with staffing shortage is to receive services from the private sector.
- 6) Concerning sectoral expenditures through central departments/institutions and grants or transfers from the central government such as Inpres, PBB, etc., local governments should be assigned wider discretion, to the extent possible, on their expenditures. Also, the central government should enable local governments to positively participate in the implementation stage, in addition to the proposal stage, of APBN projects being carried out within their boundaries.
- 7) In cooperation with the central government, local governments should try to increase their autonomous revenues as much as possible. For example, local governments can recover the cost of providing local services from charges on the beneficiaries. Even if there are some services whose costs cannot be recovered from charges, local governments can finance them from general taxes (e.g., property taxes, business taxes, etc.) levied within the relevant jurisdictions. Since there already exists Land and Building Tax (PBB) in Indonesia, local governments can improve tax collection by maintaining accurate property tax records, setting the adequate tax rate, and so on. In this sense, training DISPENDA (Regional Income Office) staff is essential for effective tax collection.

- 8) Since private investment is one of the important financial sources to promote regional development, both the public and the private sector in the Region should consider how to attract much more domestic and foreign private investment, as already mentioned in Section 2.3.3 above, Chapter 2 of this Volume. In addition to providing infrastructure or public utilities, some institutional efforts in the Region are required in order to attract private investment.
- 9) A system should be established in which the local government as well as the regional private sector can receive foreign loans/grants much more directly and smoothly to finance some of their local capital investments.
- 10) In addition to national financial institutions, regional financial institutions should be strengthened for the purpose of financing regional development programs/projects. Currently, even though each province has its own Regional Development Bank (BPD), the Bank cannot contribute sufficiently to financing regional development programs/projects because of fund shortages. It is desirable to give BPD long-term soft loans (donor-assisted two-step loans) and strengthen its role.
- 11) In the present financial and budget system, as described earlier, sectoral allocation, fund transfers, and grants from the central government are a major part of the provincial development funds. This system, however, may not be adequate for effective implementation of the integrated programs such as those to be proposed in this Study. It is necessary for local government to consolidate regional development financing without differentiating the sources of funds from sectoral expenditures through central departments/institutions, Inpres funds, foreign loans/grants, autonomous revenues, and others.

5.4 PRINCIPLES FOR IDEP IMPLEMENTATION

This Study has proposed the Integrated Development Program (IDEP) approach, which is to select priority areas using kabupaten/kotamadya, formulate an integrated multisectoral program for each priority area and divide the program further into sectoral subprograms in order to achieve project efficiency and effectiveness. The IDEP is so designed as to maximize the use of limited resources for development, coordinate various sectors and types of projects in one area, give a chance to sectorally low- but locally high-priority projects, and strengthen local initiatives.

On the basis of these IDEP's characteristics, the government of Indonesia has to carefully take into account the physical, sectoral, institutional, and financial linkages of various components. In order to ensure the effective implementation of the IDEP programs/projects, the Team proposes the following principles and strategies.

It is of course desirable to implement a whole IDEP under one directive. However, it seems to be difficult to realize it because of the IDEP's financial size. A second best way is to carry out the IDEP subprogram by subprogram, which is much smaller in size in terms of costs and number of agencies concerned. As long as a subprogram follows the framework described in the IDEP, its implementation will have much the same effects as intended originally.

(1) Principle 1 Implementation by the local governments

The IDEP programs are, in principle, implemented by the authority and responsibility of the local governments in the four provinces with assistance and guidance of the central government.

- Strategy
- 1) The local governments should take the responsibility of managing and coordinating the IDEP programs, while the central government jointly promote and implement them. The leading role in implementing the IDEP would be taken by the provincial governments at first, but it should be gradually transferred from the provincial to kabupaten/kotamadya governments in accordance with the improvement and strengthening of institutional capability.
 - 2) Local government institutions, especially the agencies responsible for the IDEP programs, have to be strengthened in accordance with their authority and responsibility.

(2) Principle 2 Strong integration and coordination

The function of integration and coordination among the various sectors, agencies and levels of government concerned is strengthened for implementing the IDEP programs smoothly.

- Strategy
- 1) A management and coordination unit should be established in BAPPEDA Tk. I in order to ensure integration and coordination of planning, financing and implementation of various IDEP programs/projects. The unit is responsible for technical, institutional and financial matters. Even though the IDEP is carried out subprogram by subprogram, the management and coordination unit will play the leading role.
 - 2) An intersectoral steering committee should be established at national and local level in order to deal with policies, programs, implementation, evaluation, institutional development and financial resources.
 - 3) A monitoring and evaluation unit should be established at the kabupaten/kotamadya level in order to monitor and evaluate executed programs/projects, and to propose revised annual and multiyear plans.

(3) Principle 3 Strengthening manpower and institutional capability

The capability of the local government staff and institutions are enhanced in order to implement the IDEP programs more effectively.

- Strategy
- 1) An overall assessment of manpower and institutional capability in the local governments in the field of regional development has to be conducted for understanding which parts should be improved and strengthened.
 - 2) Human development and training are conducted mainly by means of so called on-the-job-training, because the capability to deal with integrated regional development seems to be improved more effectively in the process of programs/projects implementation.
 - 3) From the human development viewpoint, some of the sectoral programs/projects proposed in this study include soft type components such as training, dispatch of experts and technology transfer in their hard components.

(4) Principle 4 Strengthening financial capability

The local governments' capability to mobilize their resources and optimize the use of funds are strengthened and the system of regional development financing are improved in order to finance the IDEP programs sustainable.

- Strategy
- 1) Revenue generation capability in the local governments should be strengthened. The existing assigned revenues such as PBB (Land and Building Tax) and local taxes/service charges should be completely implemented, assessed and collected.
 - 2) Financial management capability has to be improved in the field of budgeting, accounting and auditing in the local governments. Capability to control routine expenditure should be improved.
 - 3) The local governments should monitor their fiscal trends and performance carefully.
 - 4) A system should be established in which the local governments can receive foreign loans/grants much more directly and smoothly to finance the IDEP programs and in which they can consolidate IDEP financing without differentiating the sources of funds from sectoral expenditures through central government, INPRES funds, foreign loans/grants, autonomous revenues, and so on.
 - 5) Criteria for fund transfer from central to local governments should be improved in order to give incentives to local revenue generation to the local governments.

5.5 INSTITUTIONAL ARRANGEMENTS FOR IDEP IMPLEMENTATION

Indonesia has already experienced the implementation of integrated development programs/projects. The Integrated Urban Infrastructure Development Program (UIDP), which was introduced in 1985, is one of the good models. The UIDP programs include improving arrangements for planning and implementing integrated urban infrastructure investment programs and enhancing the capability of local institutions and finance. The UIDP provides the Local Institution Development Action Plan (LIDAP) and the Revenue Improvement Action Plan (RIAP) as well as a physical urban development plans in the program.

The concept, approach and strategies of the IDEP are almost similar to those of the UIDP. The scale and varieties of the IDEP in terms of investment amount and the number of sectors involved, however, are much larger than those of the UIDP. Taking into account these differences, a specific arrangement for implementing the IDEP programs/projects should be provided. Institutional arrangements proposed here intend the promotion of decentralization as well as the realization of effective coordination and decision-making in view of the multisectoral nature of the IDEP approach.

5.5.1 Institutional Arrangements for IDEP Implementation

This part describes the requirements of institutional arrangements at national, provincial and kabupaten/kotamadya level (see Figures 5.5.1 and 5.5.2). Basically, it seems to be practical to take advantage of existing institutions and strengthen them through implementing IDEP programs/projects rather than establish a new institution.

(1) Institutional arrangements at the national level

A National Steering Committee for IDEP (NSCI) should be established at the central level. The NSCI is a high-level intersectoral group which includes the Directorates General of ministries/agencies concerned and donor representatives and is chaired by BAPPENAS. The NSCI also includes each IDEP Management Unit (IMU) in BAPPEDA Tk. I, which is explained later, in order to reflect local situation. The function of this committee is to provide overall policy and guidance, review annual and multi-year programs/projects, take

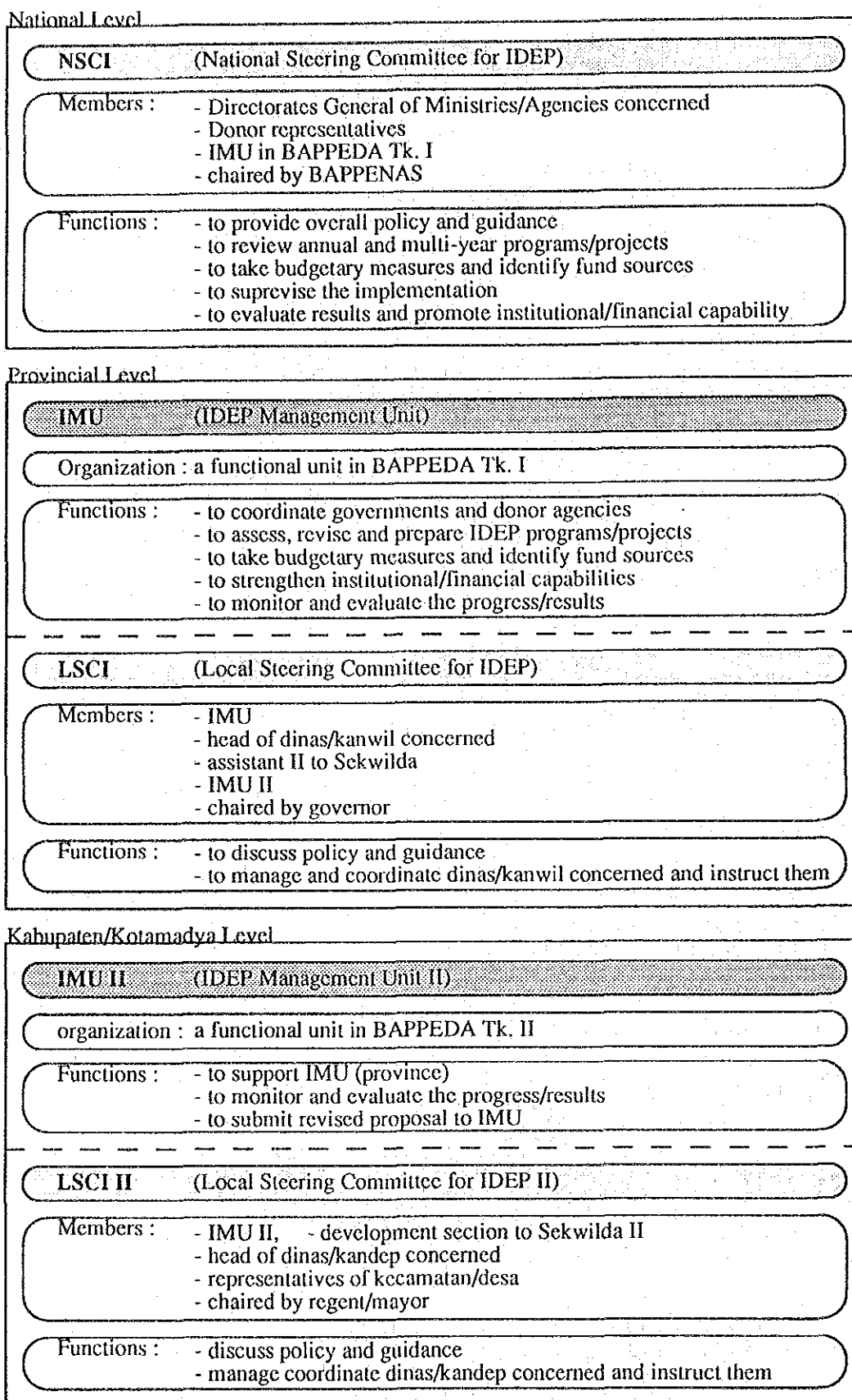
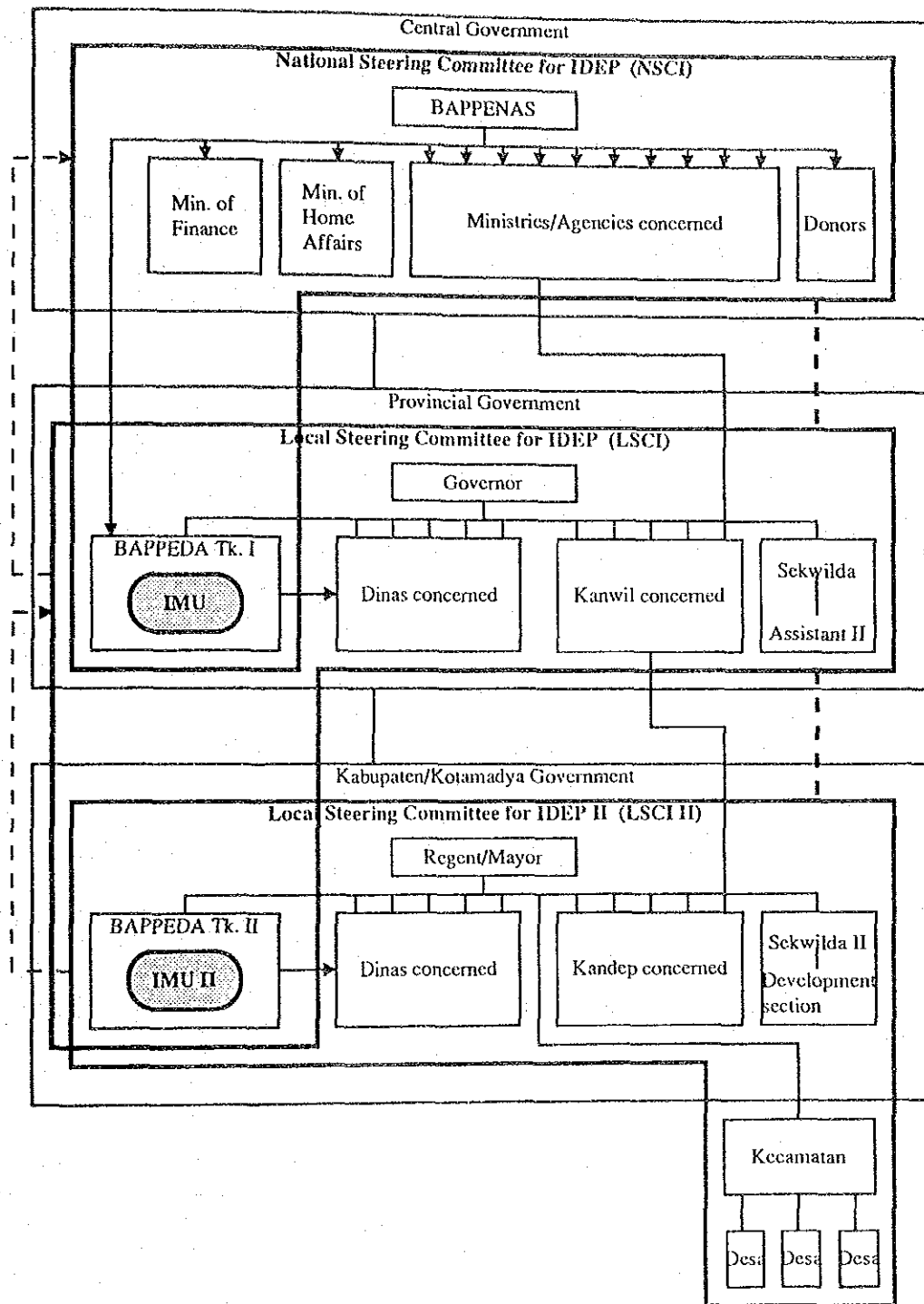


Figure 5.5.1 Institutional Arrangements for IDEP (1)



- Notes:
- denotes direct lines of authority
 - denotes coordinative linkages
 - denotes each steering committee
 - denotes linkages among NSCI, LSCI and LSCI II
 - denotes feedback linkages
 - IMU (II) denotes IDEP Management Unit (II)

Within each level of the governments, positions or links of ministries/agencies do not necessarily mean the rank of authority/hierarchy.

Figure 5.5.2 Institutional Arrangements for IDEP (2)

budgetary measures and identify fund sources for the IDEP, supervise the implementation, evaluate the progress and results and promote institutional and financial capability in the Region.

(2) Institutional arrangements at the provincial level

At the provincial level, an IDEP Management Unit (IMU) should be established for each IDEP. The IMU, which is a functional unit in BAPPEDA Tk. I and staffed with ten Indonesian staff workers, manages and coordinates all IDEP activities. The staff of IMU should be adequately selected among BAPPEDA Tk. I, dinas/kanwil, governor's office, etc. in accordance with the characteristics of each IDEP.

The main functions of the IMU are:

- 1) to coordinate the central, provincial and kabupaten/kotamadya governments and foreign donor agencies in preparing and implementing the IDEP programs/projects;
- 2) to assess, revise and prepare the annual and multiyear IDEP programs/projects, and submit them to the NSCI;
- 3) to take budgetary measures and identify fund sources for the IDEP;
- 4) to improve and strengthen institutional and financial capabilities in the provincial and kabupaten/kotamadya governments;
- 5) to monitor the progress/results of the executed IDEP programs/projects and evaluate them.

Even though the IDEP is implemented subprogram by subprogram, the IMU can play the leading role. It is necessary to dispatch a foreign expert to each IMU for supporting the IMU.

Also, a Local Steering Committee for IDEP (LSCI) should be established at the provincial level. The LSCI is a practical-level intersectoral group which consists of IMU in BAPPEDA Tk. I, Assistant II to Sekwilda, the head of dinas/kanwil concerned and IMU II in BAPPEDA Tk. II and is chaired by the governor. The main function of the committee is to discuss policy and guidance of the IDEP, manage and coordinate dinas/kanwil concerned and instruct them to implement the programs/projects effectively.

(3) Institutional arrangements at the kabupaten/kotamadya level

At the kabupaten/kotamadya level, an IDEP Management Unit II (IMU II) should be established for each of the IDEP sites. The IMU II, which is in BAPPEDA Tk. II as a functional unit and staffed with a few Indonesian staff workers, supports the IMU (province), monitors and evaluates the progress/results of the IDEP and submits revised proposals for the annual and multiyear programs/projects to the IMU (province). The staff of IMU II should be adequately selected among BAPPEDA Tk. II, dinas/kandep, regent/mayor's office, etc. in accordance with the characteristics of each IDEP.

Similar to the arrangements at the provincial level, a Local Steering Committee for IDEP II (LSCI II) should be established at the kabupaten/kotamadya level. The LSCI II is an intersectoral group which consists of IMU II in BAPPEDA Tk. II, development section in Sekwilda II, the head of dinas/kandep concerned and representatives of kecamatan/desa and is chaired by the regent/mayor. The main function of this committee is to discuss policy and guidance of the IDEP, manage and coordinate dinas/kandep concerned and instruct them to implement the programs/projects effectively.

5.5.2 Institutional Support Subprogram

According to the above scheme, the Team proposes an Institutional Support Subprogram in each IDEP. This picks up the establishment of the IDEP Management Unit (IMU) as a project. The project comprises of the following components.

- 1) For the IDEPs, a total of six IMUs and six IMU IIs are established as a functional unit specifically dealing with the IDEP programs/projects inside BAPPEDA Tk.I (Jambi, South Sumatra, Bengkulu and Lampung) and inside BAPPEDA Tk. II (Tanjung Jabung, Palembang, Lubuk Linggau/Lahat, Bengkulu Selatan, Lampung Utara and Bandar Lampung/Lampung Selatan), respectively. IMUs and IMUs II are staffed with ten and five Indonesian staff workers, respectively, including a high-qualified unit manager. For the purpose of strengthening the unit, the project assists each IMU and IMU II for 10 years mainly by means of providing the salary of the Indonesian staff workers.
- 2) To assist each IMU and promote the implementation of the IDEP programs/projects, this project dispatches a regional development expert to each unit for a period of 5 years. The experts are assigned to the Directorate General of Regional Development (BANGDA) of the Ministry of Home Affairs, and then they are seconded to BAPPEDA Tk.I in each province. The experts residing in BAPPEDA Tk. I take care of both IMU and IMU II. The cost for this component includes the provision of personal computers and other necessary equipment.
- 3) For BAPPEDA Tk.I and II staff, this project provides some training programs aiming at strengthening their capability of project management, financial management, intersectoral planning, etc.

5.6 ESTIMATION OF TOTAL INVESTMENT FOR THE REGION 1990-2010

Table 5.6.1 shows the estimated investment amount of IDEP and sectoral projects proposed in the Study. According to the table, the total cost up to 2010 is estimated at US\$ 10.4 billion (Rp. 20.8 trillion), of which US\$ 5 billion (Rp. 10 trillion) is for IDEP projects and US\$ 5.4 billion (Rp. 10.8 trillion) for sectoral projects with high and medium-priority outside the six IDEPs. These figures are partial, however, excluding low-priority projects outside IDEP and some of private investments. Also, some cost estimates only cover study components and do not include implementation costs.

The Team, on the other hand, calculated the required investment amount in the Region until 2010 in Table 2.6.14 of Chapter 2 above, by using the assumed ICOR (Incremental Capital Output Ratio). On the basis of the estimates, the investment requirements in the Region for 20 years will amount to Rp. 135 trillion equivalent to 25 % of total amount of GDP generated in the Region during the same period.

Table 2.6.12 of Chapter 2 in this volume shows the amount invested in the Region by both public and private sources during the past few years. According to the record, the ratio of investment amount to GDP in the Region was actually around 34 %. This implies that the investment requirements of Rp. 135 trillion equivalent to 25 % of GDP in the Region for the next 20 years can be financed without difficulty.

Out of this Rp. 135 trillion which is presumably available for the Region over the 20 years, roughly Rp. 80 trillion (60 %) will be spent to realize all the projects long-listed in this LTA-129 Report. The Rp. 21 trillion partial costs estimated above represent part of this total required spending and seem to be well within a financially feasible range. Adding to this estimate the costs of low-priority projects, uncounted private investments and substantial expenditures on implementation, we arrive at the realistic total of Rp. 80 trillion. The Rp. 55

trillion difference between Rp. 135 trillion and Rp. 80 trillion would be invested by other projects not proposed in the Study. The Team therefore concludes that the whole proposals in the Study may realize the projected GDP growth in the Region for 20 years.

Table 5.6.1 Investment Amount Proposed by IDEP and Sectoral Projects*

	(Unit : US\$ Million)								
	IDEP (1)**	IDEP (2)**	IDEP (3)**	IDEP (4)**	IDEP (5)**	IDEP (6)**	IDEP Total	Outside IDEP***	Total
1 Agriculture	91.9	0.5	223.9	646.4	94.5	5.5	1,062.7	435.0	1,497.7
2 Fisheries	55.0	0.0	5.3	12.6	31.1	31.5	135.5	30.7	166.2
3 Industry	30.8	42.8	15.1	7.8	1.9	22.0	120.4	593.7	714.1
4 Mining/Energy	0.0	190.9	2.3	116.2	151.0	146.0	606.4	1,999.2	2,605.6
5 Tourism	5.0	8.3	0.0	0.0	0.0	18.7	32.0	563.5	595.5
6 Water Resources	55.4	9.8	528.6	164.2	280.1	850.6	1,888.7	220.1	2,108.8
7 Transportation	127.4	88.3	24.5	10.8	39.6	366.9	657.5	520.5	1,178.0
8 Telecommunication	1.0	128.2	0.0	1.5	0.0	334.0	464.7	1,008.5	1,473.2
9 Urban and Rural Development	7.4	0.1	18.0	2.2	7.3	10.9	45.9	10.4	56.3
10 Land Use/Forestry/ Environment	2.7	0.0	11.4	5.6	0.5	0.8	21.0	21.6	42.6
11 Institutional Support	1.8	1.8	1.8	1.8	1.8	1.8	10.8	1.1	11.9
Total	378.4	470.7	830.9	969.1	607.8	1,788.7	5,045.6	5,404.3	10,449.9

Notes:

* : Some of the private investments in the Region are not included in this table. Some cost estimates only cover study components and do not include implementation costs.

** : (1) = Tanjung Jabung, (2) = Palembang, (3) = Musi Rawas/Lahat, (4) = Bengkulu Selatan, (5) = Lampung Utara, (6) = Bandar Lampung/Lampung Selatan

*** : This includes only high- and medium-priority projects.

6. INTEGRATION OF SUMATRA DEVELOPMENT

6.1 NORTHERN SUMATRA PLAN (LTA-78)

A JICA-assisted study on the northern part of Sumatra (LTA-78) developed a long-term plan (1988-2008) for northern Sumatra. To summarize the Plan, it identified three goals for the Region:

- 1) economic growth;
- 2) social equity; and
- 3) sustained stability.

Its five objectives are:

- 1) to become a major foodstuff production base;
- 2) to remain a leading exporter/foreign exchange earner;
- 3) to establish an industrial base;
- 4) to act as a major recipient of out-migrants from Java; and
- 5) to integrate the Region's potentials as a strong supporter of the national development.

The Plan's macroeconomic framework is summarized in Table 6.1.1 below, which can be compared with the framework for the southern part of Sumatra in Table 6.1.2.

In total eleven IDEPs were identified (Figure 6.1.1). In their selection, strategic considerations were given to the X-shaped population-transportation axes and to the urban-rural linkages (Figure 6.1.2). The IDEPs are:

- | | | |
|-----|----------------------------|-----------------|
| 1) | Northern Aceh | (Aceh) |
| 2) | West Aceh | (Aceh) |
| 3) | Metropolitan Medan | (North Sumatra) |
| 4) | <i>West Coast Tapanuli</i> | (North Sumatra) |
| 5) | <i>Nias Island</i> | (North Sumatra) |
| 6) | Minang Highlands | (West Sumatra) |
| 7) | South Sijunjung | (West Sumatra) |
| 8) | Mentawai Islands | (West Sumatra) |
| 9) | Rokan Basin | (Riau) |
| 10) | Indragiri River | (Riau) |
| 11) | Riau Islands | (Riau) |

where those in bold letters are listed in the Blue Book (1991/92) and in italics are those with some major components already in progress.

6.2 INTEGRATION OF THE NORTH AND SOUTH PLANS

Figure 6.2.1 shows an integrated structure of Sumatra development combining the two Plans. The 17 IDEP locations are indicated together with strategic transportation linkages and major strategic urban centers.

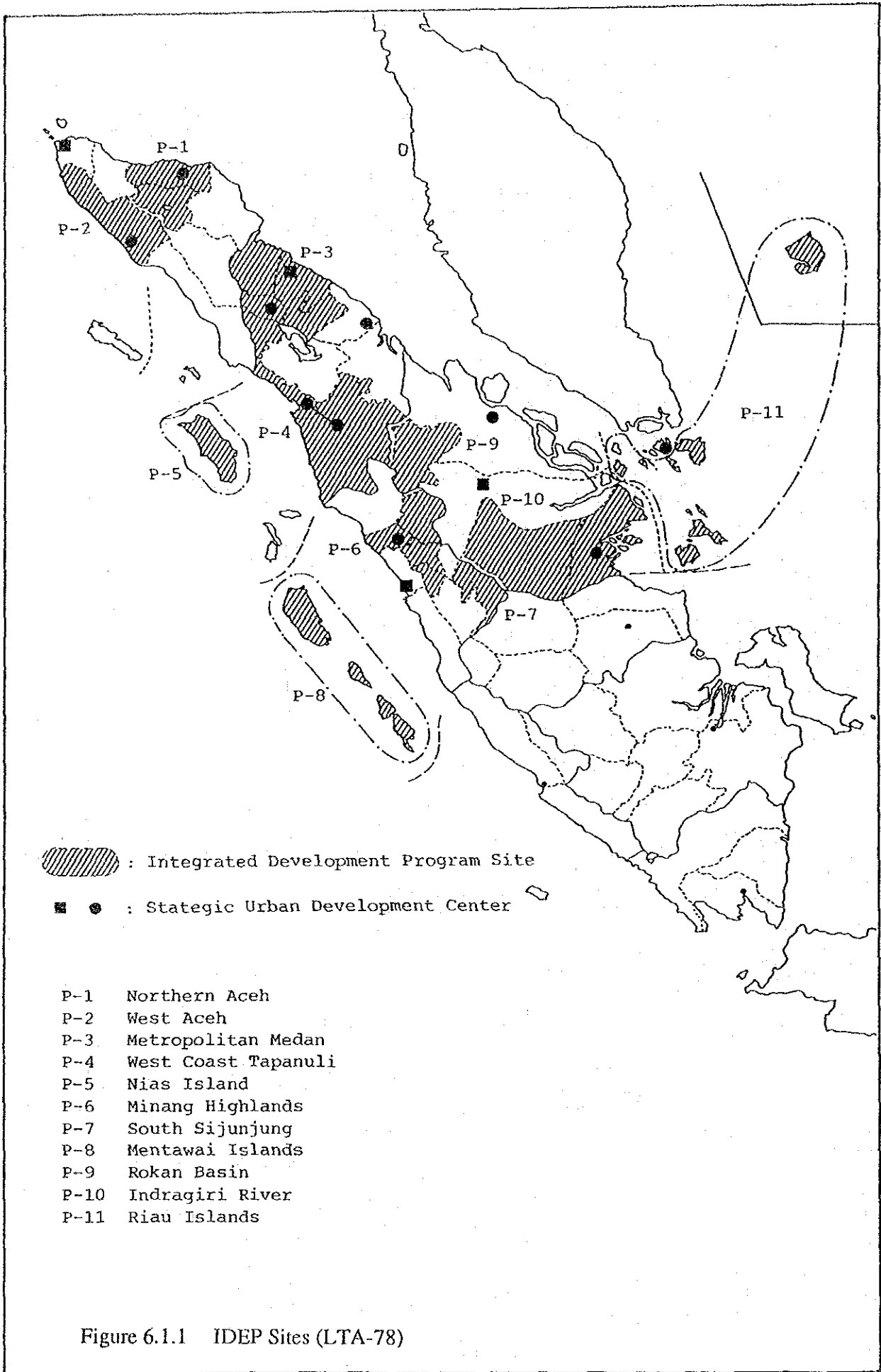


Figure 6.1.1 IDEP Sites (LTA-78)

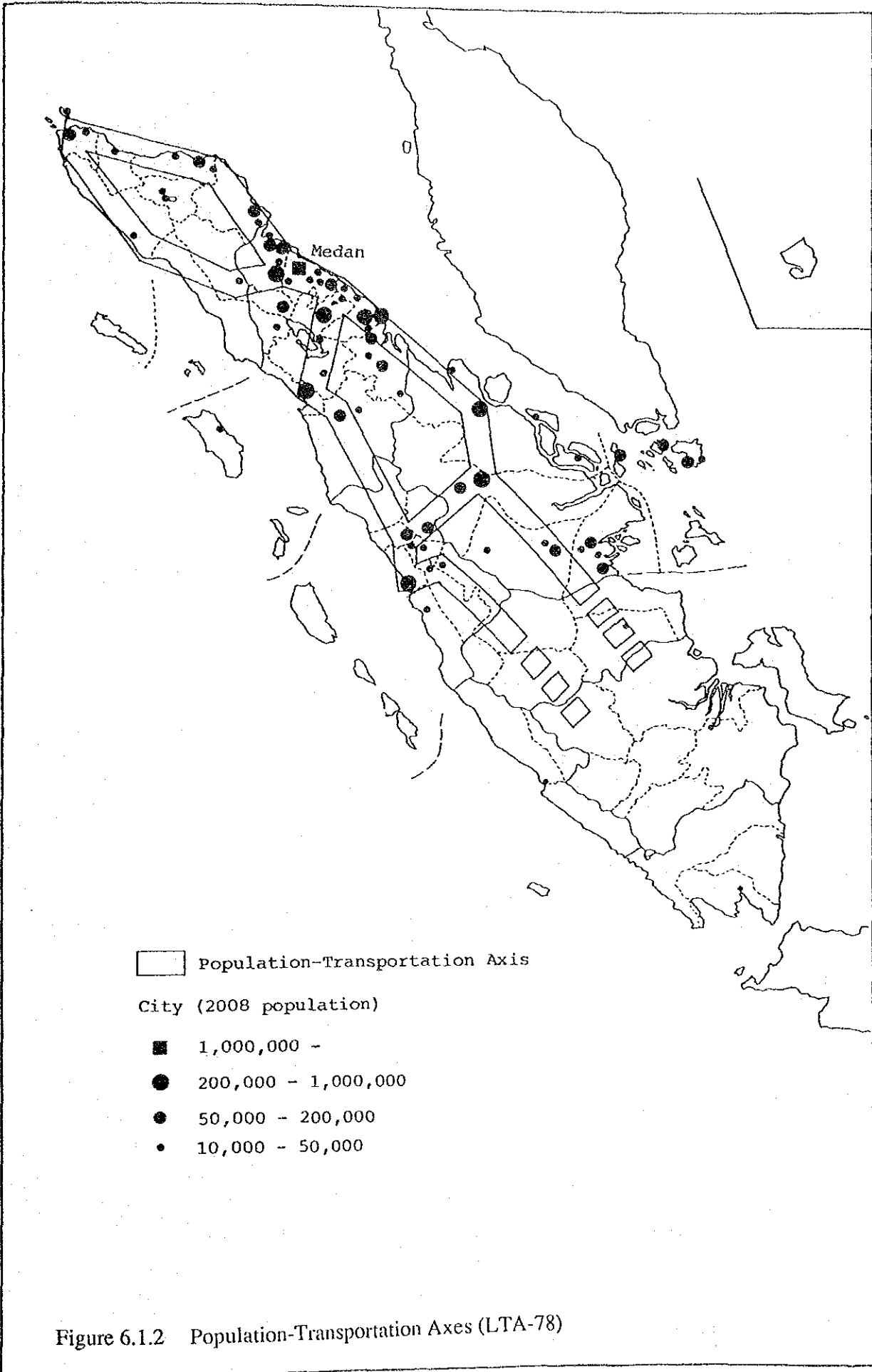


Figure 6.1.2 Population-Transportation Axes (LTA-78)

Table 6.1.1 Macroeconomic Framework for Northern Sumatra (LTA-78)

	Northern Sumatra		Indonesia	
	1988	2008	1988	2008
Population (million)	20.0 (11.4%)	30.5 (12.7%)	174.8 (100%)	239.6 (100%)
Population growth (%)		2.13		1.59
GDP (without oil/gas) (Rp trillion, 1983 prices)	8.4 (12.0%)	31.4 (14.3%)	70.2 (100%)	219.7 (100%)
GDP growth (%)		6.8		5.9
GDP per capita (without oil/gas) (Rp million, 1983 prices)	0.42	1.03	0.40	0.92
Total required investment (Rp trillion, 1988 prices)		130 (6.5 per year, 25.7% of GDP)		--

Source: Ministry of Public Works and JICA, The Study on the Integrated Regional Development Plan for the Northern Part of Sumatra. Final Report. (1990)

Table 6.1.2 Macroeconomic Framework for Southern Sumatra (LTA-129)

	Southern Sumatra		Indonesia	
	1990	2010	1990	2010
Population (million)	15.5 (8.6%)	25.0 (10.7%)	179.3 (100%)	233.3 (100%)
Population growth (%)		2.42		1.32
GDP (without oil/gas) (Rp trillion, 1983 prices)	7.2 (7.6%)	32.4 (10.7%)	94.3 (100%)	303.1 (100%)
GDP growth (%)		7.8		6.0
GDP per capita (without oil/gas) (Rp million, 1983 prices)	0.46	1.30	0.53	1.30
Total required investment (Rp trillion, 1990 prices)		135 (7.6 per year, 24.6% of GDP)		--

Note: Some marked differences in the national figures from Table 6.1.1 reflect the most recent developments in the Indonesian economy and the LTA-129 Team's review of the LTA-78 projections.

Source: Summarized from Section 2.6: Macroeconomic Framework (Chapter 2) of this Volume.

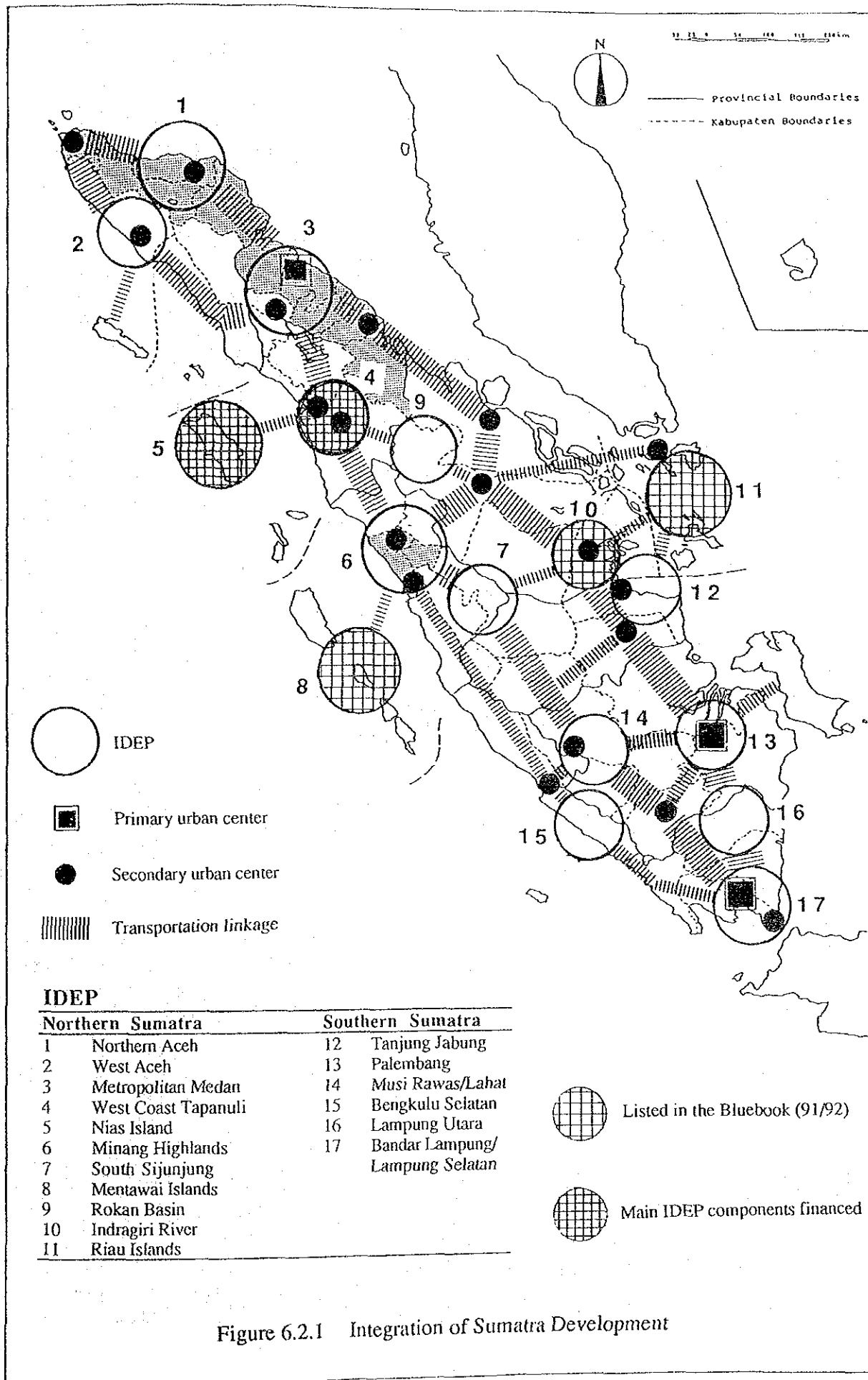


Figure 6.2.1 Integration of Sumatra Development

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 SUMATRA IN NATIONAL DEVELOPMENT IN 2010

This Study has formulated a 20-year (1990-2010) long-term development plan for the southern part of Sumatra. This planning period has one particular significance in the national context: Indonesia is supposed to "take off" during Repelita VI, 1994/95-1998/99. Judging from the economy's excellent performance in the recent few years as well as from its international environment in the foreseeable future, the scenario seems a highly plausible one.

Sumatra as a whole should play a leading role in this national transformation. The second largest island of Indonesia, both in terms of population and GDP, is also endowed with a set of comparative advantages many of which have yet to be fully exploited. Aside from various natural resources which are amply available, one single most important advantage of the island is its proximity to Java, on the one side, and to Singapore, Malaysia and to the international navigation route on the other. The Java-Sumatra axis that is already emerging will likely extend further to Singapore, Malaysia and Thailand, completing the southwestern section of the Pacific Rim, the world's most dynamic economic region. The southern part of Sumatra is expected to become a truly integral part of this economic axis.

7.2 DEVELOPMENT GOALS AND STRATEGY

In view of this broad setting, the Region's development goals identified are:

- 1) growth with equity; and
- 2) growth with environmental sustainability.

Growth comes first because enormous latent potentials await exploitation. Equity is explicitly stressed to avoid a lopsided distribution of development benefits. Environmental sustainability is called for not to undermine the whole effort to accomplish growth and equity. The two goals are further translated into four objectives:

- 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.

From among various possible ways to achieve the goals and objectives, the Team has identified the agriculture-industry linked economy as the most appropriate future image, in which agriculture, the Region's greatest natural advantage, is coupled with industry to materialize higher value added. This particular course of economic development necessitates a dual axes spatial strategy since industrial development will take place most efficiently along the east coast whereas agricultural production traditionally concentrates in the fertile land of the interior. Thus, a system of three north-south artery roads connected to one another with east-west ladder roads represents the most fundamental structure of the Region whereas the so-called Sumatra Gateway Triangle formed with Bandar Lampung, Palembang and Baturaja on its three respective corners is the productive core of the Region where agro-industries, among other things, will be actively promoted.

The whole development above should take place within the following macroeconomic framework: The Team has projected 7.8% for the Region's average annual growth rate of GDP without oil and gas (6.0% for the nation). During the same period, population will grow from about 15 million to 25 million, with an annual rate of 2.42% compared with the national figure of 1.32%. Despite this higher-than-national-average population increase, which reflects continued migratory inflow, the Region nonetheless will catch up with the nation in the 20 years in terms of GDP per capita thanks to the 1.8 percentage point higher growth in GDP. In parallel with this, the range of provincial GDP per capita will also be narrower in 2010.