

1. Project Title : NES-TYPE BEEF CATTLE FARMING DEVELOPMENT
2. Location : Jambi, South Sumatra, Bengkulu and Lampung.
3. Executing Agency : Directorate General of Livestock Services, Ministry of Agriculture.
4. Objectives : To increase the supply of meat for local consumption, fattening program have to be carried out particularly in the marginal lands. This will also be created and/or promoted better soil condition though legumes terracing and manure fertilizer and better living environment. The objectives are:
 - to establish a proper mechanism of nucleus and plasma cooperation in beef cattle production,
 - to establish a information and marketing system for local and export,
 - to improve farmers skill and to raise incomes and productivity of smallholders, and
 - to create job opportunity in the rural areas.
5. Project Description :
 - local beef cattle breeding center development,
 - fodder crop production development,
 - animal feed industry developemnt,
 - nucleus beef cattle fattening farm development at the marginal land, and
 - smallholders beef cattle development project.
6. Project Duration : Study: 12 months
Implementation: 5 years
7. Project Cost : US\$ 70,000,000
8. Related to Project Aid :
9. Stage of Project Preparation : Feasibility study is needed.

1. Project Title : DEVELOPMENT OF COMMERCIAL POULTRY FARMS
2. Location : Jambi and South Sumatra.
3. Executing Agency : Private investors.
4. Objectives : - to increase production of broilers and layers for local purpose, and
- to create employment opportunities,
5. Project Description : - land development,
- construction of chicken coop, and
- construction of processing facilities.
6. Project Duration : 1 year
7. Project Cost : US\$ 250,000 per turn over of one million chickens.
8. Related to Project Aid :
9. Stage of Project Preparation :

1. Project Title : BATANG HARI RIVER BASIN FISHERIES DEVELOPMENT PROJECT
2. Location : Batang Hari (Jambi)
3. Executing Agency : - Directorate General of Fisheries (DGF), Ministry of Agriculture
- Directorate General of Water Resources Development (DGWRD), Ministry of Public Works
- Bogor Agricultural University (IPB)
- Agency for Agricultural Research and Development (AARD), Ministry of Agriculture
4. Objectives : - To establish a master plan for effective use of Batang Hari River Basin for fishery resources rehabilitation.
- To select priority areas for fishery development, and to prepare designs for resource increment and better fishery management.
- To implement and conduct sound fishery management in the rehabilitated open water.
5. Project Description : Phase 1: Master Plan: Batang Hari River Basin Stock Assessment Survey
- Survey on biological and ecological features of typical riverine species, and assessment of potential stock levels.
- Analysis of the existing riverine system from the environmental viewpoint (water, soil, vegetation)
- Review of socio-economic condition of river based inhabitants.
- Selection of priority water body to be rehabilitated/conserved/developed.
- Preparation of appropriate fishery management plans in the selected water basin of Batang Hari River.

Phase 2: Oxbow Lakes Fishery Development
- Oxbow lake rehabilitation
- Aquaculture promotion (fish cage/pen culture)
- Fish stocking program & fishing management
- Lake maintenance
6. Project Duration : - Study (M/P, F/S) : 30 months
- Implementation : 60 months
7. Project Cost : - Study (M/P, F/S) : US\$ 2,000,000
- Implementation : US\$20,000,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Master Plan Study is required.

1. Project Title : COASTAL FISHERIES MANAGEMENT PROJECT
2. Location : Kab. Tanjung Jabung (Jambi)
3. Executing Agency : Directorate General of Fisheries (DGF), Ministry of Agriculture
4. Objectives : - To mitigate the excessive fishing activity in near shore, which may lead to resource depression, and control coastal fisheries resources through adoption of appropriate integrated resource management plan.
- To upgrade small-scale fishermen with creation of new fishing grounds and conversion into aquaculture.
5. Project Description : Phase I: Coastal Fishery Resources Inventory Management & Enhancement
- Bio-geographical, oceanographical, socio-economic and legal/institutional studies.
- Preparation of data base inventory
- Preparation of resource management plan
- Phase II: Research and Implementation
Component 1: Artificial Reef Installation
- Selection of new fishing grounds to be created and sanctuary area and season to be set up in terms of resource conservation, based on the result of Phase I Study.
- Designing of most appropriate artificial reef to be installed.
- Construction and installation of model artificial reef.
- Observation of fish aggregating effect and socio-economic return.
- Component 2: Aquaculture Demonstration Farms
- Construction of aquaculture demonstration farms, i.e., brackishwater shrimp pond culture, shellfish culture, at Kualatungkal, Alang-Alang, Nipahpanjang, and Air Hitam (Jambi), and Sung Sang (South Sumatra)
- Detailed survey and designing for coastal aquaculture extension, in particular for brackishwater shrimp ponds (tambak).
6. Project Duration : - F/S : 8 months
- Research Work : 60 months
- Implementation : 36 months
(will be started after the 24-month research)
7. Project Cost : - F/S : US\$1,000,000
- Research Work : US\$3,000,000
- Implementation : US\$5,000,000
8. Stage of Project Preparation : Pre. F/S was completed under this Study. The Project would be technically feasible. However, economic and financial feasibilities, particularly of artificial reefs are unknown at the time being. The detailed design of the Project should be carefully made and the effects should be regularly monitored and evaluated for further improvement of fishery situations.

1. Project Title : KUD-BASED FISH PROCESSING AND MARKETING PROMOTION PROJECT
2. Location : - Kab. Kerinci/Bungo Tebo (Jambi)
- Kdy. Pangkal Pinang/Kab. Bangka (South Sumatra)
- Kdy. Bengkulu (Bengkulu)
- Kab. Lampung Tengah/Selatan (Lampung)
3. Executing Agency : Directorate General of Fisheries (DGF), Ministry of Agriculture
4. Objectives : - To strengthen the capability of KUD (fisheries cooperatives) by involving fish marketing activities so as to stabilize fish price.
- To develop fish processing technology on small-scale basis for ensuring stable sale.
5. Project Description : Component 1: Pilot-scale Fish Processing Units
- Establishment of a pilot-scale fish processing units
Muara Bungo/Kerinci
- Ikan Mas (common carp) for smoking
- Ikan Nila (tilapia) for fillet
Labuhan Maringgai (Lampung Tengah), Pulau Baai (Kdy. Bengkulu) and Pangkal Pinang
- Ikan Tongkol (eastern little tuna) for boiled/semi-drying
- Ikan Tenggiri (king mackerel) for fish ball
- Ikan Kembung (indian mackerel) for drying and seasoning
- Component 2: KUD-based Fish Marketing Promotion
- Establishment of small ice making plant and storage.
- Kulau (Bangka) : 5 ton/day
- Ketapang (Lampung Selatan) : 3 ton/day
- Lempasing (ditto) : 10 ton/day
- Kota Agung (ditto) : 3 ton/day
- Supply of pickup trucks and plastic fish containers
6. Project Duration : - F/S : 3 months
- Implementation : 24 months
7. Project Cost : - F/S : US\$ 200,000
- Implementation : US\$1,000,000
8. Related to Project Aid : None
9. Stage of Project Preparation : F/S (including basic design) is required.

1. Project Title : BRACKISHWATER SHRIMP CULTURE INDUSTRIALIZATION PROJECT
2. Location : - Kab. Lampung Tengah/Selatan (Lampung)
- Kab. Tanjung Jabung (Jambi)
3. Executing Agency : - Directorate General of Fisheries (DGF), Ministry of Agriculture
- Directorate General of Water Resources Development (DGWRD), Ministry of Public Works
4. Objectives : - To increase frozen shrimp production for export.
- To upgrade small-scale farmers' living standard along with transmigration scheme.
5. Project Description : Component 1: Cooperative-Based Shrimp Farming (Tambak) Development
- Rehabilitation of the existing traditional tambak in Labuhan Maringgai and Ketapang areas (about 3,000 ha, Lampung Tengah/Selatan).
- Construction of new tambak for small-scale farmers/fishermen in Tanjung Jabung (about 200 ha each in Alang-Alang and Nipahpanjang) and Lampung Tengah/Selatan (about 200 ha).
- Construction of a shrimp feed plant (KUD-based).
- Component 2: Government Support
- Construction/rehabilitation of primary/secondary water supply canals and pumps.
- Construction of social infrastructure, e.g., school, mosque, clinic, market.
- Coast line protection by replantation of mangrove (green belt) and breakwater embankment.
- Expansion of the existing shrimp hatchery in Kalianda (50 million pcs per year).
- Establishment of a new shrimp hatchery in Pulau Berhala (50 million pcs. per year).
6. Project Duration : - F/S : 5 months
- Implementation : 36 months
7. Project Cost : - F/S : US\$ 400,000
- Implementation : US\$20,000,000
8. Related to Project Aid : - Fisheries Support Service Project (IBRD loan, project site in Aceh)
- Detailed Study and Design on shrimp farming development by private investment in Tg. Labu (about 700 ha) (PT. Linggogeni in Jakarta)
9. Stage of Project : - Detailed survey was completed by PT. Linggogeni for Nipahpanjang site in 1991, but no survey has been conducted for Alang-Alang site.
- Basic study for rehabilitation (extensification) was completed by the Dinas Perikanan Tk. I (Lampung) for Labuhan Maringgai and Ketapang areas.

1. Project Title : FRESHWATER GIANT PRAWN CULTURE DEVELOPMENT PROJECT
2. Location : Kab. Musi Rawas, Lahat, O.K.U. (South Sumatra)
3. Executing Agency : - Directorate General of Fisheries (DGF), Ministry of Agriculture
- Directorate General of Water Resources Development (DGWRD), Ministry of Public Works
4. Objectives : - To increase production of freshwater giant prawn for export.
- To diversify aquaculture production so as to stabilize and increase small-farmers income.
5. Project Description : Component 1: Freshwater Giant Prawn Culture Development
- Establishment of new giant prawn farming by small-scale farmers in the demonstrated areas (Musi Rawas, O.K.U.).
- Establishment of new giant prawn farming estate in the proposed irrigation areas (Lahat).
- Establishment of a model farm in each fish farming group to introduce prawn culture to the existing small-scale fish farmers (including Mina Paddy).

Component 2: Freshwater Giant Prawn Hatchery & Feed Plant
- Construction of giant prawn hatchery in Bangkulu (to be operated by the government.)
- Construction of pilot-scale feed plant (to be operated by prospective farmer's group or KUD).
6. Project Duration : - F/S : 4 months
- Implementation : 36 months
7. Project Cost : - F/S : US\$ 300,000
- Implementation : US\$5,000,000
8. Stage of Project Preparation : F/S (including survey for area identification and basic design) is required.

1. Project Title : FISHING VILLEGE COMMUNITY DEVELOPMENT PROJECT
2. Location : - Kab. Bengkulu Selatan (Bengkulu)
- Kab. bengkulu Utara (Bengkulu)
- Kab. Lampung Barat (Lampung)
3. Executing Agency : - Directorate General of Fisheries (DGF), Ministry of Agriculture
- Directorate General of Cipta Karya (DGCK), Ministry of Public Works
4. Objectives : - To upgrade living standard of artisanal fishermen with improvement of fishing village environment.
- To increase fish catch introducing better fishing equipment and boats.
- To organize and strengthen the fishermen's cooperatives for fish marketing, engine maintenance and other fishery related activities.
5. Project Description : Component 1: Improvement of Fishing Environment
- Establishment of Community Fisheries Center composing of; office, meeting/training room, small workshop, small ice making plant/storage, retail market, radio station, toilet/shower, fishing gear storage, water supply system, fuel station, etc.
- Coast line protection by installation of floating beakwater.
- Radio communication network among all coastal fishing villages.
- Component 2: Fishing Boats Motorization
- Supply of outboard engines (10-40 hp) and gears, and enlargement of fishing boats on step-by-step basis through provision of credit.
- Establishment of engine repair/maintenance service system.
- Component 3: KUD-Based Fish Marketing Promotion
- Supply of pick-up trucks and insulated fish containers for fish collection and marketing.
6. Project Duration : - F/S : 4 months
- Implementation : 24 months
7. Project Cost : - F/S : US\$ 300,000
- Implementation : US\$5,000,000
8. Stage of Project Preparation : F/S (including basic design) is required

1. Project Title : OFFSHORE FISHERIES DEVELOPMENT PROJECT IN WESTERN WATERS
2. Location : - Pulau Baai (Kdy. Bangkulu, Bengkulu)
- Krui (Kab. Lampung Barat, Lampung)
- Kota Agung (Kab. Lampung Selatan, Lampung)
3. Executing Agency : - Directorate General of Fisheries (DGF), Ministry of Agriculture
- Private Entrepreneur or Government Enterprise
4. Objectives : - To increase fish catch from west coast to meet the increasing demand for fish both in Southern Sumatra and Jakarta, as well as for export.
- To upgrade local fishermen's income in the form of employment by appropriate private company's participation.
5. Project Description : Component 1: Small-Scale Tuna Fishery Development
- Provision of about 13 m class tuna long line fishing vessels
- Operation of tuna collector vessel between fishing grounds and Jakarta (for Krui based fishery)
- Construction of ice making plant, chill room (each one at Krui and Pulau Baai) and fresh tuna handling/packing shed (Pulau Baai only).

Component 2: Purse Seine Fishery Development
- Provision of about 13 m class purse seine fishing vessels.
- Installation of ice making plant and chill room at PPI Pulau Baai

Component 3: Krui Fish Landing Center (PPI)
- Reclamation of the portyard.
- Construction of breakwater and fish landing wharf both for private enterprise and small-scale fishermen uses.
- Construction of onshore facilities, i.e., fish handling/auction hall, fuel/water supply system, workshop, offices.

Component 4: Fish Aggregating Device (FAD)
- Installation of FAD at the selected locations for increase of catch efficiency both for deep sea and shallow water use
6. Project Duration : - F/S : 4 months
- Implementation : 36 months
7. Project Cost : - F/S : US\$ 300,000
- Implementation : US\$15,000,000
8. Related to Project Aid : - Sumatra Fisheries Development Project (ADB loan, West Sumatra).
- Fisheries Infrastructure Project (ADB loan, PPI Pulau Baai)
9. Stage of Project Preparation : Pre. F/S was completed under this Study. The Project would be technically, financially and economically feasible. However, the detailed study on both overseas and domestic markets including the aspects of quality improvement and sales promotion should be made in the F/S stage.

1. Project Title : MARICULTURE DEVELOPMENT PROJECT
2. Location : - Kab. Lampung Selatan (Lampung), coastal areas in general, bay areas in particular.
3. Executing Agency : - Directorate General of Fisheries (DGF), Ministry of Agriculture
4. Objectives : - To generate additional income for small-scale fishermen, particularly through participation of women.
- To increase the production of high-valued marine fish to meet the increasing demand along with tourism promotion.
- To develop the value-added marine products for diversification of both domestic and export markets.
5. Project Description : Component 1: Marine Fish Fry Production and Distribution System
- Establishment of marine fish hatchery (expansion of the existing Seafarming Development Center in Hanura).
- Establishment of appropriate wild seed collection and nursery system.
- Component 2: Mariculture Promotion
- Promotion of fish cage culture, shellfish culture (green mussel, oyster) and seaweed culture, either under a NES scheme or cooperatives.
- Component 3: Coral Reef Rehabilitation
- Replantation of baby corals in the coral natural-habitat areas
- Component 4: Carrageenan Production Plant
- Production of carrageenan from seaweed (*Eucheuma* spp.) which can be widely utilized as a material for dairy products, medicines, cosmetics, etc.
6. Project Duration : - F/S : 4 months
- Implementation : 30 months
7. Project Cost : - F/S : US\$ 300,000
- Implementation : US\$4,000,000
8. Related to Project Aid : Seafarming Development Project (FAO/UNDP T/A)
9. Stage of Project Preparation : F/S (including basic design) is required

1. Project Title : SWAMP FISHERY DEVELOPMENT PROJECT
2. Location : - Kab. OKI/Musi Banyuasin (South Sumatra)
- Kab. Lampung Utara/Tengah (Lampung)
- Kab. Tanjung Jabung (Jambi)
3. Executing Agency : - Directorate General of Fisheries (DGF), Ministry of Agriculture
- Directorate General of Water Resources Development (DGWRD), Ministry of Public Works
- Agency for Agricultural Research and Development (AARD), Ministry of Agriculture
4. Objectives : - To upgrade living standard of village people
- To increase fish production through rehabilitation of swamp areas.
5. Project Description : Phase 1 : Research and Development (Improvement of Facilities)
- Strengthening of the activities of Freshwater Aquaculture Research Sub-Center (IFRI) in Mariana (Palembang), regarding appropriate technologies to be employed for swamp fishery/aquaculture.
- Establishment of inland fishery stations in Menggala (Lampung Utara) and Indralaya (O.K.I.) for seed production, demonstration and extension services to small-scale fishermen/farmers.
Phase 2 : Master Planning & F/S
- Survey of swamp areas on geography, hydrology, soil/vegetation, fish resources, and socio-economic condition of inhabitants.
- Screening of priority areas for development.
- Preparation of appropriate models for swamp development in the selected swamps.
Phase 3 : Implementation
- Fish fry restocking
- Freshwater aquaculture development (cage/pen/pond culture)
- Legal establishment of conservation zones (sanctuary areas and periods)
- Physical rehabilitation of swamps, e.g., water inlet/outlet, spill water control dike.
- Village-based swamp fishery management.
6. Project Duration : - R&D(Facilities) : 24 months
- M/P, F/S : 24 months
- Implementation : 60 months
7. Project Cost : - R&D (Facilities) : US\$ 3,000,000
- M/P, F/S : US\$ 1,500,000
- Implementation : US\$20,000,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Basic design study for R&D facilities and Master Plan Study for swamp development is required.

1. Project Title : FRESHWATER AQUACULTURE INFRASTRUCTURE IMPROVEMENT PROJECT
2. Location : Jambi, South Sumatra, Lampung
3. Executing Agency : - Directorate General of Fisheries (DGF), Ministry of Agriculture
- Directorate General of Water Resources Development (DGWRD), Ministry of Public Works
- Agency for Agricultural Research and Development (AARD), Ministry of Agriculture
4. Objectives : - To expand capacity of fish fry production and diversify culture species through development of seed production technology and improvement of hatchery equipment.
- To improve water supply system to freshwater ponds for constant water supply.
5. Project Description : Component 1 : Freshwater Fish Hatchery Technical Development
 - Review of the required fish fry, and preparation of long-term production plan.
 - Improvement of water supply system to the existing hatchery facilities.
 - Supply of hatchery equipment for induced spawning
 - Technical transfer of seed production technique to local staffComponent 2 : Aquaculture Water Supply Stabilization
 - Survey of the existing water supply system.
 - Preparation of rehabilitation plan for better water supply to the existing ponds.
 - Establishment of appropriate water supply system.
6. Project Duration : - Study (M/P, F/S) : 12 months
- Implementation : 48 months
7. Project Cost : - Study (M/P, F/S) : US\$ 600,000
- Implementation : US\$6,000,000
8. Related to Project Aid : Hatcheries rehabilitation and pond construction under Sumatra Fisheries Development Project (Jambi, South Sumatra, Lampung)(ADB loan)
9. Stage of Project Preparation : Master Plan Study is required.

1. Project Title : FISHERIES EDUCATION AND TRAINING PROJECT
2. Location : Jambi, South Sumatra, Bengkulu, Lampung
3. Executing Agency : - Agency for Agricultural Training and Education (AATE)
- Directorate General of Fisheries (DGF), Ministry of Agriculture
4. Objectives : - To create appropriate middle-tier technical personnel for fishery development in the Southern Part of Sumatra.
- To upgrade KUD's capability for fish marketing, engine maintenance services, and credit operation.
5. Project Description : Component 1: Establishment of Fisheries Senior High School (SPP Perikanan) in Kota Agung (Lampung)
 - Senior high-school level education
 - Marine fishery course : 80 students/year
 - Fishing gear & engine : 80 students/year
 - Aquaculture course : 80 students/year
 - Facilities : fishery training vessel (about 50 G/T), workshops, aquaculture ponds and laboratory facilities.
 - Training programme for local fishermen

Component 2: Upgrading of KUD's Management Capability

 - Promotion of friendship association between Indonesian and Japanese fisheries cooperatives societies for training in Japan and marketing promotion.
 - Provision of local scholarship programmes at desa level.
6. Project Duration : - F/S : 4 months
- Implementation : 24 months (for SPP)
60 months (for KUD)
7. Project Cost : - F/S : US\$ 250,000
- Implementation : US\$5,000,000 (for SPP)
US\$1,000,000 (for KUD)
8. Related to Project Aid : None
9. Stage of Project Preparation : Master Plan Study was completed by Dinas Perikanan Tk. I (Lampung) for the establishment of SPP.

1. Project Title : SURVEY OF PRESENT PROCESSING SITUATION
2. Location : Interprovincial
3. Executing Agency : Ministry of Industry (KANWIL/ Dinas) with cooperation of KADIN and industrial associations-
4. Objectives :
 - To survey present processing degree in order:
 - To know in what part of processing the processors of the Region lack, and
 - To what extent they can expand their business or add more value.
5. Project Description : Conduct questionnaire survey for manufacturers asking:
 - Present manufacturing process flow,
 - Diversification of their product line,
 - Plans to improve their process by reinforcing new machine and equipment,
 - Needs for technical assistance by official R & D organizations, and
 - Needs for institutional financing, etc.
6. Project Duration : One year including preparation and compilation / analysis period.
7. Project Cost : US\$ 20,000
8. Related to Project Aid : None
9. State of Project Preparation : Project idea

1. Project Title : INVESTIGATION OF NATURAL RESOURCES
2. Location : Interprovincial
3. Executing Agency : - Min. of Forestry/ KANWIL/ Dinas (Forestry)
- Min. of Agriculture/KANWIL/ Dinas (Fishery)
- Min. of Mining and Energy/ KANWIL/ Dinas (Minerals)
4. Objectives : - To investigate how much natural resources are existing in the Region and,
- To supply the survey result for potential investors who are planning to process raw materials.
5. Project Description : Each related ministry is to conduct the investigation on how much resources are existing in the Region. Main resources for investigation are:
- Forest (wood/rattan) resources,
- Fishery (fishes/shelfishes/sea weed), and
- Mineral resources.
As for agro resources, possibility of growing and expected yield of each plants is to be investigated.
6. Project Duration : Two years including preparation and survey/compiling period.
7. Project Cost : US\$ 10,000
8. Related to Project Aid : None
9. State of Project Preparation : Project idea

1. Project Title : INVESTIGATING OF IMPROVING PROCESSING
2. Location : Interprovincial
3. Executing Agency : Min. of Industry
4. Objectives : To learn from surrounding countries how to improve processing degree and add more value on resources
5. Project Description : Despatch study groups consist of experts from KANWIL (Industry), BKPM, Institute for R & D of Industry and participants from private sector to such surrounding countries like Taiwan, Thailand and the Philippines to get information related on:
 - Ways of processing,
 - Processing technologies,
 - Machine and equipments,
 - Necessary investment cost, and -Estimated additional value added.
6. Project Duration : Five years (despatch different study groups to different countries in turn)
7. Project Cost : US\$ 250,000
8. Related to Project Aid : None
9. State of Project Preparation : Project idea

1. Project Title : DEVELOPMENT OF INDUSTRIAL ESTATES (I.Es.)
2. Location : Lampung Selatan (Lampung I.E. for expansion)
Palembang (new I.E. for development)
3. Executing Agency : Ministry of Industry/Kanwil
Provincial government/Dinas Perindustrian
BKPM
4. Objectives : - To increase direct foreign investment
- To upgrade resource-oriented, secondary processing industry in the Region to produce more processed, more value added products with higher level of technology
- To generate more output value in industry subsectors
5. Project Description : There are three stages in the development of I.Es.:
 - 1) Planning stage conducting pre-investment or feasibility study for decision making;
 - 2) Implementation stage comprising contracting, engineering and construction; and
 - 3) Operation stage with the location or settlement of investors and administration.

In the Region, there currently exists one I.E. (Lampung I.E.) which is in its operation stage and subject to implementing promotion for more investment. Another I.E. is under investigation near Palembang. Its concrete location has yet to be decided (as of the end of Aug. 1992) from among the alternatives of Mariana, Sungai Lais, Kertapati and Tanjung Api Api. When decided, it will enter the planning stage to establish a master plan for its development.
6. Project Duration : 5 to 6 years
(planning: 1 to 2 years; implementation and operation: 2 to 4 years)
7. Project Cost : US\$ 10,000,000-18,000,000
(for 200 ha; inclusive of US\$ 300,000-500,000 consultancy fees, but excluding land acquisition cost)
8. Related to Project Aid : None
9. State of Project Preparation : Lampung I.E. in operation; Palembang I.E. under investigation

1. Project Title : UPGRADING OF INSTITUTES FOR R&D IN INDUSTRY
2. Location : Palembang (S.S.), Bandar Lampung (Lampung)
3. Executing Agency : Agency for Industrial Research and Development, Min. of Industry
4. Objectives : To strengthen the capability of Industrial Research and Development through modernization and upgrading of the laboratory equipment in Industrial Testing Laboratory, Palembang, and through expansion of the capacity of Industrial Testing Laboratory, Bandar Lampung.
5. Project Description : The project comprises of :
 - Procurement for replacement of obsolete/old fashioned laboratories equipment and facilities, including for modernization purpose;
 - Renovation/modification of selected laboratory buildings;
 - In country and overseas training for research and development staff; and
 - Consulting services for design and engineering and other technical services.
6. Project Duration : 3.5 (three and half) years (whole project)
7. Project Cost : US\$ 991,100 for whole the national project
8. Related to Project Aid : The whole (national) project was listed in "List of Project Proposals 1991/92" (Blue Book) (Code No. : D-85).
9. State of Project Preparation : Under coordination by BAPPENAS, aiming for ADB finance. F/S for the whole project as been completed by UNICO International Corp.in 1989 financed by ADB.

1. Project Title : IMPROVEMENT OF VOCATIONAL TRAINING CENTERS (VTCs)
2. Location : Interprovincial
3. Executing Agency : Ministry of Manpower/Kanwil Provincial Government/BAPPEDA
4. Objectives : - To upgrade and expand education of industrial technology in the Region in order to meet the increasing demand for specialized manpower, especially for middle class managers and engineers, in industry where resource-oriented, secondary processing is recommended for the future development.
5. Project Description : The main frame of this project has long been established and implemented. Improvement of the system should consider suggestions and recommendations on the following items:
 - Function of VTCs;
 - Reclassification of VTCs;
 - Separation of trainees;
 - Level up of instructors;
 - Upgrading of facilities;
 - Job placement of the graduates;
 - Effective use of budget; and
 - Additional curricula.
6. Project Duration : F/S 0.5 year
Implementation 1-1.5 years
7. Project Cost : US\$ 28,000,000 (total for the 18 VTCs in the Region)
8. Related to Project Aid : None
9. State of Project Preparation : Under implementation for a decade.

1. Project Title : ESTABLISHMENT OF MARKET INFORMATION CENTER
2. Location : Interprovincial
3. Executing Agency : - Min. of Industry
- BPEN with cooperation of KADIN
4. Objectives : To assist manufacturers for export promotion by means of supplying necessary information for export market development
5. Project Description : To establish Market Information Center which has function as follows in reference to the examples of JETRO, KOTRA, and CETRA:
 - Assistance for export promotion by means of supplying necessary information for export market development;
 - Introduction of inquiries from potential buyers (getting information from trading companies and COC of target market countries;
 - Assisting in designing of products and their packagings; and
 - Advising packing knowhow including containerization.
6. Project Duration : Five years
7. Project Cost : US\$ 10,000 excluding personel expences for permanent staffs.
8. Related to Project Aid : None
9. State of Project Preparation : Project idea

1. Project Title : IMPROVEMENT OF SII(STANDARD INDUSTRIAL INDONESIA -- INDONESIA INDUSTRIAL STANDARD) AND INSTITUTIONAL FINANCING
2. Location : National
3. Executing Agency : - Min. of Industry (SII)
- Central Bank of Indonesia (Institutional financing)
4. Objectives : SII
 - To improve quality of primary and secondary processed products in order to be competitive in world market.

 - Institutional financing
 - To supply low interest rate loans to medium and small scale enterprises for purchasing machine and equipment (manufacturing facilities) in order to improve production capacity.
5. Project Description : SII
 - Introduction of the industrial standards to cover much more secondary processed items For that purpose, the support industrial associations which will play an important role in developing draft standards, strengthening of product inspection institutions and reliability of inspection results should be established. As a basic activities, enlightenment on quality consciousness for medium and small scale enterprises and for raw material suppliers

 - Institutional financing
 - Revival or adoption of preferential interest rate in such institutional financing system like KIK and KMKP for medium and small scale manufacturing enterprises.
6. Project Duration institutional finance : 5 years for SII, depend on Government decision on
7. Project Cost : - SII: US\$ 5,000
- Institutional financing: Limited expences for recovery. But , required budget is estimated between US\$ 330 to 570 million.
8. Relation for Project Aid : None
9. State of Project Preparation : Project idea

1. Project Title : PROMOTION OF ESTABLISHING LINKAGES
2. Location : Interprovincial
3. Executing Agency : - Min. of Industry / KANWIL
- Provincial Governments / Dinas
4. Objectives : To exchange variety of resources in the Region--natural, personal and apital--among areas, industries and enterprises in order to utilize these resources more effectively
5. Project Description : This project starts from enlightenment activities for private sector and persuasion of individual enterprises through daily contact of officials with them. Some campaign activities also necessary through media llke newspapers and broadcastings announcing the merits and necessity of linkage. At the same time, some consult ing desk who give related information should be set up in each office of KANWIL and Dinas
6. Project Duration : Five years from the starting point of implementation.
7. Project Cost : Limited small amount of expences, because this activities will be done by daily work by officials in KANWIL and Dinas.
8. Related to Project Aid : None.
9. State of Project Preparation : Project idea

1. Project Title : INVESTMENT PROMOTION
2. Location : National and interprovincial
3. Executing Agency : BKPM for promotion of foreign investment;
The integrated organization newly formed by BKPMs of the four provinces for promotion of both foreign and domestic investment
4. Objectives : - To promote investment for location of factories into the Region
5. Project Description : (1) Program for Promotion of Foreign Investment

This action program consists of the following activities and functions:
 - Advertising activities
 - Follow up and marketing activities
 - Information services
 - Consulting activities
 - Monitoring activities
(2) Domestic Investment Promotion Activities

It is necessary in this respect to increase the quantity of information to be provided to potential investors and set up channels to disseminate the information. Items to be included in the program:
 - Publication of investment guidebooks
 - Identification of the investors to be attracted to the Region
 - Collaboration with various manufacturers' associations
 - Reinforcement of consulting services
 - Implementation of joint investment campaign between the provincial governments and the private sector
6. Project Duration : 2 years
7. Project Cost : US\$ 3,000,000
8. Related to Project Aid : None
9. State of Project Preparation : Project idea

1. Project Title : ORGANIZING THE PUBLIC AGENCY
2. Location : Interprovincial
3. Executing Agency : - Ministry of Industry
- BAPPENAS
- Governments of 4 provinces (BKPMDs)
4. Objectives : To promote and coordinate whole projects suggested here under one integrated organization.
5. Project Description : One banded or integrated operation of BKPMDs of four provinces is suggested for more powerful drive for industrial development of the Region. Besides, closer cooperation with such organizations as consultants (IKINDO), engineers(PII), economist (ISEI), contractors (GAPINDO), etc. in private sector is necessary. Their full participation, both at planning stage and in implementation stage, is very important.
6. Project Duration : Within one year for preparation.
7. Project Cost : Very limited expences except for permanent staffs.
8. Related to Project Aid : Coordinating the whole projects listed here.
9. State of Project Preparation : Project idea

1. Project Title : STARCH / MODIFIED STARCH FROM CASSAVA
2. Location : Palembang, Bandar Lampung, Lampung Utara
3. Executing Agency : Private enterprises
4. Objectives : To diversify the processing of cassava and add more value
5. Project Description : Recently, most of cassava plantations in the Region have their processing facilities for cassava starch for export. However, in the neighbouring countries like Thailand, they are engaged in processing of modified starch and exporting more value added products. The modified starch includes dextrin, oxidized starch, thin boiling starch and pregelatinized starch.
6. Project Duration : Enterprises who receive technologies from foreign partner will easily join this business only after construction term for their plant.
7. Project Cost : US\$ 150,000 per enterprise.
8. Related to Project Aid : None.
9. State of Project Preparation : Project idea

1. Project Title : COCONUTS OIL PROCESSING
2. Location : Tanjung Jabung, Palembang
3. Executing Agency : Private enterprises
4. Objectives : To diversify present coconuts oil refining process to more integrated processing, in order to get more value added and to substitute import. To process refined coconuts oil not only into edible oil like margarin, shortning and frying oil, but also oleo-chemical products like fatty acid, methyl ester, higher alcohls, alkylamine and glycerin.
5. Project Description : The coconuts oil mills are usually located adjacent to or inside of the plantations to avoid decomposition of palm oil caused by lipase, a kind of enzyme, in meso carp. Crude coconuts oil is gathered to the coconuts oil refineries located in cities or near harbour area for refining. The coconuts oil refineries are capital intensive, so the number of them is very limited. The demand for edible oil is increasing constantly in the world, offering good business opportunity for the coconuts oil refiners in the Region.
6. Project Duration : Within one year for plant construction and preparation for operation including organizing gathering routes of crude coconuts oil.
7. Project Cost : US\$ 200,000 per enterprise.
8. Related to Project Aid : None.
9. State of Project Preparation : Project idea

1. Project Title : MUSHROOM FED ON SAW-DUST
2. Location : Tanjung Jabung, Palembang
3. Executing Agency : Private enterprises
4. Objectives : To utilize saw-dust which is the by-product or waste for wood processors and to export the products to neighbouring countries
5. Project Description :
 - Grow up mushrooms on the bed which consist of mix ture of saw-dust, rice bran and water. (The most suitable temperature for growing of mushroom is between 20 to 25 degrees centigrade.)
 - Cook mushroom mainly by boiling in hot water.
 - Canning
6. Project Duration : Two to three years for preparation of the project.
7. Project Cost : US\$ 200,000 per enterprise.
8. Related to Project Aid : None.
9. State of Project Preparation : Project idea

1. Project Title : WOOD WOOL CEMENT BOARD
2. Location : Palembang, Musi Rawas/Lahat
3. Executing Agency : Private enterprises
4. Objectives : To utilize unused portion of wood from wood-sawing and plywood factories located in the Region, combined with cement from Semen Baturaja.
5. Project Description : The process consists of :
 - Slit the raw wood into a strip shape;
t= 0.3 - 0.5 mm
w= 3 - 5 mm
l= 300 - 500 mm
 - Mix with wet cement;
 - Pour the mixture into molds and make the shape (mainly board shape);and
 - Dry and pack

Whole the processing plant can be attached to wood workingfactory
6. Project Duration : Introduction of the processing technology is the most time consuming factor of the project. Construction of factory will take less than half a year.
7. Project Cost : US\$ 2,500,000 per enterprise in case of diversification from plywood processing.
8. Related to Project Aid : None
9. State of Project Preparation : Project idea

1. Project Title : FIBER BOARD
2. Location : Palembang, Tanjung Jabung, Musi Rawas/Lahat
3. Executing Agency : Private enterprises
4. Objectives : To diversify existing production line of wood processing and to utilize by-products and waste
5. Project Description : The process consists of:
 - Chipping or crushing of raw material;
 - Refining of fiber using single/double revolving disc refiner;
 - Sizing by adding reinforcing agent and water proofing agent;
 - Drying for two to four hours in continuous/batchdrier; and
 - Pressing.
6. Project Duration : Two to three years for preparation.
7. Project Cost : US\$ 2,500,000 per enterprise in case of diversification from plywood processing.
8. Related to Project Aid : None.
9. State of Project Preparation : Project idea

1. Project Title : PARTICLE BOARD
2. Location : Palembang, Tanjung Jabung, Musi Rawas/Lahat
3. Executing Agency : Private enterprises
4. Objectives : To diversify existing production line of wood processing and to utilize by-products and waste
5. Project Description : The process consists of:
 - Particle producing by crushing raw material;
 - Drying of the particles;
 - Adding bonding adhesives such as urea, melamine and phenol resin and other additives like water proof agents and antiseptics;
 - Board forming;
 - Pressing;
 - Heating; and
 - Finishing and packing
6. Project Duration : Two to three years for project preparation.
7. Project Cost : US\$ 2,500,000 per enterprise in case of diversification from plywood processing.
8. Related to Project Aid : None.
9. State of Project Preparation : Project idea

1. Project Title : FURNITURE OR MODULES OF FURNITURE
2. Location : Palembang, Tanjung Jabung, Musi Rawas/Lahat
3. Executing Agency : Private enterprises
4. Objectives : To process sawn wood and plywood and manufacture furnitures or modules of furniture and get more added value
5. Project Description : To start with manufacturing floorings and wall panels. Then, proceed to make components of desks, tables, chairs, cabinets, etc. Finally, after getting the knowhow and technologies of finishing, enter to manufacture furnitures.
6. Project Duration : Two to three years for introducing the knowhow and technologies.
7. Project Cost : US\$ 2,500,000 in case of diversification from plywood processing (1989 base).
8. Related to Project Aid : None.
9. State of Project Preparation : Project idea

1. Project Title : RUBBER PROCESSING (MOLDS, DIE-CUTTING, BALLS, ETC.)
2. Location : Palembang, Bandar Lampung
3. Executing Agency : Private enterprises
4. Objectives : To process raw rubber to molds, die-cuttings and balls for export to get more value added
5. Project Description : Other rubber producing countries like Malaysia and Thailand are processing such rubber products mainly for export. What is lacking in Indonesia are processing technologies and facilities.
6. Project Duration : Two to three years for project preparation.
7. Project Cost : US\$ 200,000 per enterprise.
8. Related to Project Aid : None.
9. State of Project Preparation : Project idea

1. Project Title : COAL-FIRED THERMAL POWER PLANT
2. Location : Muara Bungo, Jambi
3. Executing Agency : Perusahaan umum Listrik Negara (PLN)
4. Objectives :
 - To secure the stable supply to system network
 - To diversify power source and power generation site
 - To use effectively regional energy resources
5. Project Description :
 - Phase(I): Feasibility Study
 - Planning and evaluation of power system network
 - Evaluation of coal supply potential from Rantau Pandan nearby Muara Bungo
 - Detailed design of power plant and infrastructure
 - Cost estimation and implementation scheduling
 - Economical evaluation and recommendations
 - Phase(II): Construction
 - Documentation for bidding and construction contract
 - Preparation
 - Construction
 - Commissioning
6. Project Duration :
 - Feasibility Study :18months
 - Construction :48months
7. Project Cost :
 - Feasibility Study :US\$ 1,200,000
 - Construction :US\$400,000,000(500MW)
8. Related to Project Aid : None
9. Stage of Project Preparation : Feasibility Study including coal supply from Rantau Pandan is needed

1. Project Title : BORING EXPLORATION IN RANTAU PANDAN COAL FIELD
2. Location : Kab. Muara Bungo, Jambi Province
3. Executing Agency : Directorate of Coal, Ministry of Mines and Energy
4. Objectives : - To expand the survey for exploration of coal resources
- To prepare an action plan for coal development for the future
- To confirm coal qualities and minable reserve by boring exploration
5. Project Description : Phase (I): Boring Exploration
- Review of existing data related to coal resources and qualities
- Determination of fields and the order of boring exploration
- Boring exploration and coal analysis
- Phase (II): Estimation of coal reserve
- Evaluation of geological structure of coal seams
- Making contour maps on the thick of coal seams and the coal quality
- Estimation of minable coal reserve
6. Project Duration : 12 months
7. Project Cost : US\$ 1,200,000
8. Related to Project Aid : - Geological Exploration on the Survey for the Rehabilitation of Ombilin Coal Mine, 1978 - 1979, JICA
- Central Sumatra Coal Exploration Project, 1986 - 1991, NEDO
- Ombilin III Coal Exploration Project, 1991 - , NEDO
9. Stage of Project Preparation : - A part of Rantau Pandan coal fields was examined by
- Ministry of Mines and Energy

Attachment ----- Coal Quality of Rantau Pandan -----

	Unit	As Received	Air Dry Basis
Total Moisture	%	21.4	-
Inherent Moisture	%	-	14.7
Volatile Matter	%	-	34.4
Fixed Carbon	%	-	46.1
Ash Content	%	-	4.8
Total Sulphur	%	-	0.58
Calorific Value	kcal/kg	-	6161
HGI		-	34 - 46

(Source) Jambi Office of Ministry of Mines and Energy

1. Project Title : GAS-FIRED THERMAL POWER PLANT (GAS COMBINED CYCLE POWER GENERATION PLANT)
2. Location : Kramasam (Palembang), South Sumatra
3. Executing Agency : Perusahaan umum Listrik Negara (PLN), Wilayah IV
4. Objectives : - To secure the stable power supply for increasing regional demand
- To strengthen power system network in the Southern part of Sumatra
- To diversify energy source through the effective use of Natural Gas
5. Project Description : Phase (I): Feasibility Study
- Forecasting of regional power demand
- Evaluation of power system network
- Cost comparison of rehabilitation of the existing units and the construction of a new thermal power plant (for example, Gas Combined Cycle)
- Making the estimate of the detailed cost and the implementation schedule
- Economical evaluation and Recommendation
- Phase (II): Construction
- Documentation for bidding and construction contract
- Preparation
- Construction
- Commissioning
6. Project Duration : - Feasibility Study :12 months
- Construction :36 months
7. Project Cost : - Feasibility study :US \$ 800,000
- Construction :US \$ 150,000,000(200 MW)
8. Related to Project Aid : None
9. Stage of Project Preparation : Feasibility Study is needed.

1. Project Title : CITY GAS DELIVERY SYSTEM
2. Location : Palembang, South Sumatra
3. Execution Agency : Perusahaan umum Gas Negara (PGN) MIGAS, Ministry of Mines and Energy
4. Objectives :
 - To make an effective use of Natural Gas in order to reduce the dependence of oil products
 - To diversify energy source through the expansion of commercial and residential use as well as industrial use of Natural Gas
5. Project Description : Phase (I): Feasibility Study
 - Analyzing of consumption structure of commercial and residential energy in Palembang city
 - Evaluation of Gas demand for industry including small and medium industries
 - Forecasting of Gas demand and supply up to 2010 in Palembang region including industrial estates
 - Planning of gas delivery system by easy stages
 - Making the estimate of the detailed cost and implementation schedule in each stage
 - Socio-economical evaluation (including effects on regional society)
 - Designing of pipe line network for gas supply in each stage
 - Recommendation on tariff system and incentive policy

Phase (II): Implementation

 - Documentation for bidding and contract
 - Contract
 - Construction
 - Commissioning
6. Project Duration :
 - Feasibility Study : 10 months
 - Implementation : 18 months
7. Project Cost :
 - Feasibility Study : US \$ 620,000
 - Implementation : US \$38,000,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Feasibility Study is needed.

1. Project Title : INTEGRATED ENERGY CENTER
2. Location : Palembang, South Sumatra
3. Executing Agency : Ministry of Mines and Energy
4. Objectives :
 - To promote R/D projects related to energy and environment
 - To train and turn out human resources related to energy management, planning, technologies, conservation, and environmental impact assessment
5. Project Description :
 - Phase (I): Feasibility Study
 - Confirmation of roles and effects of the Centre
 - Setting-up of scope and functions of the Centre
 - Compilation of the development and utilization items by each sector (oil, gas, coal, electricity and new energies)
 - Configuration of equipment and facilities required
 - Cost estimation (fixed costs, variable costs)
 - Recommendation on the organization of the Centre and the financing methods
 - Phase (II): Start-up Preparation and Implementation
 - Determination of site and scope
 - Securing of manpower required
 - Procurement of facilities and equipment
 - Establishment of integrated energy centre
6. Project Duration :
 - Feasibility Study : 8 months
 - Implementation : 12 months
7. Project Cost :
 - Feasibility Study : US \$ 400,000
 - Implementation : US \$1,100,000
8. Related to Project Aid : None
9. Stage of Project Preparation : None

1. Project Title : TECHNICAL RENOVATION OF TIN MINING (TECHNICAL RENOVATION AND INDUSTRIAL ADJUSTMENT PLANNING.)
2. Location : Bangka and Belitung, South Sumatra
3. Execution Agency : - Mineral Technology Development Centre (PPTM), Ministry of Mines and Energy
- PT. Tambang Timah (PERSERO)
4. Objectives : - To intensify tin mines by the rationalization and technical renovation
- To establish the flexible production system to meet the demand structure
- To make an adjustment plan to cope with the structural change of tin mining industry
5. Project Description : Phase (I): Feasibility Study
 - Reviewing of the present mining system and the existing facilities
 - Marketing research on tin products
 - Recommendation for technical renovation and production planning
 - Cost estimation for the technical renovation
 - Planning on the switching program for industrial adjustment based on mining / smelting technologies and know-howPhase (II): Industrial Adjustment Planning
 - Making the production plan with flexibility to meet movements of market
 - Making integrated industrial adjustment Plan and the investment plan (capital investment and operation cost)
 - Economical evaluation (including effects on regional economy and job creation)
 - Making the re-allocation program of workers based on the adjustment program
 - Making the job training program based on the reallocation program
6. Project Duration : 12 months
7. Project Cost : US \$700,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Related studies are carried out.
 - Post Mining Study in Belitung Island by PT. Tambang Timah (under studying 1991 - 1993.4)
 - Environment Management Plan of Tin Mining & Smelting Industries in Bangka Island (Draft Report by PT. Tambang Timah)
 - Study on Rationalization of Tin Mines by World Bank (under studying)

1. Project Title : EXPLORATION OF RARE EARTH METALS
2. Location : Bangka and Belitung, South Sumatra
3. Executing Agency : - Directorate of Mineral Resources, Directorate General of Geology and Mineral Resources, Ministry of Mines and Energy
- PT. Tambang Timah (PERSERO)
4. Objectives : - To survey the existence and potential of rare earth metals associated with the secondary tin deposits
- To analysis the distribution and contents of rare earth metals detected
5. Project Description : Phase (I): Preparation of Detailed Survey
 - Review of the secondary tin deposits
 - Review of preliminary existing survey data
 - Preparation of equipment for field and laboratory analysis
 - Survey and analysis in tin mining fields
 - Development of continuously analyzing system in tin mining fields
Phase (II): Detailed Survey and Analysis
 - Detailed survey and analysis in promising fields
 - Systematical analyzing of exploration results
 - Economical evaluation
 - Recommendation on development strategy
6. Project Duration : 18 months
7. Project Cost : US \$600,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Preliminary survey is carried out by PT. Tambang Timah

1. Project Title : COAL GASIFICATION PLANT
2. Location : Kab, Muara Enim, South Sumatra
3. Executing Agency : - Ministry of Mines and Energy
- Ministry of Industry
4. Objectives : - To make an effective use of coal in order to reduce the dependence on oil
- To diversify energy source through fuel methanol use in automobiles and electricity generators
- To develop coal chemical industry
- To export fuel methanol for gas turbine generators
5. Project Description : Phase (I):Engineering Study
 - Forecasting of demand and prices of oil products
 - Reviewing of reports related to fuel methanol utilization
 - A point that for fuel methanol utilization, in diesel generator and gas turbine generators
 - Design of gasification plant and detailed cost estimationPhase(II):Preparing and Construction
 - Establishment of responsible organizations and management organizations
 - Decision of the total investments
 - Financial and Sales/purchase contact
 - Documentation for bidding and construction contact
 - Construction of gasification plant
6. Project Duration : - Engineering Study : 8years
- Construction : 2years
7. Project Cost : - Engineering Study : US\$ 40,000,000
- Construction : US\$860,000,000
8. Related to Project Aid : None
9. Stage of Project Preparation : The Feasibility Study on Uflective Utilization of Banko Coal in the Republic of Indonesia, 1984-1988, JICA

1. Project Title : BORING EXPLORATION IN MUSI RAWAS COAL FIELD
2. Location : Musi Rawas, South Sumatra
3. Executing Agency : Directorate of Coal, Ministry of Mines and Energy
4. Objectives : - To expand the survey for exploration of coal resources
- To prepare a preliminary action plan for coal development for the future
- To confirm coal qualities and minable reserves by boring exploration
5. Project Description : Phase (I): Boring Exploration
- Review of existing data related to coal resources and qualities
- Determination of fields and the order of boring exploration
- Boring exploration and coal analysis
- Phase (II): Estimation of coal reserve
- Evaluation of geological structure of coal seams in each field
- Making contour maps on the thick of coal seam and the coal quality in each field
- Estimation of minable coal reserve
6. Project Duration : 24 months
7. Project Cost : US \$ 2,300,000
8. Related to Project Aid : - Geological Exploration on the Survey for the Rehabilitation of Ombilin Coal Mine, 1979 - 1979, JICA
- Central Sumatra Coal Exploration Project, 1986 - 1991, NEDO
- Ombilin III Coal Exploration Project, 1991 - , NEDO
9. Stage of Project Preparation : A part of Musirawas coal fields (South Sumatra) had been explored by PT. Triaryani

Attachment ----- Coal quality of Sungaimalam (Musirawas)-----

	Unit	As Received	Dry Basis
Total Moisture	%	41.1	-
Free Moisture	%	28.2	-
Inherent Moisture	%	-	15.2
Volatile Matter	%	-	41.6
Fixed Carbon	%	-	39.4
Ash Content	%	-	3.8
Total Sulfur	%	-	0.1
Calorific Value	kcal/kg	-	5400
HGI		-	55

(Source) PT. Triaryani

1. Project Title : BORING EXPLORATION OF COAL FIELDS AROUND TANJUNG ENIM
2. Location : Kab. Muara Enim and Kab. Lahat, South Sumatra
3. Executing Agency : - Directorate of Coal, Ministry of Mines and Energy
- PT. Tambang Batubara Bukit Asam (PERSERO)
4. Objectives : - To increase and expand the survey for exploration of coal resources
- To prepare the master plan for coal development
- To confirm coal qualities and minable reserves by boring exploration
5. Project Description : Phase (I): Boring Exploration
- Review of existing data related to coal resources and qualities
- Boring exploration and coal analysis

Phase (II): Estimation of coal reserve
- Evaluation of geological structure of coal seam in each field
- Making contour maps on the thick of coal seam and the coal quality in each field
- Estimation of minable coal reserve
6. Project Duration : 24 months
7. Project Cost : US\$ 2,300,000
8. Related to Project Aid : - Geological Exploration on the Survey for the Rehabilitation of Ombilin Coal Mine (CTA-79 of BAPPENAS project code), January 1978 - June 1979, JICA
- Central Sumatra Coal Exploration Project (CTA-156 of BAPPE NAS project code), October 1986 - 1991, NEDO
- Ombilin III Coal Exploration Project (CTA-168 of BAPPENAS project code), July 1991, NEDO
9. Stage of Project Preparation : A few fields of state-owned mining concessions (South Sumatra) are now under boring

1. Project Title : COAL CENTER
2. Location : Bengkulu Port, Bengkulu Province
3. Executing Agency : Directorate General of Coal, Ministry Mines and Energy
4. Objectives : - To increase the export capacity and secure the stable supply for the large consumers
- To intensify the comprehensive coal development and coal quality control as a competitor in the international coal trade
5. Project Description : Phase (I): Feasibility Study
- Reviewing of coal resources and the development plan (including geological structure, quality, mining method, and mineral resources)
- Making the estimate of supply cost (Ex-mine cost, transportation cost, and shipping cost)
- Marketing research by each coal rank
- Confirmation and positioning of the roles of the coal center possessing of coal blending and sampling equipment for quality control
- Conceptual designing of coal yard and loading facilities
- Economical evaluation including effects on regional economy
- Phase (II): Detailed Design and Construction
- Determination of the cite and scale of coal yard
- Designing of unloading/loading and blending system
- Designing of coal sampling system / laboratory
- Configuration of equipment and facilities
- Projected and recommended sources of finance
- Environmental Impact Assessment
6. Project Duration : 24 months
7. Project Cost : - Feasibility Study : US \$ 600,000
- Construction : US \$2,300,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Feasibility Study is needed

-Attachment-----		Coal Quality-----			
I. Lingapur Coal (PT. Danau Mas Hitan) - one of mines operated		Unit	As Received	Air Dry	Dry Basis
Total Moisture		%	1.72	-	-
Air Dried Moisture		%	-	0.89	-
Ash Content		%	11.33	11.43	11.53
Volatile Matter		%	37.66	37.98	38.32
Fixed Carbon		%	49.29	49.70	50.15
Total Sulfur		%	3.83	3.87	3.90
Calorific Value	Kcal/Kg		7148	7208	7273
H.G.I			54	-	-

II. Non - development fields - 22 points

	Unit	As Received	Air Dry Basis
Total Moisture	%	4 -47	-
Free Moisture	%	1 -27	-
Inherent Moisture	%	-	1-27
Ash Content	%	-	2-60
Volatile Matter	%	-	15-37
Fixed Carbon	%	-	13-46
Total Sulfur	%	-	0.2-3.5
Calorific Value	Kcal/Kg	-	2000 - 5,500

(Source: PPTM Coal Laboratory)

1. Project Title : BRIQUETTES PROMOTION PROJECT
2. Location : Bengkulu
3. Executing Agency : - Pusat Pengembangan Teknologi Mineral(PPTM),
- Ministry of Mines and Energy
4. Objectives : - To supply briquettes as an alternative energy for wood fuels and oil products
- To mitigate deforestation caused by the use of traditional wood fuels
- To export various kind of briquettes to Asia-Pacific countries
5. Project Description : Phase (I): Feasibility Study and Demonstration Test
- Estimation of the energy demand potential related to the consumption of traditional and non-commercial energy
- Technical evaluation of briquettes manufacturing including the effective use of biomass
- Technical evaluation of combustion efficiency and methods
- Marketing Research for the residential / industrial use of briquettes
- Cost estimation and recommendations
- Briquettes manufacturing by a pilot plant
- Detailed design of commercial plants
6. Project Duration : 24 months
7. Project Cost : - Feasibility Study : US \$ 1,200,000
- Commercial Plant : US \$11,000,000
8. Related to Project Aid : None
9. Stage of Project Preparation : - Laboratory tests and manufacturing for PR are carried out by PPTM (in cooperation with Bukit Asam and Ombilin coal mines). Production capacity is 1 ton/day.
- Pamphlet for PR is published by PPTM "Briket Batubara untuk Energi Rumah Tangga Batubara No.1 Th.1.92, 1992"
- A small pilot plant is under planning by PPTM (Location; Bukasi, West Java, Capacity; 1-3 ton/day, Construction; 1993)
- Feasibility study is needed for commercial plant

Attachment ----- Price Information -----

1. Charcoal	3kg	-Rp 900 , 4 kg	-Rp 1200	10,486 RP/mmBTU
2. Kerosene	1.5l	-Rp 375 , 2 l	-Rp 500	7,232 RP/mmBTU
3. Wood fuel	6kg	-Rp 210 , 8 kg	-Rp 320	3,024 RP/mmBTU
4. Briquettes	1kg	-Rp 250		10,500 RP/mmBTU
5. Electricity	1 kwh	-Rp 125		36,625 RP/mmBTU

(Source) PPTM

1. Project Title : COAL-FIRED THERMAL POWER PLANT
2. Location : Bengkulu
3. Executing Agency : Perusahaan umum Listrik Negara (PLN)
4. Objectives :
 - To secure the stable supply of system network
 - To diversify power source and power generation site
 - To use effectively regional energy resources
5. Project Description : Phase(I): Feasibility Study
 - Forecasting and evaluation of regional power demand
 - Evaluation of power system network
 - Evaluation of coal supply potential from Bengkulu coal fields
 - Detailed design of power plant and infrastructure
 - Cost estimation and implementation scheduling
 - Economical evaluation and recommendations

Phase(II): Construction

 - Documentation for bidding and construction contract
 - Preparation
 - Construction
 - Commissioning
6. Project Duration :
 - Feasibility Study :12 months
 - Construction :36 months
7. Project Cost :
 - Feasibility Study :US\$ 1,000,000
 - Construction :US\$240,000,000(300MW)
8. Related to Project Aid : None
9. Stage of Project Preparation : Feasibility Study is needed

1. Project Title : GEOTHERMAL POWER DEVELOPMENT AROUND ULUBELU
2. Location : Ulubelu, Lampung
3. Executing Agency : - Volcanological Survey of Indonesia (VSI), Directorate General Geology and Mineral Resources
- Directorate of Electricity Development, Directorate General of Electricity and New Energy, Ministry of Mines and Energy
4. Objectives : - To increase and expand exploration of geothermal energy resources
- To match power demand with the most appropriate energy sources available in rural areas
- To promote rural electrification for isolated areas
5. Project Description : Phase (I): Resource Feasibility Study
- Review and evaluation of existing survey and exploration data
- Detail investigation by geochemical and geoelectric methods
- Pilot boring of a few wells with the depth of 500 - 1000 m
- Examination of borehole-geology, -geophysics, and -geochemistry
- Evaluation of well characteristics and steam production test

Phase (II): Engineering Feasibility Study
- Determination of the location and capacity size of geothermal power plant
- Selection of technologies and processes that can be adopted, given in relation to capacity size
- Rough layout of equipment and facilities
- Cost estimation and implementation scheduling
- Economical evaluation
- Construction
6. Project Duration : 24 months
7. Project Cost : US \$4,000,000
8. Related to Project Aid : Feasibility Study on Kerinch Geothermal Development Project in the Republic of Indonesia, 1989, JICA
9. Stage of Project Preparation : Geological Survey by PERTAMINA is now under going

1. Project Title : COAL-FIRED THERMAL POWER PLANT
2. Location : Katabumi, Lampung
3. Executing Agency : Perusahaan Umum Listrik Negara
4. Objectives :
 - To secure the stable supply of system network
 - To diversify power source and power generation site
 - To use effectively regional energy resources
5. Project Description : Phase (I): Feasibility Study
 - Planning and evaluation of power system network
 - Evaluation of coal supply potential from nearby Kokabumi
 - Examination on the application of fluidized bed combustion (FBC) boiler
 - Detailed design of power plant and infrastructure
 - Cost estimation and implementation scheduling
 - Economical evaluation and recommendations

Phase (II): Construction

 - Documentation for bidding and construction contract
 - Preparation
 - Construction
 - Commissioning
6. Project Duration :
 - Feasibility study :12 months
 - Construction :40 months
7. Project Cost :
 - Feasibility study :US\$ 1,000,000
 - Construction :US\$150,000,000 (100MW)
8. Related to Project Aid : None
9. Stage of Project Preparation : Feasibility study is needed

1. Project Title : POWER SYSTEM INTERCONNECTION
2. Location : Four provinces in the Southern part of Sumatra
3. Executing Agency : Perusahaan umum Listrik Negara (PLN), Wilayah IV
4. Objectives :
 - To secure the stable power supply
 - To decrease isolated power generation using diesel oil
 - To extend power system interconnection
5. Project Description :
 - Phase (I): Planning
 - Evaluation of regional power demand in the future
 - Confirmation of the extension merits of system network (including effects on regional economy)
 - Making detailed cost estimation and implementing schedule
 - Phase (II): Implementation
 - Construction of power transmission line of about 1000 km (150 kv and 70 kv) without on-going project
 - Completion of power transmission and distribution system without on-going project
6. Project duration : 10 years
7. Project Cost : US \$690,000,000
8. Related to Project Aid :
 - Feasibility Study on North Sumatra Transmission Project (1980, JICA)
 - Feasibility Study on Electric Power System †Development Project in Central Sumatra (1985, JICA)
9. Stage of Project Preparation : Power interconnection of main transmission lines is under construction by PLN

1. Project Title : MASTER PLAN FOR COAL DEVELOPMENT
2. Location : Four provinces in the Southern Part of Sumarta
3. Executing Agency : Directorate of Coal, Director General of Mine, Ministry of Mines and Energy
4. Objectives :
 - To make a development plan to match for domestic demand and for export
 - To assess the role and potential of the Southern part of Sumatra
5. Project Description : Phase (I): Demand Forecast
 - Forecasting of coal supply and demand in the AsiaPacific region
 - Forecasting of domestic coal demand
 - Study on coal supply scenarios or strategies for domestic demand and for export
 - Positioning the role of the Southern part of Sumatra

Phase (II): Coal Development Plan

 - Formulation of coal development and domestic utilization plans
 - Positioning of priority plans and priority projects to meet for domestic demand and for export
 - Cost estimation and drawing up coal supply curve
 - Formulating of energy conservation policy and environmental protection measures
 - Preparation of preliminary action plan
6. Project Duration : 10 months
7. Project Cost : US \$700,000
8. Related to Project Aid : None
9. Stage of Project Preparation : None

1. Project Title : INTEGRATED TOURISM DEVELOPMENT OF KERINCI LAKE
2. Location : Kerinci Seblat National Park, Jambi
3. Executing Agency : - Directorate General of Tourism, Ministry of Tourism, Posts and Telecommunication
- Jambi Province
4. Objectives : - Controlled tourism development in nature and wild-life reserve co-existing with high quality natural environment with establishment of high-land lake resort and promoting eco-tourism
- Offering people high quality recreation occasion and social education on nature and ecology
- Controlling balanced development with environmental conservation
5. Project Description : - Setting up the Kerinci corner to provide adequate information for tourists and promotion of Berbak tourism in Jambi Provincial Museum
- Improvement of information function at park office in Sungai Penuh
- Incentive for private investigation for tourism development
- Strengthen control function of the national park office in Sungai Penuh
- Tourism master plan study
6. Project Duration : - Tourism master plan study : 12 months
7. Project Cost : - Tourism master plan study : US\$ 1,500,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Under promotion

1. Project Title : BERBAK NATIONAL PARK TOURISM DEVELOPMENT
2. Location : Berbak National Park, Jambi
3. Executing Agency : - Directorate General of Tourism, Ministry of Tourism, Posts and Telecommunication
- Jambi Province
4. Objectives : - Controlled tourism development in nature and wild-life reserve co-existing with high quality natural environment with introducing jungle resort quite new style to Indonesia and promoting eco-tourism
- Offering people high quality recreation occasion and social education on nature and ecology
5. Project Description : - Setting up the Berbak corner to provide adequate information for tourists and promotion of Berbak tourism in Jambi Provincial Museum
- Improvement of information function at park office in Nipah Panjang
- Land reclamation and construct basic utility facilities for camping tourist in Berbak National Park
- Tourism master plan study
6. Project Duration : - Camping site setup : 2 months
- Tourism Master plan study : 6 months
7. Project Cost : - Camping site set-up : US\$ 12,500
- Tourism master plan study : US\$ 750,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Under promotion

1. Project Title : BANGKA ISLAND TOURISM DEVELOPMENT
2. Location : Bangka Island, South Sumatra
3. Executing Agency : - Directorate General of Tourism, Ministry of Tourism, Posts and Telecommunication
- South Sumatra Province
4. Objectives : - Establishment of high quality beach resort and establishment of networking of resort and resources
5. Project Description : - Incentive for private investment for tourism development
- Tourism master plan study
- Tourism related infrastructure improvement
- Tourism related facility development
6. Project Duration : - Tourism master plan study : 12 months
7. Project Cost : - Tourism master plan study : US\$ 1,500,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Under promotion

1. Project Title : BELITUNG ISLAND TOURISM DEVELOPMENT
2. Location : Belitung Island, South Sumatra
3. Executing Agency : - Directorate General of Tourism, Ministry of Tourism, Posts and Telecommunication
- South Sumatra Province
- Belitung Tourism Development Corporation
4. Objectives : - Establishment of high quality beach resort
5. Project Description : - Incentive for private investigation for tourism development
- Tourism master plan study
- Tourism related infrastructure improvement
- Tourism related facility development
6. Project Duration : - Tourism master plan study : 12 months
7. Project Cost : - Tourism master plan study : US\$ 1,500,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Under promotion

1. Project Title : KRAKATAU TOURISM DEVELOPMENT
2. Location : Sebesi Island, Lampung
3. Executing Agency : - Krakatau Tourism Development Corporation,
- Krakatau Marine Reserve Corporation,
- Directorate General of Tourism, Ministry of Tourism, Posts and Telecommunication
4. Objectives : - Establishment of regional identity and promotion of nature oriented tourism combined with resort development
5. Project Description : - 2.0 ha small scaled stationing resort development for Krakatau tourism, facilitated by
- 10 cottages with 20 rooms for 40 guests
- Restaurant/Cafe for 40 guests and visitors
- Seaside beach of 0.5 ha and Cafe/Bar
- Reception/Office
- Accommodation for Staff
- Marine transportation improvement on Sunda Strait and Lampung Bay connecting with the main market Jakarta, and create new marine tourism attraction
6. Project Duration : - Preparation study and feasibility study : 3 months
- Detail design: 6 months
- Construction: 12 months
7. Project Cost : - Sebesi Island Stationing Resort : US\$ 1,255,000
- Transportation improvement : US\$ 2,400,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Under promotion

1. Project Title : WAY KAMBAS NATIONAL PARK TOURISM DEVELOPMENT
2. Location : Way Kambas National Park, Lampung
3. Executing Agency : - Way Kambas National Park Corporatio, Lampung Province
- DGT, Ministry of Toutism, Post & Telecommunication
4. Objectives : - Controled tourism development in nature and wild-life reserve co-existing with high quality natural environment with introdusing jungle resort quite new style to Indonesia and promoting eco-tourism
- Offering people high quality recreation occasion and social education on nature and ecology
5. Project Description : - 0.5 ha smallscaled jungle resort development facilitated by ;
- 2 storeyed high decked lodge with 18 rooms for 36 guests
- Restaurant/Office for guests
- Multi-purpose garden of 0.2 ha
- Accommodation for staffs
- Road and facility improvement in the national park
6. Project Duration : - Preparation study and feasibility study : 2 months
- Detail design : 2 month
- Construction : 4 month
7. Project Cost : - Way Kambas Jungle Lodge :US\$ 780,000
- The national park facility improvement : US\$ 122,500
8. Related to Project Aid : None
9. Stage of Project Preparation : Under promotion

1. Project Title : AGRO-TOURISM DEVELOPMENT
2. Location : Lampung Province
3. Executing Agency : - Directorate General of Tourism, Ministry of Tourism, Posts and Telecommunication
- Lampung Province
4. Objectives : - Promotion of agro-tourism in plantations and sales promotion of agro-industry products
- Social-education of plantation industry
5. Project Description : - Promotion of agro-tourism in plantations and sales promotion of agro-industry products
- Social-education of plantation industry
6. Project Duration : 24 months
7. Project Cost : --
8. Related to Project Aid : None
9. Stage of Project Preparation : Under promotion

1. Project Title : BANDAR LAMPUNG WATERFRONT AND TOURISM FACILITY DEVELOPMENT
2. Location : Bandar Lampung, Lampung
3. Executing Agency : Private Developers
4. Objectives :
 - Improvement of bay-shora physical environment of Lampung Bay
 - Tourism facility development on-shore for Lampung Bay tourism
 - Marine transportation improvement
 - Retail facility development
5. Project Description :
 - Long (approximately 2 km) sea-side deck construction
 - Urban complex facilities on the deck, mainly targetting upon tourism, construction
 - Marine transportation terminal construction
6. Project Duration :
 - Preparation and feasibility study : 24 months
 - Deck construction : 12 months
 - Facility construction : 12 months
7. Project Cost :
 - Preparation feasibility study and detail design : US\$ 360,000,000
 - Deck construction : US\$ 200,000,000
 - Facility construction : US\$ 1,800,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Under promotion

1. Project Title : TOURISM/TOURISM RELATED INDUSTRY TRAINING PROGRAM
2. Location : Jambi, South Sumatra, Bengkulu, Lampung Skill Development Centre in Bandar Lampung
3. Executing Agency : - Directorate General of Tourism, Ministry of Tourism, Posts and Telecommunication
- Four Provinces
4. Objectives : - Training tourism/tourism related industry staffs to grade up their service skill and encourage investment
5. Project Description : - To help leading hotel industry to organize skill development corporation and promotion of the programme
- Establishment of skill development centre in Lampung
- Training programme construction
6. Project Duration : - Organization of skill development corporation: 12 months
- Skill development centre establishment and construction : 12 months
- Training programme construction : 12 months
7. Project Cost : - Skill development centre construction :US\$ 150,000
- Training programme construction : US\$ 600,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Under promotion

1. Project Title : INTEGRATED TOURISM DEVELOPMENT OF RANAU LAKE
2. Location : Ranau Lake, Lampung, South Sumatra
3. Executing Agency : - Directorate General of Tourism, Ministry of Tourism, Posts and Telecommunication
- Lampung and South Sumatra Province
4. Objectives : - Controlled tourism development in nature and wild-life reserve co-existing with high quality natural environment with establishment of high-land lake resort and promoting eco-tourism
- Offering people high quality recreation occasion and social education on nature and ecology
- Controlling balanced development with environmental conservation
5. Project Description : - Incentive for private investigation for tourism development
- Tourism master plan study
- Promotion of Ranau tourism to invite tourists coming Bandar Lampung
6. Project Duration : - Tourism master plan study : 12 months
7. Project Cost : - Tourism master plan study : US\$ 1,500,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Under Promotion

1. **Project Title** : **BATANG HARI INTEGRATED BASIN DEVELOPMENT PLAN**
2. **Location** : **Jambi and West Sumatra Provinces (Whole Batang Hari Riverbasin)**
3. **Executing Agency** : **Directorate General of Water Resources Development, Ministry of Public Works**
4. **Objectives** : **To formulate an integrated basin development plan for the Batang Hari River, which is a long-term basin development and conservation master plan composed of :**
 - **Environmental management plan**
 - **Flood control plan**
 - **Sabo plan**
 - **Large scale irrigation development plan**
 - **Land development/conservation plan**
 - **Swamp reclamation / conservation plan**
 - **Rural development plan**
 - **Domestic and industrial water supply and sewerage plan**
 - **Hydropower development plan, and**
 - **Inland navigation plan.**
5. **Project Description** :
 - **The Batang Hari River basin with a catchment area of 49,000 Km² at the estuary, the second largest river basin in Sumatra is blessed with abundant water and land development potentials for which efficient and harmonious development is considered important paramountly, and the national and provincial government have accordingly identified significant necessity of conducting "The Batang Hari River Integrated Basin Development Study" considering the linkage among flood control, land and water resources development, and environmental conservation in the view of the integrated regional development for the basin.**
 - **The Project aims at efficient and harmonious integrated development for the basin and is to formulate a master plan for the integrated basin development through (a) clarification of the present conditions on all sectors, (b) identification of the existing problems and need related to the development, (c) listing up all potential sites, (d) clarification of the economic and social viability of the respective project, and (e) formulation of a frame work plan which is an inventory of development potentials paying due attention to conservation of the environmental sustainability.**
6. **Project Duration** : **28 months with 200 M/M for the M/P.**
7. **Project Cost** : **US\$ 5.000,000 for the master plan study.**
8. **Related to Project Aid** :
 - **Musi River Basin Study under EEC loan**
 - **Tulang Bawang and Mesuji River Basins Master Plan Study under EEC loan.**
9. **Stage of Project Preparation** : **Master Plan Study**

1. Project Title : BATANG SANGKIR AND LAKE KERINCI BASINS FLOOD AND SEDIMENT CONTROL PROJECT
2. Location : Kabupaten Kerinci in Jambi Province
3. Executing Agency : Directorate General of Water Resources Development, Ministry of Public Works
4. Objectives :
 - To mitigate flood damage in Sungai Punduh City and the surrounded area.
 - To decrease sediment deposition in Sangkir River and Lake Kerinci.
 - To regulate the water level of Lake Kerinci during flood period.
5. Project Description :
 - Batang Sangkir River originates from Gunung Kerinci flow to the southward through Sungai Punduh City in Kerinci Plateau and flow into Lake Kerinci with a catchment area of 1,337 Km² at the lake inlet.
 - Kerinci Plateau is well developed as paddy field and horticulture land and the population density of the area is remarkably high with approximately 300,000 people. Because of the limitation of land for cultivation, people force to develop in the mountain and resulting forest degradation and increasing sediment yield. Recent river bed aggradation and flood damage of the area is becoming serious under such conditions, and required flood and sediment control works in the basin.
 - "Integrated Development and Conservation for Kerinci Seblat National Park" has committed by World Bank, which includes the countermeasures to forest degradation in the basin. However, the structural countermeasures are also required for the flood control, river channel normalization and sediment control.
 - The proposed scope of the project is ;(a) computer analysis for river bed variation activity, including flood and sediment transport simulation for Batang Sangkir River basin, (b) identification the number and the location of the required sabo dams, and estimation of the appropriate river width in Sungai Punduh City to balance the sediment transportation capability, (c) Estimation of the required levee section and height and the capacity of artificial lake outlet for flood control on Kerinci Plateau, and (d) implementation of the identified works in the above study.
6. Project Duration :
 - 1 year with 60 M/M for F/S.
 - 5 years for the implementation.
7. Project Cost :
 - US\$1,800,000 for simulation analysis and F/S.
 - US\$ 17,500,000 for the implementation.
8. Related to Project Aid : Merangin Hydropower Development (Merangin river originates Lake Kerinci) by World Bank.
9. Stage of Project Preparation : F/S, D/D and implementation

1. **Project Title** : MASTER PLAN FOR PALEMBANG URBAN DRAINAGE AND SEWERAGE TREATMENT SYSTEM
2. **Location** : Palembang city, South Sumatra Province
3. **Executing Agency** : Directorate General of Human Settlement, Ministry of Public Works
4. **Objectives** : To provide urban drainage master plan for the urbanized area integrated with related institution concerned such as sanitation, urban flood control and other plans.
5. **Project Description** :
 - Palembang city has an area of 13,901 ha and population of about 1,384,000. The drainage system development has been based on outline designs or insufficient plans. This outline designs have been carried out for part of the urban areas. Since then, the urban areas have grown and need a comprehensive drainage master plan. The plan is expected to consider and synchronize with the city's other infra-structure development plan and coordinated with related institution which are involved in providing the urban infrastructure.
 - Urgent work of drainage improvement is currently on-going within "Integrated Urban Infrastructure Development Project (IUIDP)" by ADB, which will be completed in 1996. The improvement work is however, not to be carried out smoothly due to required so many resettlement of irregular houses along the river, and the serious backwater effect from the mainstream of Musi River. There is no sewerage treatment system in the city and the drainage water is seriously polluted, which is the other matter to be tackled urgently.
 - The proposed master plan study is therefore, to be included ;
 - (a) The long term drainage network plan for the whole city to avoid the further resettlement problem,
 - (b) The technical assessment for the smooth drainage to the Musi River considering the gated structure, pump facilities and so on,
 - (c) The long term sewerage treatment system in parallel with the urban drainage system.
6. **Project Duration** : 2 years with 120 M/M for the master plan.
7. **Project Cost** : US\$ 3,700,000 for the master plan.
8. **Related to Project Aid** : IUIDP for Palembang by ADB.
9. **Stage of Project Preparation** : Master Plan Study

1. Project Title : LOWER KOMERING INTEGRATED AGRICULTURE DEVELOPMENT PROJECT
2. Location : Kabupaten OKI, South-sumatra Province
3. Executing Agency : Directorate General of Water Resources Development, Ministry of Public Works
4. Objectives :
 - To formulate a master plan for irrigation development, drainage and flood control for the area of 90,920 ha located along lower Komering and Ogan Rivers.
 - To carry out the feasibility study for the identified six irrigation development schemes with a total area of 28,470 ha in the project area.
 - To study for the existing flood retarding effect of the study area for Palembang City and estimate the adverse effects to the downstream.
5. Project Description :
 - The study area is located between Palembang City and the existing / on-going irrigation command area of Upper Komering Project.
 - Current economic condition of the area is insufficient due to habitual inundation of Ogan and Komering Rivers, and the irrigation development is inevitably required to consider the flood control of Ogan-Komering River system. The identified irrigation development area is located between Ogan and Komering Rivers, and there are several connecting streams flowing from Komering River to Ogan River. The main reasons for the habitual flood of the area is caused by the connecting streams, to which the most part of the flood in Komering River diverts and flows to Ogan River. The proposed irrigation development area and the downstream swamp area is subsequently forming seasonal swamp and contribute to the flood retarding basin for the Palembang City.
 - The proposed project including master plan study considering; (a) The drainage and flood control of the lower Komering irrigation development area, (b) flood diversion plan from Komering River to the huge deep swamp located to the eastern part of the Komering River through Lempoing River, (c) irrigation development of the proposed area from Komering River, and (d) assessment to the downstream effect particularly Palembang City and the eastern deep swamp area.
6. Project Duration :
 - 2 years with 150 M/M for the Master Plan.
 - 1 year with 120 M/M for F/S.
 - 10 years for the implementation
7. Project Cost : - 134 million US\$ for the implementation.
8. Related to Project Aid :
 - Komering River Basin Development Project (JICA).
 - Upper Komering Irrigation Development Project (OECF).
 - Musi River Basin Study (EEC)
9. Stage of Project Preparation : - M/P, F/S, D/D and Construction.

1. Project Title : FEASIBILITY STUDY FOR AIR MALUS IRRIGATION DEVELOPMENT PROJECT
2. Location : Kabupaten Musi Rawas, South Sumatra Province
3. Executing Agency : Directorate General of Water Resources Development, Ministry of Public Works
4. Objectives : - To develop the Air Malus Irrigation Scheme with a command area of 1,500 ha.
5. Project Description : - Air Malus Irrigation Scheme is located along the existing trans sumatra highway at Terawas township in Kabupaten Musi Rawas. The population density settled in Kecamatan Terawas was about 25 - 37.5 people per Km² in 1986. Agriculture is the occupation of the population. A project to irrigate 1,500 ha, used at present for tree crop farming is under design. The water will be supplied from Malus River by weir.
- This scheme has identified as the first priority projects of new irrigation development schemes within "Musi River Basin Study" in 1989 by EEC, because of the better cost performance in the viewpoint of B/C with 1.84. In addition, "The Study on The Integrated Regional Development Plan for The Southern Part of Sumatra", on-going by JICA, identified the Kabupaten as the strategic important region in respect to the regional development. Therefore, the scheme has been taken as a component of "IDEP" for Musi Rawas and Lahat.
6. Project Duration : - 1 years for the feasibility study.
- 2 years for the implementation.
7. Project Cost : US\$ 7,300,000 for the implementation.
8. Related to Project Aid : Musi River Basin Study (EEC)
9. Stage of Project Preparation : - Feasibility Study.
- Design and Construction.

1. Project Title : UPPER MUSI RIVER BASIN WATER RESOURCES DEVELOPMENT PROJECT
2. Location : Kabupaten Musi Rawas, South Sumatra Province
3. Executing Agency : Directorate General of Water Resources Development, Ministry of Public Works
4. Objectives : -To carry out scale optimization study for irrigation development in Kabupaten Musi Rawas with a total development potential of 224,000 ha.
- To assess the project feasibility for the selected project with a timing of implementation.
5. Project Description : - Upper Musi River Basin is located on Kabupaten Musi Rawas in the north eastern part of South Sumatra Province, which is composed of four tributaries of Musi River such as Air Rawas, Air Rupit, Air Lakitan, Air Klingi and the main stream of Upper Musi River. 19 schemes of potential area of irrigation development with a total area of 224,000 ha have identified in the reconnaissance study by ADCA, Japanese semi-governmental agency in 1980.
- In 1989, "Musi River Basin Study" was carried out to formulate a comprehensive basin wide development master plan by EEC. All the schemes identified in the former reconnaissance study in 1980 was reviewed and the priority schemes for irrigation development was proposed. The results of scale optimization and the priority ranking among the identified schemes in 1980's study is as follows;

Name of Scheme	Identified area in 1980's study (ha)	Optimized area in MRBS (ha)	Schedule in MRBS
Air Rawas	30,000	0	
Kungk	60,000	0	
Air Beliti	20,000	0	
Tugumulyo	7,500	-	Existing
Air Baal	12,000	5,500	1994-99
Air Dulu	821	-	Existing
Air Gegas	2,270	-	Existing
Air Deras	4,500	-	Existing
Megan Tikip	1,062	-	Existing
Rupit/Lembah Riam	60,000	11,100	2000-
Merung	529	-	Existing
Jangkat	400	0	
Megang Mati	1,000	0	
Temelat	1,450	0	
Bungin	4,000	0	
Air Kati	1,500	1,500	1994-99
Semangus	1,000	0	
Air Lakitan	15,000	11,600	2000-
Air Tupak	1,228	-	Existing
TOTAL	224,260	28,350	

- "The Study on The Integrated Regional Development Plan for The Southern Part of Sumatra" is on-going by JICA, which has selected as the priority development area on Kabupaten Musi Rawas and Lahat as "IDEP" sites, aiming a agriculture development. Particularly, the study recommended to develop irrigation schemes in Musi Rawas. (4) The proposed study includes to review the previous studies, to confirm the economic viability of the selected schemes in MRBS and to carry out the feasibility study for the selected schemes.

6. **Project Duration** : - 2 years with 150 M/M for the feasibility study.
- 20 years for the implementation
7. **Project Cost** : US\$ 4,600,000 for the feasibility study.
8. **Related to Project Aid** : Musi River Basin Study (EEC)
9. **Stage of Project Preparation** : - Feasibility Study.
- Design and Construction.

1. Project Title : REHABILITATION AND EXPANTION OF IRRIGATION SCHEMES IN KABUPATEN LAHAT
2. Location : Kabupaten Lahat, South Sumatra Province
3. Executing Agency : Directorate General of Water Resources Development, Ministry of Public Works
4. Objectives : To rehabilitate and expand the existing major irrigation schemes in Kabupaten Lahat.
5. Project Description :
 - Kabupaten Lahat is located on the hilly land in South Sumatra Province. There are 29 existing irrigated schemes in Kabupaten Lahat with a total area of 10,673 ha. The most of the schemes are rather small scale due to the topographic constraints. There is less potential for the extensive development for large scale irrigation in Kabupaten Lahat, and consequently the major activity for the irrigation development is focused in the rehabilitation and expansion of the existing irrigation systems.
 - The selected three schemes have identified in "Musi River Basin Study" in 1989 by EEC with the higher economic viability. The general description of the selected three schemes are as follows;
 - Air Mulak : The scheme is located in Kecamatan Kota Agung of where population density is estimated between 50 and 75 persons per Km². The existing irrigation project has been constructed in 1981/82, with a total area of 3,500 ha. At present, an area of 1,544 ha is irrigated, and proposed to rehabilitate and upgrade this system to fully technical and an additional area of 633 ha. The total irrigation area will be 2,207 ha.
 - Air Keruh : The estimated population density of the Kecamatan is between 100 and 150 persons per Km². The existing irrigation project has been constructed in 1981/82 with a total area of 3,000 ha. At present, an area of 1,500 ha is irrigated, and proposed to rehabilitate and upgrade this system to fully technical and an additional area of 31 ha. The total irrigation area will become 1,531 ha.
 - Lintang Kanan : The estimated population density is between 100 and 150 persons per Km². The existing irrigation project has been constructed in 1981/82 with a total area of 5,400 ha. At present, an area of 2,450 ha is irrigated, and proposed to rehabilitate and upgrade this system to fully technical and an additional area of 1,059 ha. The total irrigation area will become 3,509 ha.
6. Project Duration : - 6 years for the feasibility study.
7. Project Cost : US\$ 10,700,000 for the implementation.
8. Related to Project Aid : Musi River Basin Study (EEC).
9. Stage of Project Preparation : - F/S, D/D and Construction.

1. Project Title : MUKO-MUKO KANAN IRRIGATION DEVELOPMENT PROJECT
2. Location : Kabupaten Bengkulu Utara, Bengkulu Province
3. Executing Agency : Directorate General of Water Resources Development, Ministry of Public Works
4. Objectives :
 - To construct irrigation system with the command area of 4,919 ha.
 - To develop tertiary irrigation system and land clearing under the cooperation of Ministry of Agriculture.
 - To provide the operation and maintenance manual for farmers in the project area and institutional arrangement.
5. Project Description :
 - The project area is located on the north frontier of Bengkulu Province, 290 km from Bengkulu City. Thousands of migrants live in the command area, mainly from Wonogiri in Central Java under the transmigration program. Intake structure along Air Manjuto has completed in 1987, and irrigation development for Muko-Muko Kiri is on-going.
 - Irrigation water for Muko-Muko Kanan is also diverted from the same intake on Air Manjuto. Most of transmigrants in Muko-Muko Kanan worked as paddy farmer in Wonogiri, and waiting long time for irrigation system. Mukomuko area is expected as the further rice stock for Bengkulu Province to maintain the self-sufficiency of rice. The project is therefore urgently required in the viewpoints of improvement of transmigration area, and to maintain the provincial self-sufficiency of rice.
 - The high economic viability of the project is expected due to the existing intake structure as the sunk cost of the project, and quick yielding of the rice production.
6. Project Duration : 5 years for the implementation.
7. Project Cost : US\$ 24,600,000 for the implementation.
8. Related to Project Aid : Mukomuko Kiri Irrigation Project, (OECD). PAIDP for Bengkulu Province (IBRD).
9. Stage of Project Preparation : Implementation.

1. Project Title : MANNA-1 HYDROPOWER DEVELOPMENT PROJECT
2. Location : Kabupaten Bengkulu Selatan, Bengkulu Province
3. Executing Agency : Perusahaan Umum Listrik Negara (PLN)
4. Objectives : To assess the feasibility for Manna-1 Hydropower scheme together with transmission line plan of Bengkulu - Manna - Pagaralam.

5. Project Description : - Manna-1 hydropower is a trans basin scheme from Manna River with a catchment area of 460Km² to Pino River through the diversion unnel with the length of 7 km. The gross head between the intake and the tailrace of the power station is estimated 300m This scheme has identified "Hydro Power Potential Study" financed by World Bank in 1983, and the scheme has selected as one of the top 47 schemes among all potential schemes of 1275. The project feature of Manna-1 scheme is as follows;

Type of Development	:	Run-of-river
Firm Discharge	:	20.8 m ³ /s
Net Head	:	270.2 m
Installed Capacity	:	77.2 MW
Energy Output	:	629.6GWh
Construction Cost (as of 1983)	:	US\$ 132.2 mil.

- In the viewpoint of the construction cost per energy output, Manna-1 schemes has got the cheapest with 0.028 US\$/Kwh within all the selected priority schemes in Region IV However, there is no action for the next stages such as the feasibility study.
 - The recent circumstance is however, changing due to the requirement for the circle transmission system of Bengkulu - Manna - Pagaralam - Lubuk Linggau - Curup - Bengkulu to stable energy supply from hydropower stations of Tes-1 and Musi to the whole region. Manna-1 hydropower project is included the transmission line of Bengkulu - Manna - Pagaralam for the completion of the circle system, which is greatly contributed to upgrading energy supply capacity to the region.
 - The proposed project includes ; (a) plan formulation of the project, (b) basic design of the schemes, (c) optimization of the project, (d) environmental impact assessment, particularly for the downstream of Manna and Pino rivers.
6. Project Duration : - 90 months for F/S, D/D and Construction.
7. Project Cost : - US\$ 132,200,000 for the Construction
- US\$ 35,000,000 for the construction of transmission line.
8. Related to Project Aid : None
9. Stage of Project Preparation : Feasibility Study

1. Project Title : PENINJAUAN SWAMP LAND DEVELOPMENT PROJECT
2. Location : Kabupaten Bengkulu Selatan, Bengkulu Province
3. Executing Agency : BAPPEDA TK-1, Bengkulu Province
Directorate of Swamp Reclamation, Ministry of Public Works
4. Objectives : - To assess long term development potential of the north-western part of Peninjauan Area.
- To assess the feasibility of irrigation development in Peninjauan Area.
- To complete on-going swamp reclamation works for Peninjauan scheme with the total area of 10,600 ha.
- To provide an crop diversification plan and institutional management.
- To promote private investment for agro-industrial development.
5. Project Description : - The existing and proposed Peninjauan swamp reclamation area is located about 20 km from Bengkulu city in Kabupaten Bengkulu Selatan, where has advantage of transportation access to Bengkulu City and the overseas through the neighbouring Bengkulu Port.
- Swamp reclamation project for Peninjauan Area in on-going, and the main purpose of the project is to develop irrigated agriculture land for transmigrants. The current progress is as follows;
- | Name of Scheme | Area | Existing Families | Progress |
|------------------|---------|-------------------|----------|
| Peninjauan-I &II | 3,800ha | 1,320kk | 85% |
| Peninjauan III | 2,000ha | 1,160kk | 90% |
| Peninjauan-IV | 3,000ha | 220kk | 20% |
| Peninjauan-V | 1,300ha | 475kk | 0% |
| Peninjauan-VI | 500ha | 250kk | 0% |
- In the view of regional development for Bengkulu Province, agro-industrial development is expected and Peninjauan Area is the most suitable location as the industrial development center. Bengkulu Port has developed just next to the project area, and the paved provincial road exist in the project area, which means very attractive for transport the products to the ther island. Economic advantage of private investment for agro-industry is strongly expected concerning such transportation condition.
- The proposed study is accordingly to review the present land use plan considering the regional economic development with the improvement of the existing villages in Peninjauan Area.
6. Project Duration : Study: 6 months with 12 M/M.
Implementation: 5 years.
7. Project Cost : US\$ 500,000 for the land use study.
US\$10,700,000 for draining.
8. Related to Project Aid : None
9. Stage of Project Preparation : Review Study

1. Project Title : WATER ALLOCATION STUDY FOR WAY SEKAMPUNG RIVER BASIN
2. Location : Kabupaten Lampung Selatan, Lampung Province
3. Executing Agency : Bappda TK I, Lampung Province, and Directorate General of Water Resources Development, Ministry of Public Works.
4. Objectives :
- To review the existing long term water supply plan for Bandarlampung city
 - To estimate the long term water demand for Way Sekampung Irrigation schemes, municipal and industrial water for Bandarlampung city.
 - To provide an appropriate water allocation plan of the committed Batutege Dam Project.
5. Project Description :
- Way Sekampung River originates the south eastern edge of Bukit Barisan Range, flow to the eastward, through the north of Bandarlampung city to Java Sea with a catchment area of 5,500 km² at the estuary. According to the long-term water supply master plan for Bandarlampung city, Way Sekampung River has defined the further water resources for potable and industrial water supply for the city to be expected to divert 2 m³/s on 2008. However, all the surface water of the river in dry season is diverted to Way Sekampung Irrigation area and there is no room to divert for the potable and industrial purpose.
 - The estimated population of the city on 2010 is 1,479,000, and water resources will be the major constraints for the further development together with the shortage of electricity.
 - Batutege dam with a dam height of 120m, and a catchment area of 424 km², located on the mainstream of Way Sekampung has committed for construction, is expected mainly for dry season irrigation of the existing irrigation command area of 94,123 ha for Way Sekampung Area. On the other hand, water supply purpose for Bandar Lampung City is not included of the Batutege Dam Project, it is therefore proposed to consider the possibility to allocate the reserved water of the Batutege Dam & Reservoir for water supply purpose.
 - The scope of works for the proposed study is ; (a) Water Balance study for the Whole Way Sekampung Basin, (b) Review the long term water supply masterplan for Bandarlampung city, (c) Review the irrigation extension plan of Way Sekampung System, and (d) Assess the better usage for Batutege Dam.
6. Project Duration : 6 months for the study with 30 M/M.
7. Project Cost : US\$ 1,100,000for the study.
8. Related to Project Aid : SAPROF for Way Sekampung Irrigation Development Project, 1991 by OECF.
9. Stage of Project Preparation : Review Study.

1. Project Title : MASTER PLAN FOR BANDAR LAMPUNG SEWERAGE TREATMENT SYSTEM
2. Location : Bandar Lampung City, Lampung Province
3. Executing Agency : Bappeda TK II, Bandar Lampung City and Directorate General of Human Settlement, Ministry of Public Works
4. Objectives : To formulate the long term master plan for the sewerage system of Bandar Lampung City.
5. Project Description :
 - Bandar Lampung City is located on the southern fringe of Sumatra Island facing to the Lampung Bay with an area of 192 Km², the fourth largest populated city in Sumatra of over half a million people. The further economic growth of the area will be depended on the agro-industry and tourism sectors due to higher development potential and needs. The municipality put emphasis on the environmental aspects as the tourism spot to maintain the natural tourism resources of Lampung Bay.
 - The Lampung bay is however, threatened to be polluted by the industrial and human waste because of the recent drastic population and economic growth of the city. Most of the city's households have toilets, and about three-quarters of the toilets discharge into septic tanks or other on-site disposal system. Nine-tenths of the septic tanks discharge their effluent into on-site leaching systems, but remaining ten percent discharge their effluent into open drains or streams. There is no sewerage treatment plant in the city. The septage collected by the municipality is discharged at the solid waste landfills, but the majority of householders who de-sludge their own tanks discharge the septage directly into nearby streams.
 - Under the above circumstance, the urgent issues for the sewerage treatment for the Bandar Lampung City has taken into account within " Integrated Urban Infrastructures Development Project" for Bandar Lampung City (IUIDP) in 1990.
 - The proposed master plan study aims at formulating the long term sewerage treatment plan considering the further expansion of water supply system.
 - The proposed scope of the master plan are ; (a) estimation of the long term requirement of the sewerage treatment capacity, (b) assessment of the optimum sewerage treatment system in the long term view (the possibility of piped sewerage system), and long term investment plan for sewerage system.
6. Project Duration : 1 year with 80 M/M for the master plan study.
7. Project Cost : US\$ 2,500,000 for the master plan study.
8. Related to Project Aid : IUIDP for Bandar Lampung (ADB)
9. Stage of Project Preparation : Master Plan Study.

1. Project Title : TULANG BAWANG RIVER BASIN IRRIGATION DEVELOPMENT PROJECT
2. Location : Tulang Bawang River Basin in Kabupaten Lampung Utara.
3. Executing Agency : Directorate General of Water Resources Development, Ministry of Public Works.
4. Objectives : - To improve the existing non-irrigated paddy field with small or medium scale for the purpose of rural income generation.
- To develop new irrigation schemes with higher economic viability for the purpose of regional economic growth and maintaining national self-sufficiency of rice.
5. Project Description : - Tulang Bawang River originates from the Bukit Barisan Range in the west to the saline swamps to the east adjoining to the Java Sea with a catchment area of 8,800 Km².
- The original Lamponese now only make up about 15% of the total population within the basin who have mainly favoured pepper and coffee on the former and carry out fishing activities. Spontaneous migrants from Java and Bali have inhabited unoccupied lands on latosol soils and also the higher hill and lower mountain zones. They favour growing rice where they can with ladang and coffee grown on areas difficult to command.
- Lampung Province has situated as a part of the national rice stock of which rice produced is not only for the regional supply but also for maintaining the national self-sufficiency of rice. The current center of paddy field is Kabupaten Lampung Tengah in Lampung Province but shifting to the north ward due to the urbanization and industrialization of the southern part of Lampung Province. Under such circumstance, EEC carried out "Water Resources Master Plan Study for Tulang Bawang and Mesuji River Basins" in 1989, to provide the 20 years development scenario for the river basins mainly for irrigation development.
- According to the study, the priority area for the new irrigation development has selected as follows;
- | Scheme | Area (ha) | Remarks |
|-----------------|-----------|-----------------------|
| Way Abung | 8,225 | |
| Way Pedada | 13,550 | |
| Way Saka/Bahuga | 12,600 | |
| Quick Yielding | 15,060 | (Total of 36 Schemes) |
- EEC has committed to carry out the feasibility study for the above priority schemes from October 1992.
6. Project Duration : - 20 years for the implementation.
7. Project Cost : US\$ 196,100,000 for the study and the implementation.
8. Related to Project Aid : "Water Resources Master Plan Study for Tulang Bawang and Mesuji River Basins", 1989, By EEC.
9. Stage of Project Preparation : Study and Implementation.

1. Project Title : WAY MESUJI AND WAY AGUNG IRRIGATION DEVELOPMENT PROJECT
2. Location : Mesuji River Basin in Kabupaten Lampung Utara.
3. Executing Agency : Directorate General of Water Resources Development, Ministry of Public Works
4. Objectives : To develop new irrigation scheme with an irrigation command area of 20,980ha.
5. Project Description :
 - Way Mesuji Irrigation scheme has identified within "Water Resources Master Plan for Tulang Bawang and Mesuji River Basins" in 1989 by EEC, where is located on the north-eastern frontier of Kecamatan Lampung Utara along Mesuji River.
 - The area is generally swampy and less population density owever, expected the further development due to the eastern highway which is now under construction among Bandar Lampung - Palembang - Jambi -Riau - Medan, is going to be the main development axis of Sumatra. The proposed development area is just along the eastern highway and then promised to be developed together with the completion of the Easter Highway. Local migration plan exists in Lampung Province from Lampung Selatan and Lampung Tengah to Lampung Utara, which will require to improve the infrastructures of irrigation facilities.
6. Project Duration :
 - 2 years for the feasibility Study
 - 8 years for the implementation.
7. Project Cost : US\$ 69,600,000 for the implementation.
8. Related to Project Aid : "Water Resources Master Plan Study for Tulang Bawang and Mesuji River Basins", 1989, By EEC.
9. Stage of Project Preparation : Study and Implementation.

1. Project Title : LAMPUNG SELATAN FLOOD CONTROL AND SABO PROJECT
2. Location : Kabupaten Lampung Selatan, Lampung Province
3. Executing Agency : DPU Lampung Province
4. Objectives : To carry out river improvement works including, levee embankment, sabo dam construction and channel normalization for the allied rivers flow into Semangka and Lampung Bays.
5. Project Description :
 - There are many allied rivers originate from the mountains between Semangka bay and Lampung bay such as Tanggamus, Mana, Kacanang, Katur, Betung and so on, directly to flow into Semangka and Lampung Bays. These allied rivers generally have steep river gradient and the shorter channel.
 - Frequent flood and debris flow attacks directly to the towns located along the coast of the bays such as Kota Agung, Putih and Padang Cermin. The record of remarkable flood which damages to Kota Agung, Putih and Padang Cermin is as follows;
 - 13 - 16, August, 1986
 - 10 October, 1988
 - 30 September, 1989
 - 26 February - 9 March, 1990
 - 1 - 2 September, 1990
 - 31 August, 1992
 - Provincial government carries out the river improvement works composed of levee dyking, sabo dams construction and channel normalization for the allied rivers in Kota Agung city such as Way Ngarip, Way Awi, Way Belu and Way Payung. However, it is required to continue the improvement works. Even for the rivers to be provided the flood control and sabo facilities, there are still remaining the problems such as river bed aggradation and channel scoring. Accordingly, it is required to assess river hydraulics, basin hydrology, and to formulate the long-term river improvement plan for the coastal area.
 - The proposed project includes; (a) flood control and sabo plan for the major rivers in the area, (b) formulation of time schedule of the rivers improvement works, and (c) implementation of the flood control and sabo works.
6. Project Duration : 10 years for study and implementation.
7. Project Cost : US\$ 25,500,000 for study and implementation.
8. Related to Project Aid : None.
9. Stage of Project Preparation : Study and Implementation.

1. Project Title : WAY SEMANGKA HYDROPOWER DEVELOPMENT PROJECT
2. Location : Kabupatens Lampung Selatan and Lamupng Barat, Lampung Province
3. Executing Agency : Perusahaan Umum Listrik Negara (PLN)
4. Objectives :
- To assess the feasibility for seven (7) hydropower schemes in Way Semangka River basin, including technical aspects of geological condition of the project sites.
 - To formulate hydropower development plan including the timing of implementation of respective scheme.
 - To assess the environmental impacts of the project particularly influence to the national park and the protection forest.

5. Project Description :
- Way Semangka River is originated in the southern edge of Bukit Barisan Range, flow the south-east ward to Semangka Bay in Kabupaten Lampung Selatan. The catchment area is estimated 2,100 Km² at the estuary. The river has advantages for the hydropower development such as steep gradient, stable river flow through the year and the closer to the demand area of Bandarlampung City.
 - The identified seven (7) schemes for hydropower development sites are as follows;

Schemes	CA (Km ²)	Q (m ³ /s)	H (m)	P (MW)	E (GWh)
Up.Semangka-1	290	12.5	147	26.8	143
Up.Semangka-2	383	29.8	98	23.2	123
Up.Semangka-3	416	32.3	110	28.2	151
Lw.Semangka-1	799	50.3	90	35.5	182
Lw.Semangka-2	840	52.9	98	40.4	209
Semung-1	312	19.7	150	23.8	123
Semung-2	320	20.2	236	38.7	202
TOTAL				216.6	1134

- Pre-feasibility study has carried out within "The Study on The Integrated Regional Development Plan for The Southern Part of Sumatra" by JICA, and got the better cost performance in the view of the per KWh construction cost, comparing the other candidates of the hydropower development schemes in Region IV.
6. Project Duration : - 2 years for the master plan and the feasibility study
- 20 years for the implementation of all the selected schemes.
7. Project Cost : US\$ 511,000,000 for the implementation of the 7 schemes.
8. Related to Project Aid : "Hydro Power Potential Study", 1983 by IBRD
9. Stage of Project Preparation : Master Plan Study and Feasibility Study

1. Project Title : INTEGRATED SMALL RIVERS DEVELOPMENT PROJECT
2. Location : Kabupaten Bengkulu Selatan, Bengkulu Province and Kabupaten Lampung Barat, Lampung Province
3. Executing Agency : Provincial river section, Ministry of Public Works
4. Objectives :
 - To provide an inventory for all the rivers in Bungkulu Selatan and Lampung Barat.
 - To propose the adequate hydrological observation system for all the rivers. (particularly Lampung Barat)
 - To analyze present condition of the rivers and to propose appropriate usage of the rivers.
 - To list up all the potential site of hydropower and irrigation development including micro scale for rural development.
 - To list up all the river sections which is to be required flood control, river normalization, and sediment control.
 - To propose the actions to be taken with the cost and the timing of implementation.
5. Project Description :
 - Bengkulu Selatan and Lampung Barat are blessed with abundant rainfall with more or less 3,000mm/year.
 - There are so many rivers, which have steep and short river channel with relatively high flow through the year.
 - There is no water level gauge on the rivers in Lampung Barat. Then, installation of hydrological observation system is required for the rivers in Lampung Barat for the further development.
 - The rivers in Bengkulu Selatan is well-used particularly for small scale irrigation, on the other hand no micro-hydropower is developed, which utilization might be effective for rural electrification.
 - The other usage for the rivers will be conducted in the project to meet the life style of the residents, such as water wheel installation for rice mill, irrigation, and potable water supply.
6. Project Duration : 24 months with 48 M/M for foreign expert, and 200 M/M for local expert.
7. Project Cost :
 - US\$ 5,000,000 for the study.
 - US\$ 5,000,000 for the installation of hydrological observation system.
8. Related to Project Aid :
 - Provincial Irrigated Agriculture Development Project (PIADP), finance by World Bank.
 - Small Scale Irrigation Management Project (SSIMP), financed by OECF/USAID.
9. Stage of Project Preparation : Master plan study, and grant aid for hydrological observation system.

1. Project Title : RURAL WATER SUPPLY FOR THE EASTERN COASTAL SWAMP AREA
2. Location : - Kabupatens Tanjung Jabung, & Batang Hari, Jambi Province
- Kabupatens Musi Banyuasin & Ogan Komering Ilir, South Sumatra Province.
3. Executing Agency : Directorate General of Human Settlement, Ministry of Public Works.
4. Objectives : To provide deep well for the villages suffering from securing the fresh water.
5. Project Description : - Eastern coast of the southern part of Sumatra is generally isolated by road network, and scattered in the populated area. The villages, located on the eastern lowland are mainly suffering from the access to the potable water. Because the river water contains salt due to the backwater effect of the sea, and the shallow wells less than 50m of the depth is almost affected acidity, which is not suitable for the drinking purpose. Subsequently, the residents are forced to depend on the rainfall on the roof to reserve the drums by themselves, what is remarkable poor quality and unstable quantity.
- According to the water supply program in Indonesia, the priority of the water supply project is depended on the population density, and therefore such serious coastal lowland area will become low priority for the water supply project. Then, it is recommended to prepare the special program for Rural water supply project for such coastal lowland area to supply fresh water. The proposed project is to provide a deep well with a depth of more or less 100m for all villages in the project area.
- On the other hand, there were many un-successful cases of the past inter-national cooperation to procure deep well for rural water supply due to lack of spare parts and maintenance training. Institutional set-up will be inevitably required for the smooth operation and maintenance for rural water supply project.
6. Project Duration : 3 years for implementation.
7. Project Cost : US\$ 2,500,000 for 100 deep wells.
8. Related to Project Aid : None.
9. Stage of Project Preparation : Survey and Implementation.

1. Project Title : SULTAN THAHA AIRPORT UPGRADE
2. Location : Jambi City, Jambi Province
3. Executing Agency : Directorate General of Air Communication (DGAC), Ministry of Communication
4. Objectives :
 - Upgrading of facilities to handle larger commercial (B737/MD80) aircraft
 - Renewal of communication & navigational equipment to increase safety of operations
5. Project Description :
 - Apron & runway extension and strengthening for B737/MD80 operations
 - Terminal expansion & tower improvements
 - Instrumentation improvements
 - Runway lighting system
6. Project Duration :
 - Study : 12 months
 - Implementation : 18 months
7. Project Cost :
 - Study : \$8,000,000
 - Implementation : \$17,000,000 (tentative cost)
8. Related to Project Aid : none
9. Stage of Project Preparation : Feasibility study necessary

1. Project Title : SULTAN BADARUDIN II AIRPORT UPGRADE
2. Location : Palembang, South Sumatra Province
3. Executing Agency : Directorate General of Air Communication (DGAC), Ministry of Communication
4. Objectives :
 - To prepare the airport for increased traffic serving all of Southern Sumatra including wide body aircraft
 - To increase safety of the airport for day as well as nighttime operation
5. Project Description :
 - Revision and updating of the existing master plan is required to adapt the facility for increased use in line with ICAO specifications.
 - Reconstruction and expansion of runway and aprons for wide-body capability; development of new passenger terminal and freight facilities.
 - Upgraded instrumentation for safe all weather and 24 hour operation.
 - Formulation of implementation plan dependant on local government leadership and possible private sector role.
6. Project Duration :
 - Study : 18 months
 - Implementation : 36 months
7. Project Cost :
 - Study : \$ 1,000,000
 - Implementation : \$52,300,000 (tentative cost)
8. Related to Project Aid : None
9. Stage of Project Preparation : Project is not top priority with DGAC. A 1990 proposal from a UK firm exists.

1. Project Title : PADANG KEMILING AIRPORT UPGRADE
2. Location : Bengkulu City, Bengkulu Province
3. Executing Agency : Directorate General of Air Communication (DGAC), Ministry of Communication
4. Objectives :
 - Upgrading of facilities to handle larger commercial (B737/MD80) aircraft
 - Renewal of communication & navigational equipment to increase safety of operations
5. Project Description :
 - Apron & runway extension and strengthening for B737/MD80 operations
 - Terminal expansion & tower improvements
 - Instrumentation improvements
 - Runway lighting system
6. Project Duration :
 - Study : 12 months
 - Implementation : 18 months
7. Project Cost :
 - Study : \$8,000,000
 - Implementation : \$17,000,000 (tentative cost)
8. Related to Project Aid : None
9. Stage of Project Preparation : Feasibility study necessary

1. Project Title : BRANTI AIRPORT UPGRADE
2. Location : Lampung Selatan, Lampung Province
3. Executing Agency : Directorate General of Air Communication (DGAC), Ministry of Communication
4. Objectives :
 - Upgrading of facilities to handle larger commercial (B737/MD80) aircraft
 - Renewal of communication & navigational equipment to increase safety of operations
5. Project Description :
 - Apron & runway extension and strengthening for B737/MD80 operations
 - Terminal expansion & tower improvements
 - Instrumentation improvements
 - Runway lighting system
6. Project Duration :
 - Study : 12 months
 - Implementation : 18 months
7. Project Cost :
 - Study : \$ 8,000,000
 - Implementation : \$16,000,000(tentative cost)
8. Related to Project Aid : OECF funding of new terminal 1992/3
9. Stage of Project Preparation : Feasibility study necessary

1. Project Title : BAKAUHANI RAIL ACCESS LINE
2. Location : Lampung Selatan, Lampung Province
3. Executing Agency : PERUMKA, private investors
4. Objectives : Creation of more efficient passenger and freight transportation between Java and Sumatra by linking the Java-Sumatra ferry service to the Southern Sumatran rail system
5. Project Description :
 - Extension of the main line from Bandar Lampung to Bakauheni ferry terminal (approximately 90 km)
 - Real estate development of intermediate vicinities such as Kalianda (tourism) with private sector collaboration
 - Adjacent industrial estate development with rail spur
 - Potential private funding of the project
 - Essential coordination of project with Bandar Lampung Rail Bypass project
 - Possible coordination of project with KP3BAKA coal hauling project
6. Project Duration :
 - Study : 18 months
 - Implementation : 36 months
7. Project Cost :
 - Study : US\$ 4,000,000
 - Implementation : US\$ 70,000,000(tentative cost)
8. Related to Project Aid : Land Transport Development Plan Phase II (World Bank funding)
9. Stage of Project Preparation : Pending Perumka reorganization feasibility study required

1. Project Title : BANDAR LAMPUNG CITY RAIL BYPASS LINE
2. Location : Bandar Lampung, Lampung Province
3. Executing Agency : PERUMKA, private investors
4. Objective :
 - Reduction or elimination of disruption to road and pedestrian traffic in the city center
 - Relocation to a more functional location of rail maintenance facilities for the southern terminus of the network
 - Promotion of industrial activity along the rail bypass line as a stimulus to local economic development
5. Project Description :
 - The feasibility of a bypass line for through traffic to points south must be assessed. This will include the use of flyovers or tunnels to eliminate grade crossings for traffic. Potential length of 25 km.
 - The potential for industrial development or warehouse & distribution activities alongside the bypass by private parties will be assessed.
 - The feasibility of relocating some or all of the technical facilities located in the city center including the passenger terminal, rail yards and maintenance facilities, will be studied.
 - The roles that private partners can play in the financing, construction and operation of the new facilities will be determined.
 - Coordination of this study with others in progress (KP3BAKA, etc) is essential.
6. Project Duration :
 - Study : 18 months
 - Implementation : undetermined
7. Project Cost :
 - Study : US\$ 2,000,000
 - Implementation : US\$21,000,000
8. Related to Project Aid :
 - IUIDP for Bandar Lampung
 - Land Transport Development Plan Phase II (World Bank funding)
 - OECF funded main line expansion for coal haulage
9. Stage of Project Preparation :
 - Pending: - Perumka reorganization
 - outcome KP3BAKA coal hauling project

1. Project Title : RIVER PORT IMPROVEMENTS - JAMBI
2. Location : Jambi City, Jambi Province
3. Executing Agency : Directorate General of Land Transport & Inland Waterways
4. Objectives : - Reduction of transportation costs between Jambi City and other points along the Batang Hari River through improved dockside handling in dry season, discontinued use of lighters
5. Project Description : - Design & construction of new pontoon dock useable in rainy and dry season
- Construction of expanded approach bridge enabling the pontoon dock to sit in the water during both dry and rainy seasons
- High priority since presently dry season cargo handling requires uneconomical midstream mooring and use of lighters
6. Project Duration : - Survey (with depth) :Dry season 0.7 month
:Rainy season 1.3 month
- Implementation (with design) :5.0 month
7. Project Cost : - Survey :US\$ 30,000
- Implementation :US\$ 600,000
8. Related to Project Aid : None
9. Stage of Project Preparation : Feasibility study necessary

1. Project Title : FERRY LANDING IMPROVEMENT - PALEMBANG
2. Location : Palembang, South Sumatra Province
3. Executing Agency : Directorate General of Land Transport & Inland Waterways
4. Objectives : - Expansion and improvement of the Tg Buntung ferry terminal on the Musi River to handle increasing traffic efficiently, and to handle larger vessels, improving accessibility of vehicles, passengers and cargo to/from Bangka & Belitung Islands
5. Project Description : - Construction of a movable loading bridge suitable to handle 500GT vessels
- Expansion/construction of terminal building
- Expansion of parking area
- Completion by year 2000
- Coordination with capacity expansion at Muntok ferry terminal necessary
6. Project Duration : - F/S : 12 months
- Implementation : 2 years
7. Project Cost : - F/S : Undetermined
- Implementation : US\$ 2,500,000 (tentative cost)
8. Related to Project Aid : JICA Nationwide Ferry Service Routes Study (in progress)
9. Stage of Project Preparation : Feasibility study necessary

1. Project Title : NEW FERRY LANDING - MUNTOK (BANGKA ISLAND)
2. Location : Muntok, Bangka Island, South Sumatra Province
3. Executing Agency : Directorate General of Land Transport & Inland Waterways
4. Objectives :
 - To establish reliable scheduled ferry service between Bangka Island and the mainland
 - To replace the longer Palembang-Kayuarang route with the shorter Palembang-Muntok one cutting transport time and cost
 - To equip Bangka Island with a facility capable of handling larger vessels (500 GT) in the future
5. Project Description :
 - Construction of a terminal at a coastal location west of Muntok port with an 8 meter wide movable bridge (the proposed location is not affected by the influence of sedimentation or strong wave action, and avoids the shallow water problem that restricts use of the existing Kayaarang River Terminal)
 - Construction of terminal building and parking area
 - Parking area of 4,000 square meters
 - Completion by year 2000
 - Coordination with capacity expansion at Palembang ferry terminal necessary
6. Project Duration :
 - F/S : 12 months (detailed design)
 - Implementation : 2 years
7. Project Cost :
 - F/S : Undetermined
 - Implementation : US\$ 3,000,000 (tentative cost)
8. Related to Project Aid : JICA Nationwide Ferry Service Routes Study (in progress)
9. Stage of Project Preparation : Feasibility study necessary

1. Project Title : NEW FERRY LANDINGS - BANGKA & BELITUNG ISLANDS
2. Location : Bangka & Belitung Islands, South Sumatra Province
3. Executing Agency : Directorate General of Land Transport & Inland Waterways
4. Objectives :
 - To establish reliable scheduled ferry service between Bangka and Belitung Islands making possible good access between Belitung and the mainland
 - To replace the longer existing route (110 miles) with the shorter proposed one (60 miles) substantially cutting transport time and cost between the islands
 - To equip the two terminals with facilities capable of handling larger vessels (300 GT) in the future
5. Project Description :
 - Construction of new terminals at Sadai (Bangka) and Tanjung Barong (Belitung) of the same configuration each with a 7 meter wide movable bridges
 - Each terminal complex having a building, parking area
 - Access roads from the nearest road to the terminal
 - Completion by the year 2000
6. Project Duration :
 - F/S : 15 months (detail design)
 - Implementation : 3 years for both terminals
7. Project Cost :
 - F/S : Undetermined
 - Implementation : US\$ 58,000,000 for both terminals (US\$2,900,000 each; tentative costs)
8. Related to Project Aid : JICA Nationwide Ferry Service Routes Study (in progress)
9. Stage of Project Preparation : Feasibility study necessary

1. Project Title : FERRY TERMINAL EXPANSION - BAKAUHANI
2. Location : Bakauheni, Lampung Province
3. Executing Agency : Directorate General of Land Transport & Inland Waterways
4. Objectives : - Expansion of capacity in line with growth in demand (vehicles, passengers, cargo)
5. Project Description : - Construction of berth 3 with quay wall, movable bridge, terminal building and expanded parking
- Construction of berth 4 with similar characteristics excluding the terminal building at a later time
- Completion of berth 3 in 1995-7, berth 4 in 2015
- Coordination with comparable capacity expansions in Merak (Java) necessary
6. Project Duration : - F/S : 12 months for each berth
- Implementation : 2 years for each berth
7. Project Cost : - F/S : Undetermined
- Implementation : US\$21,400,000 total (tentative costs)
US\$10,900,000 (berth 3 only)
US\$10,500,000 (berth 4 only)
8. Related to Project Aid : Master Plan for Bakauheni-Merak Ferry Terminal Project (DGLT)
9. Stage of Project Preparation : Review of Master Plan Project (DGLT) required

1. Project Title : DEEP SEA PORT CONSTRUCTION - BATANG HARI RIVER IN JAMBI
2. Location : Muara Sabak, Jambi Province
3. Executing Agency : Directorate General of Sea Communication
4. Objectives :
 - To provide Jambi and South Sumatra provinces with improved access for ocean shipping to the Growth Triangle and other points (proposed location drastically reducing the troublesome upriver trip by ships to the existing Jambi City port)
 - To provide vessels exceeding 1,000 gross tons unrestricted dry season access to Jambi province (avoiding current limitation at Jambi City Port)
 - To provide these areas with improved containerized shipping alternatives
5. Project Description :
 - A detached pier design with quay wall and approach bridge
 - A container yard with asphalt pavement
 - A containerized freight station with gantry cranes
 - Coordination with other deep sea port construction projects in Jambi/Riau/South Sumatra provinces necessary to assure mutual feasibility
 - Study to start in 1998, construction in 2005
6. Project Duration :
 - F/S : Natural condition study : 3 years
 - : Detailed preliminary study : 1 year
 - : Detailed design : 1 year
 - Implementation : 2 years
7. Project Cost :
 - F/S : Undetermined
 - Implementation : US\$ 72,000,000 (tentative cost)
8. Related to Project Aid : Planned World Bank study on Java and Sumatra port requirements
9. Stage of Project Preparation : Feasibility study necessary particularly survey of natural conditions

1. Project Title : DEEP SEA PORT CONSTRUCTION - JAMBI
2. Location : Sungai Rimau, Jambi Province
3. Executing Agency : Directorate General of Sea Communication
4. Objectives :
 - To provide Jambi and South Sumatra provinces with improved access for ocean shipping to the Growth Triangle and other points (proposed location drastically reducing the troublesome upriver trip by ships to the existing Jambi City port)
 - To provide vessels exceeding 1,000 gross tons unrestricted dry season access to Jambi province (avoiding current limitation at Jambi City Port)
 - To provide these areas with improved containerized shipping alternatives
5. Project Description :
 - A detached pier design with quay wall and approach bridge
 - A container yard with asphalt pavement
 - A containerized freight station with gantry cranes
 - Coordination with other deep sea port construction projects in Jambi/Riau/South Sumatra provinces necessary to assure mutual feasibility
 - Study to start in 1998, construction in 2005
6. Project Duration :
 - F/S : Natural condition study : 3 years
 - Detailed preliminary study : 1 year
 - Detailed design : 1 year
 - Implementation : 2 years
7. Project Cost :
 - F/S : Undetermined
 - Implementation : US\$ 83,000,000 (tentative cost)
8. Related to Project Aid : Planned World Bank study on Java and Sumatra port requirements
9. Stage of Project Preparation : Feasibility study necessary particularly survey of natural conditions

1. Project Title : SEAPORT IMPROVEMENTS - JAMBI
2. Location : Kuala Tungkal, Jambi Province
3. Executing Agency : Directorate General of Sea Communication
4. Objectives :
 - To provide Jambi and South Sumatra provinces with improved access for ocean shipping to the Growth Triangle and other points
 - To provide vessels exceeding 1,000 gross tons unrestricted dry season access to Jambi province (avoiding current limitation at Jambi City Port)
 - To provide these areas with improved containerized shipping alternatives and roll-on / roll-off service for trucks
5. Project Description :
 - Construction of a dock with quay wall, with roll-on/roll-off capability and approach bridge
 - A yard with asphalt pavement
 - A movable ramp and related facilities
 - Coordination with other deep sea port construction projects in Jambi/Riau/South Sumatra provinces necessary to assure mutual feasibility
 - Study to start in 1994 construction in 1996
6. Project Duration :
 - F/S : Feasibility : 1 year
 - : Detailed design : 1 year
 - Implementation : 2 years
7. Project Cost :
 - F/S : Undetermined
 - Implementation : US\$ 20,500,000 (tentative cost)
8. Related to Project Aid : Planned World Bank study on Java and Sumatra port requirements
9. Stage of Project Preparation : Feasibility study necessary

1. Project Title : CONTAINER WHARF CONSTRUCTION - JAMBI
2. Location : Talang Duku, Jambi Province
3. Executing Agency : Directorate General of Sea Communication
4. Objective : Reduction of the container transportation cost
5. Project Description :
 - The government of Jambi Province desires to construct a container wharf at Talang Duku near Jambi city, because a container wharf in Jambi Province does not currently exist.
 - The main facilities of this project are as follows : a) Quay wall (potoon), b) Container yard, c) Parking space, d) Containerized Freight Station, and e) Office building
6. Project Duration :
 - F/S : 10 months
 - Implementation : 2 years
7. Project Cost :
 - F/S : Undetermined
 - Implementation : Undetermined
8. Stage of Project Preparation : Feasibility study necessary

1. Project Title : DEEP SEA PORT CONSTRUCTION - SOUTH SUMATRA
2. Location : Tanjung Api Api, South Sumatra Province
3. Executing Agency : Directorate General of Sea Communication
4. Objectives :
 - To provide Southern Sumatra with faster and cheaper ocean shipping conditions than at present through a full service port at a coastal location capable of handling large vessels and requiring little or no maintenance dredging (avoiding water depth limitations of riverport of Palembang)
 - To provide the region with improved alternatives for containerized cargo and for coal
5. Project Description :
 - A detached pier design with quay wall, approach bridge
 - A container yard with asphalt pavement, internal road network
 - A containerized freight station with gantry cranes and office
 - Coal port to include detached pier and approach bridge, coal loader and conveyor belt, and stock yard
 - Coordination with other deep sea port construction projects in Jambi/Riau/South Sumatra provinces necessary to assure mutual feasibility
6. Project Duration :
 - F/S : Natural condition study : 3 years
 - : Detailed preliminary study : 1 year
 - : Detailed design : 1 year
 - Implementation : 2 years
7. Project Cost :
 - F/S : Undetermined
 - Implementation : US\$ 77,000,000 (tentative cost)
8. Related to Project Aid : Planned World Bank study on Java and Sumatra port requirements
9. Stage of Project Preparation : Feasibility study necessary, particularly survey of natural conditions

1. Project Title : SEAPORT IMPROVEMENTS - SOUTH SUMATRA
2. Location : Palembang, South Sumatra Province
3. Executing Agency : Directorate General of Sea Communication
4. Objectives : - To provide Southern Sumatra with faster and cheaper containerized shipping conditions than at present through a new containerized cargo terminal with some automated handling equipment
5. Project Description : - Construction of a container wharf with quay wall, internal roads
- A container yard with asphalt pavement
- A containerized freight station with gantry cranes and office
- Coordination of planning with other deep sea port construction projects in Jambi/Riau/South Sumatra provinces necessary to assure mutual feasibility
- Study to start in 1998, construction in 2000
6. Project Duration : - F/S : 1 year
- Detailed design : 1 year
- Implementation : 2 years
7. Project Cost : - F/S : Undetermined
- Implementation : US\$ 30,000,000(tentative cost)
8. Related to Project Aid : Planned World Bank study on Java and Sumatra port requirements, Musi River Basin Study
9. Stage of Project Preparation : Feasibility study necessary (a master plan is needed)

1. Project Title : SEAPORT CONSTRUCTION - MANTONG (BANGKA ISLAND)
2. Location : Mantong (Tanjung Gudang), Bangka Island, South Sumatra Province
3. Executing Agency : Directorate General of Sea Communication
4. Objectives : - To provide Bangka Island with faster and cheaper ocean shipping conditions than at present through a port at a coastal location capable of handling large vessels in rainy and dry seasons and requiring little or no maintenance dredging, for bulk exports such as tin, kaolin and palm oil
5. Project Description : - Construction of a dock (detached pier design) with quay wall, and approach bridge
- A yard
- An office
- Coordination with development program of the island's tin mining industry to assess future traffic demand
- Study to start in 2004 construction in 2008
6. Project Duration : - F/S : 1 year
- Detailed design : 8 months
- Implementation : 2 years
7. Project Cost : - F/S : Undetermined
- Implementation : US\$ 23,000,000 (tentative cost)
8. Related to Project Aid : Intensive Tin Mining Project in Bangka Island
9. Stage of Project Preparation : Feasibility study necessary (master plan is needed)

1. Project Title : PORT IMPROVEMENT - PANJANG
2. Location : Panjang, Lampung Province
3. Executing Agency : Directorate General of Sea Communication
4. Objectives : To assure efficient shipping conditions for the Southern Sumatra region in the long run, particularly regarding containerized cargo, in line with traffic growth through timely expansion of the port facility at Panjang
5. Project Description :
 - Construction of dock with quay wall
 - A yard with asphalt pavement
 - A containerized freight station, office and gantry cranes
 - Implementation in accordance with updated Master Plan (update in progress by Port Corporation II)
 - Coordination of planning with other deep sea port construction projects in Jambi/Riau/ South Sumatra provinces necessary to assure mutual feasibility
6. Project Duration :
 - F/S : 15 months
 - Detailed design : 1 year
 - Implementation : 3-4 years
7. Project Cost :
 - F/S : Undetermined
 - Implementation : US\$ 110,000,000 (tentative cost)
8. Related to Project Aid : Planned World Bank study on Java and Sumatra port requirements
9. Stage of Project Preparation : Feasibility study necessary