

Environmental Assessment/Analysis Reports



Report E0045

Indonesia - Outer Islands Power Project EA Category A

Resettlement and Rehabilitation Action Plan May 1994

This report has been prepared by the Borrower or its Consultant

**RESETTLEMENT AND REHABILITATION
ACTION PLAN**

BESAI HYDROELECTRIC POWER PROJECT

**PERUSAHAAN UMUM LISTRIK NEGARA
INDONESIA**

MAY 1994

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RESETTLEMENT AND REHABILITATION ACTION PLAN
FOR
BESAI HYDROELECTRIC POWER PROJECT, INDONESIA.

1. **Background**

(a) **Summary of the Project, and the need for land acquisition.**

In order to fulfill the increasing demand of electric energy in the area of Lampung Province in particular and Sumatera, which the Besai hydroelectric Power Project will be built. According to the demand forecast that area in 1996 will need a power production of 2,894 GWh and an installed capacity of 722 MW, while the Besai HPP will have a capacity of 90 MW with a total annual energy output of 396 GWh.

The Besai hydroelectric Power Project will be built as a run-off-river power plant. A gated concrete weir of 13.3 m high will be built in the Besai river. The headrace will be a tunnel of 4.3 m in diameter and 4.893 m lengths. The powerhouse will be surface type with two units of turbine and generator of 53 MW each. The water of the river will be temporarily stored in the daily pondage of 101 Ha. The average firms discharge of the river is 24.3 m³/sec, while the generation discharge will be 45.6 m³/sec.

The location of project construction activities will be at Sukapura and Dwikora Village, while the inundation will cover the Sukapura and Way Petai Village. Administratively the Sukapura and Way Petai Village belong to the Subdistrict of Sumber Jaya, District of North Lampung, while Dwikora Village belong to the Bukit Kemuning Sub District, North Lampung District.

The Project will affect the following landuses and structures. i.e.

- The forest area used for part of the quarry and part of the access road;
- The forest area for the underground tunnel from the intake dam to the power house with a length of 4,893 m;
- The plantation and bushes in the dam location and access road;
- Bridges in the Village of Sukapura and Wai Petai in the proposed location of inundation area (3 suspension bridges and 1 semi-permanent bridge);
- Part of the homegarden in part of the access road in Sukapura;
- Several ricefield will be used as an inundation area.

The project area needed to be compensated is presented in the following table.

No.	Proposed use	Acreage (Ha)	Landuse	Ownership
1.	Basecamp & Access road	15.11 2	- Coffee plantation - Sawah/ricefield	Forestry Forestry
2.	Access road to power house	4.2	Coffee plantation & bush	Forestry
3.	Spoil bank & Quarry	12.44	Coffee plantation & bush	Forestry
4.	Power house, surge tank & intake	12.55	Coffee & bush	Forestry
5.	Temporary building	12.13	Coffee & bush	Forestry
6.	Access road to dam site, work adit & surge tank	16.71	Coffee & bush	Forestry
7.	Inundated area	85.35 16.1 *)	- Ricefield & coffee - River bed	Private Government
	Total to be compensated	160.48		

*) will not be compensated because no PAPs is using it

(b) The Project Affected People (PAP)

A total of 129 families will be affected by the Besai Project, comprising 88 families affected by the inundation area and 41 families affected by the construction area. The latter may be categorized as "forest encroachers" having illegally planted coffee trees, Without legal permission, on land belonging to the Forestry Agency.

None of the affected families will require physical relocation since their residences (houses) will not be affected. They will, however, require economic rehabilitation since their productive land, which is used for cultivation of wet rice, dry rice and trees, will acquire under the project.

Land acquisition and payment of compensation has already been completed for 31 of the 41 families in the construction area. However, the land is still being, and will continue to be, cultivated by the former

users until it is required for construction.

From a survey carried out by PLN in the area in April 1993 appears that approximately 85% of the population in the area have elementary school education or less.

For details of affected families, see ANNEX 3

(c) Objectives of this Plan and Commitments of PLN

The objectives of this plan are:

- (i) to ensure that PAPs are compensated for any losses of land, vegetation and crops and buildings and structures.
- (ii) to ensure that the income level and the living standard of the PAP shall not be reduced, but rather improved.

To achieve this objective PLN is committed to do the following:

- * to ensure that all PAPs, both landowners, formally owners and "land encroachers", and non-landowners are compensated at replacement value for all assets.
- * to ensure that for land compensation, if any, will be completed before the start of actual construction work;
- * to ensure that counselling, technical assistance and credit facilities will be made available to those wishing to engage in small business and other trade activities;
- * to ensure that education and training will be provided in vocational training school if desired by the affected people.

2. Policies of Compensation

(a) Cash Compensation and entitlements as per Land Acquisition legislation.

Land acquisition is implemented pursuant to KEPPRES (Presidential Decree) No. 55/1993 with the establishment of the Committee of Land Acquisition for Public Uses, commonly known as the Land Compensation Committee. The amount of the compensation for land and plants will basically follow the NJOP (the assessed value for tax purposes), but the final price will be decided during consultation between the Land Compensation Committee and the project affected population, and will reflect replacement value. The people who have adat (traditional) land as well as tanah negara (forestry land) will receive the full amount of the

land price.

The land compensation procedure is as follows:

- (i) Public Consultation with the project affected people will be conducted by the project proponent and the Land Compensation Committee to give all necessary information about the project and all related matters.
 - (ii) The next step is the staking out of the boundaries of the needed land conducted by the project proponent.
 - (iii) Then follows the detailed mapping of the land holdings conducted by the Land Compensation Committee.
 - (iv) After the completion of maps, the inventory of crops, vegetation, buildings and other assets will be conducted by the Land Compensation Committee.
 - (v) The next step is for the Land Compensation Committee to prepare the list of the acreage of the land holdings and temporary structures, and the volume of the affected crops.
 - (vi) The final step will be the payment of the compensation directly to the land owners through the local bank, based on the negotiated prices agreed between the Land Compensation Committee, the project proponent and the project affected people. If necessary, PLN will assist affected people in opening bank accounts for this purpose.
- (b) **Optional land compensation entitlements:**

(i) Optional land for land compensation

According to the negotiations already conducted between the Land Compensation Committee and the PAP, nobody has opted for "land-for-land" compensation. Everyone would prefer to arrange such purchase, if any, by themselves. However PLN is ready to arrange the land-for-land compensation through the Land Compensation Committee should such request arise. In case suitable and acceptable land cannot be found before it is required for construction, PLN will provide for adequate transition/compensation allowance.

(ii) optional transmigration

The Provincial Government of Lampung through the Ministry of

Transmigration and Resettlement of Forest Encroachers has a resettlement program for 2000 families per year.

The Project Affected People of the *forest encroacher* category will be encouraged to join the national transmigration scheme. The implementation will be the Ministry of Transmigration and the Resettlement of Forest Encroachers in coordination with the Resettlement Implementation Team.

(c) Assistance for Rehabilitation of PAP

In order to assist the PAPs, who choose to remain in the community, and the community as a whole, drafting of a Rehabilitation Plan has commenced in consultation with PAPs and other people from the Besai communities, NGO WATALA and PLN. The Plan covers a period of six years, up to one year beyond the time when the Power Project becomes fully operational. It is designed as a development plan, based on a range of activities which will assist people in the community to understand their current socio-economic situation, the changes that the Project will cause, and work towards identifying skills and support necessary for them to maintain and improve their income and general welfare. Given the high proportion of the people in community that will be affected by the Project, and in order to avoid envy of non-PAPs, it is important that the activities are integrated into plans for the community as a whole. This Plan is directed to assist the PAPs in their rehabilitation, but will not exclude members of the community to benefit from the activities. The plan will be elaborated in Chapter 4. The plan includes, inter alia:

(i) training

PAPs are encouraged to improve income possibilities by learning new productive skills. Training in vocational training schools will be made available to the PAPs. This effort will facilitate the restoration of their income level. The formal vocational training will take place at Industrial and Agricultural Training Centers organized by the Ministry of Manpower, in coordination with the Rehabilitation Management Group.

(ii) jobs/employment

Priority will be given to the PAP and the local people in general, with the necessary skill and/or educational qualifications, for employment by the project, involving the following principle parties:

- a. PLN (Perusahaan Umum Listrik Negara), which is divided into PLN Besai Project, responsible for construction and PLN Besai Sector, responsible for operation of the plant.
- b. Construction and Supply Contractors of Besai Project and Sector.

All of the Besai project works will be entrusted to contractors. The contractors and their sub-contractors for civil, electrical and mechanical engineering works will require the services of a large number of skilled, semi-skilled and unskilled labors. Positions will be made available to PAPs on a preferential basis. The estimated number of unskilled laborers needed for civil works alone, during the construction phase, expected to continue up to mid 1999, is well above 1000.

PLN Besai Sector will require the services of contractors and suppliers to carry out the Operation and Maintenance activities. Priority will be given to employment of PAPs to meet the need for unskilled labor, to do routine tasks, with a minimum of training. It is estimated that the number of such long term positions will be between 50 to 100.

(iii) credit

PLN will ensure that funds for start-up credit for small business and trading will be available for PAPs in connection with the rehabilitation program.

(iv) Information, counselling and technical assistance

PLN will ensure that the PAP will receive appropriate counselling and technical assistance, if they select to invest land compensation money in trading or small business.

3. Institutional/Organisational responsibilities

(a) **Structure of implementation, and involved groups**

The actions in this plan consists of two parts:

- (i) Land Acquisition and land compensation
 - (ii) Resettlement and rehabilitation, including income restoration and development.
- (i) Land Acquisition and Land Compensation, according to the procedure outline above, will be the responsibility of The Land Compensation Committee which has been established by the

Governor of the Lampung Province. The Bupati (Heads of District) of West Lampung and North Lampung Districts are acting as Chairmen of the Committee. The Committee comprises the following members:

1. Bupati (The respective Heads of West Lampung and North Lampung Districts)
2. The Head of Agrarian Affairs
3. The Head of Land & Building Tax Services
4. The Local Government Building and Infrastructure Service
5. The Local Government Agricultural Service
6. The Heads of Sub Districts
7. The Heads of Villages

The non-member Secretaries of the Committee are:

8. The Heads of Subdivision of District Administration
9. The Heads of Agrarian Affairs Sections

The KEPPRES No.55/1993 does not stipulate the Project Proponent to be a committee member.

- (ii) Resettlement and rehabilitation, including income restoration and development are the responsibility of PLN as the project proponent.

PLN will be assisted and controlled by a Resettlement and Rehabilitation Management Working Group where PAPs, the community and NGOs are represented. Within the working group the PLN's interest is represented by the Development Officer appointed by the PLN management. The Working Group will prepare resettlement and rehabilitation plans, annual budgets and administrative procedures to be approved and endorsed by PLN for implementation.

The Working Group will formulate specific and clear Terms of Reference for NGO participation and NGO-PLN cooperation, to obtain a common understanding and smooth communication. The Terms of Reference shall be the basis for a contractual agreement with NGO for implementation, and must be agreed to by the PAP representatives before final approval.

An Implementation Unit will be formed. NGO will nominate suitable representative of the NGO community, to work in the Implementation Unit under the Resettlement and Rehabilitation Management Working Group. The day to day contact to the project will be via the PLN Development Officer.

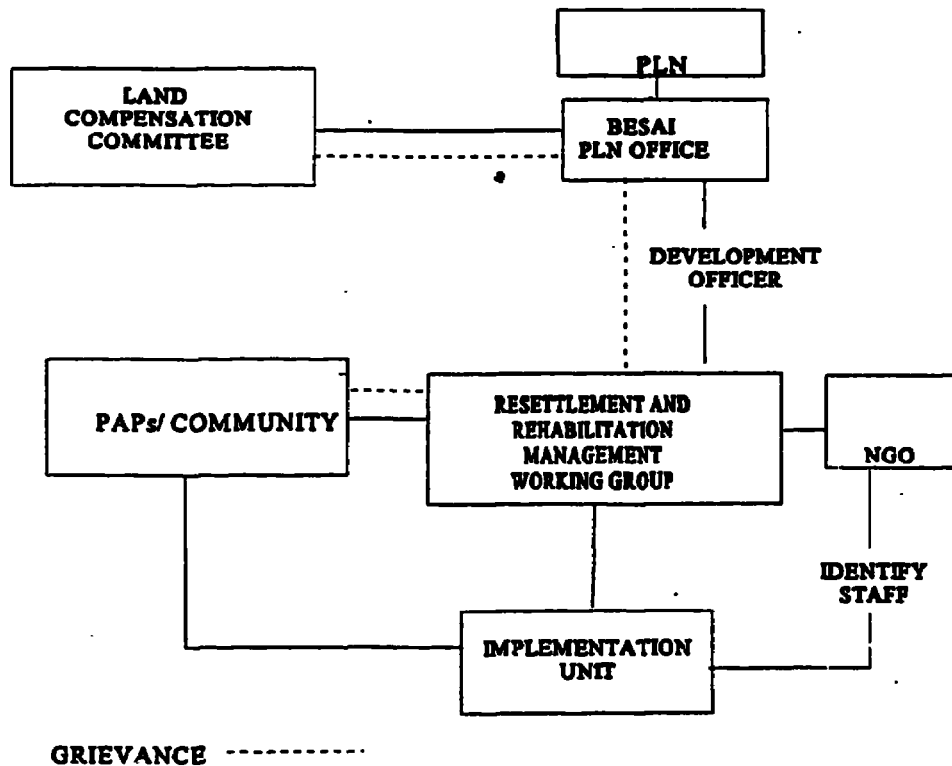
The Implementation Unit will have direct access to the Project Manager

through the PLN Development Officer, and will operate independently of the Land Compensation Committee.

(b) The grievance and appeal mechanism

Grievance regarding land compensation and other entitlements shall be channelled through the informal leaders of the PAP or the head of the village, who shall convey it to the Resettlement and Rehabilitation Management Working Group and PLN for solution. If no satisfactory solution can be reached, the case can be referred to the Land Compensation Committee. In case the committee fails to find solution satisfactory to all parties, the case may be referred to the competent court of justice.

The organizational structure is presented briefly below :



The Land Compensation Committee, established in accordance with KEPPRES (Presidential Decree) No. 55/1993 is responsible for all activities related to land acquisition, as described in Chapter 2, and schedule in ANNEX 1.

The Resettlement Implementation Team will carry out overall steering, *coordinating*, supervision and approval of Rehabilitation activities. All grievances can be referred to the Resettlement Implementation Team.

The Rehabilitation Management Group will carry out the day management of rehabilitation activities, with the PLN Development Officer as the daily coordinator. The Rehabilitation Management Group will consist of the PLN Development Officer, the NGO Coordinator and representative(s) of PAP. It will be responsible to the Resettlement Implementation Team for timely submission of detailed plans and budgets, etc., every year *with the provision to review and revise every half year.*

The Implementation Unit will carry out rehabilitation activities under the supervision of the Rehabilitation Management Group, with the PLN Development Officer as the day to day PLN contact. The staff will be *nominated* by NGO.

4. Plan of implementation

(a). Land Acquisition and Land Compensation

The implementation of the land compensation procedure will be conducted in two major stages, one of which has already been completed. 31 "forest encroaching" families were compensated in February 1994, when the project acquired land for Access roads, Intake Dam, Surge Tank and temporary buildings for the project. However most of the land is still *can be* utilized by the original users, as *long as* the project *does not require it*. The next major land acquisition is scheduled to take place in July, when land acquisition and compensation for power house, spoil bank and the inundated area is scheduled to take place.

The land compensation schedule is as shown in Annex 1.

(b) Rehabilitation of PAP

The Rehabilitation Plan is based on completing the following *activities*, broadly within the proposed schedule. This is outlined below and discussed more fully in the following section :

1. Appointment of PLN Development Officer (May 1994)
2. Establishment of Implementation Management Group (May 1994)
3. Form Implementation Unit (June 1994)
4. Community Information and Education (July-August 1994)
5. Community Development Facilitator Training (July 1994)
6. Form Community Groups (August-September 1994)
7. Training Programs (October 1994 - April 1995)
8. Program Implementation (Commencing May 1995)
9. Evaluation (end 1995 and then every 6 months)
10. Monitoring Principles.

The first three activities have been described in the previous chapter, the remaining will be outlined below:

Activity 4. Community Information and Education (July - August 1994)

The objective is to create and maintain community awareness of:

1. What is happening with the project overall;
2. What are the possible forms of assistance;
3. Progress with the Rehabilitation and Development Plan; and
4. Stimulate active community-wide participation in the development process.

An important part this phase is to inform PAPs of possible assistance through the agencies represented in the Resettlement Implementation Team, including investment advise for use of land compensation money.

A tentative list of suggested option for the Project Affected People is presented below:

- a). to purchase other agricultural land

With the land compensation money the Project Affected People may choose to buy agricultural land in other locations. Alternatively PLN will arrange for the PAP the purchase of the agricultural land, equivalent (in terms of output and quality) to the project affected land, subject to the PAP's concurrence. PAP will be encouraged to identify alternative land for themselves, within a given geographic area, for purchase and immediate transfer by PLN.

b). Trading and small business

The people may use their land compensation money as capital for starting small businesses, such as:

- Trade in agricultural commodity abundant in the project area such as coffee beans and other seasonal crops.
- Open small shop
- Open small restaurant
- Workshop
- Tailors
- Home industry such as: handicraft, processing of coffee beans and other agricultural produce.
- Catering.
- Animal husbandry: Chicken, goat, sheep, dairy cow.

PLN will ensure that the PAP will get appropriate counselling, and access to credit for the selected options.

The consultation and information process has already started and shall constitute a major activity until land has actually been taken possession of by the project.

Activity 5. Community Development Facilitator Training (July 1994)

The objective is to develop a range of community-based skills for advocacy and planning.

This will be a brief, intensive Trainer-training program to generate informed representation of general community development principles and practice throughout the community. As a result, facilitator should be in a position to undertake internal community liaison vital to forming community groups, which constitutes the next activity.

The scope of the Rehabilitation Plan will allow participation by all people directly and indirectly affected by the project: landowners, women, young people and forest encroacher. Participation will not be enforced, and will be determined by community members themselves. However, special access will be offered to those in lower socio-economic groups.

The level of community participation at this stage is likely to be dependent upon the successful implementation of the Community Information and Education activities.

Activity 6. Form Community Groups (August-September 1994)

Consult with the community in small, functional groups to identify and clarify :

- a. common and individual livelihood problems**
- b. community perceptions about training and income opportunities**
- c. identify specific needs for financial support**
- d. formulate suitable training and credit programs**

Initially, groups will be formed according to :

occupation (e.g. rice farmers, dry land farmers) and/or social groups (e.g. women, young people)

Later in the process, members will be regrouped according to the specific skills-training workshop program they wish to follow to formulate :

specific needs for training curricula and work experience desired outcomes from courses (i.e. implementation plans)

The Implementation Unit and The Rehabilitation Management Group shall, based on this activity formulate implementation plans together with the community to be submitted to the Resettlement Implementation Team for approval.

Activity 7. Training Programs (October 1994-April 1995)

In addition to the training offered to PAPs at established vocational training centers an appropriate training and skill-development courses for the community will be developed before September 1994 , using hands-on, practically-orientated training methods, including follow-up training for managing new enterprises.

Below are list of training and skills development received from the community on April 5, 1994.

Farmers:

- 1. Livestock Breeding and management - poultry, goats, ducks**
- 2. Plantation Management**

Alternative cultivation systems (e.g. soil conservation);
Corp diversification (e.g. vanilla);
Agroforestry; and
Small-scale agribusiness.

3. **Fish Breeding**
Intensification program for existing ponds;
Creation of new fish farming facilities
4. **Farm Management and Marketing**
Cooperative management system
5. **Environmental preservation and soil conservation**

Women

1. Home industry/income generation (e.g. flower cultivation, livestock, handicrafts); and
2. Small business management and marketing

Youth

Skill training workshops - suitable for employment in the community and elsewhere.

Non Landowners

1. Income-generation schemes
2. Retraining programs - non-agricultural

To be effective in the long-term, the selection of particular courses and participants will be actively integrated into the community consultative process (activity 4).

Workshop and training courses will be provided (as far as possible) within the village itself, so as to minimize disruption to on-going life and work. Young people may, as mentioned above, wish to undertake technical course at a Technical Training Center.

Activity 8. Community Development Program - Implementation (to start May 1995)

Implement the overall Community Development Program and to initiate progress toward community self-management. In doing this the following milestone need to be considered.

1. Establish community groups for project self-appraisal and self-management;
2. Develop mechanism for providing a range of technical assistance programs;
3. Establish low-cost, rotating credit facilities for new income

generating activities

A crucial element will be the access to low credit facilities, providing small-scale credit for starting or expanding income-generating activities. The formulation of procedures and criteria for credit provision, savings and repayment, identification of suitable local financial intermediaries, and opening of bank accounts will be responsibility of the Rehabilitation Management Group.

The Resettlement and Rehabilitation implementation schedule is shown in Annex 2.

5. Monitoring, reporting and participatory evaluation

Monitoring of the resettlement and land compensation processes and their impacts will be carried out by an independent agency, e.g. local university in cooperation with local Non Government Organization (NGO).

A monitoring plan, with indicators for monitoring each activity and the progress of project affected households will be designed by the independent agency, selected to carry out the monitoring. This will be submitted to the World Bank for approval before September 1994.

Quarterly Progress Reports, covering the project as a whole, to be submitted to the World Bank, will include up-dates on land acquisition and resettlement issues, such as rates of compensation, number of families affected, area acquired, problems encountered. Specific Rehabilitation Progress Report will be made twice a year, following the plan periods, during the construction stage (5 years) till two years after the completion of the project. PLN shall submit the monitoring reports to the World Bank in Washington DC with a copy to the Resident Mission of the Bank at Jakarta. The first and second Rehabilitation Progress shall be submitted by end October 1994 and end April 1995, respectively.

For each activity of the Resettlement and Rehabilitation Plan, operational indicators will be monitored regularly.

A monitoring team consisting of community members and NGO personnel (who are not involved in the Implementation Unit) will be responsibility for reporting to the Rehabilitation Management Group, who in turn will report quarterly to PLN Project Office and Resettlement Implementation Team.

Monitoring will continue throughout the Project. The monitoring team will ensure that the Implementation Unit progressively phase out active involvement in the community, based on stabilization of income levels and progressive achievement of self-management capability.

Internal Rehabilitation Assessment will be an ongoing, participatory evaluation process, and entails the following:

- 1 Develop means for community self-assessment of progress to date;
- 2 Identify, analyze and propose solutions for problems that have arisen;
- 3 Identify further needs (e.g. technical assistance, credit); and
- 4 Propose work plans for continuing implementation.

These tasks will be undertaken by community working groups, after appropriate training, and in conjunction with the Implementation Unit.

6. Budget

The total budget of Rp. 6,953,315,250 has three components:

- (a) Land acquisition and compensation, total Rp. 5.298.715.250 (76%)
- (b) Rehabilitation total Rp. 1.174.600.000 (17%)
- (c) Monitoring of Rehabilitation and Land compensation, total Rp. 480.000.000 (7%)

The budget for land acquisition will be operated from PLN project office. The budget for rehabilitation and monitoring will be made available to the Resettlement Implementation Team for implementing the Rehabilitation Plan and monitoring of land compensation and rehabilitation. The procedure of financial transfer will be negotiated between the Rehabilitation Management Group and PLN Project Management

The budget for credit has been established on uncertain grounds. PLN will give consideration to identifying additional level of budgetary support, given a clearly identified need for further financial support for new expanded income generating activities.

Allocated Budget for Land Acquisition

a. Land compensation payment.

The compensation payment will cover three asset categories:

- Land
- Vegetation and crop
- Building and structure

The payment will follow the standard prices issued by the Bupati Decree. PLN will ensure that compensation reflects replacement value, and is finalized after negotiations with the affected

persons.

The PLN's estimated budget for the compensation is Rp. 2,260,210,000.-.

b. Fee and expenses of the Land Compensation Committee.

The PLN's allocated budget for the fees and other expenses of the Committee is approximately Rp.73,005,250.-

c. Replacement of the Forestry Land

PLN has allocated a budget of Rp.1,925,500,000.- for this purpose.

d. Stacking out of the Land Boundaries

PLN has allocated a budget of Rp.660,000,000.- for this purpose.

The details of the land compensation cost is shown at the end of this chapter.

Allocated budget for Resettlement and Rehabilitation

The allocated budget for resettlement will be as follows:

a. Vocational Training for about 120 persons.

The allocated budget for training is Rp. 244,000,000.-.

b. Transmigration

The allocated budget for transmigration is Rp. 435,000,000.-, of which Rp. 400,000,000 provided by the Ministry of Transmigration and Resettlement of Forest Encroachers.

c. Credit funds for income generation

The allocated budget for establishment of a revolving credit/savings fund is Rp. 51,600,000.

d. Implementation Unit

The NGO Implementation Unit will be on active duty for approximately 6 years (5 years during the construction stage and 1 year during the operation stage).

The allocated budget for the Unit's expenses is Rp. 444,000,000.- for the 6 years.

- e. **Monitoring of the implementation of resettlement and land compensation.**

Monitoring of the implementation of rehabilitation and compensation will be carried out for at least 6 years (5 years during the construction stage and 1 year during the operation stage)

PLN will allocate budget for monitoring of Rp. 480,000,000.- for the 6 years.

The details of the cost estimate for rehabilitation is presented at the end of this chapter.

7. Schedule of submissions to the World Bank for Approval

Before July 1, 1994, PLN obliged to ensure that The World Bank receives the following:

Detailed Plan of Implementation for the period July 1994 to September 1994, including detailed budget.

Progress Report on Land Acquisition and Land Compensation to June 1, 1994, including:

- (i) Area acquired, the previous and present use**
- (ii) Rates of compensation for different kinds of land,**
- (iii) No. of affected families and persons,**
- (iv) Disputes and other problems encountered, and**
- (v) Accounts for land acquisition, incl. Committee cost, etc.**

Before October 1, 1994, PLN is obliged to ensure that The World Bank receives the following:

Detailed Plan of Implementation for the period October 1994 to March 1995, including detailed budget.

Before November 1, 1994, PLN is obliged to ensure that The World Bank receives the following:

Progress Report on Resettlement and Rehabilitation for the period June 1994 to September 1994, including:

- Land Acquisition and compensation activities (as above)**
- Progress on establishment of project organisation and cooperation with local government and NGOs.**
- Detailed accounts for the period.**

Hereafter, PLN is responsible for submission half-yearly plans and

reports, i.e. in 1995 plans of implementation will be submitted before March and October, and progress reports before April and November.

These reporting commitments of PLN pertain only to the Resettlement and Rehabilitation activities of the Besai Project described in this Action Plan.

**ESTIMATED COSTS OF
LAND ACQUISITION, COMPENSATION AND RESETTLEMENT COST
BESAI HYDROELECTRIC POWER PROJECT
(MAY 16, 1994)**

I	LAND ACQUISITION/COMPENSATION COST			
I.1	PROJECT AREA			
I.1.1.	ACCESS ROAD AND BASE CAMP (15.11 HA COFFEE, 2 HA PADDY)			
	Crop	15.11 ha x Rp	5,000,000 = Rp	75,550,000
	Crop	2.00 ha x Rp	6,500,000 = Rp	13,000,000
			Rp.	88,550,000
I.1.2.	ACCESS ROAD TO POWER HOUSE			
	Crop	4.20 ha x Rp	5,000,000 = Rp	21,000,000
I.1.3.	SPOIL BANK NO 1 - 7			
	Crop	12.44 ha x Rp	5,000,000 = Rp	62,200,000
I.1.4	POWER HOUSE, SURGE TANK, INTAKE DAM			
	Crop	12.55 ha x Rp	5,000,000 = Rp	62,750,000
I.1.5	TEMPORARY BUILDING YARD			
	Crop	12.13 ha x Rp	5,000,000 = Rp	60,650,000
I.1.6	ACCESS ROAD TO WORK ADIT NO. 1-3, DAM SITE AND SURGE TANK			
	Crop	16.71 ha x Rp	5,000,000 = Rp	83,550,000
I.1.7	INUNDATED AREA			
	Land	85.34 ha x Rp	20,000,000 = Rp	1,706,800,000
	Crop	85.34 ha x Rp	6,500,000 = Rp	554,710,000
			Rp.	2,261,510,000
		TOTAL I.1.1 - I.1.7	Rp.	2,640,210,000
I.1.8	COMMITTEE HONORARIUM			Rp. 7,000,000
I.1.9	COMMITTEE ADMINISTRATION (1.5%)			Rp. 39,603,150
I.1.10	MAPPING AND ASSET INVENTORY (1%)			Rp. 26,402,100
		TOTAL I.1.1 - I.1.10	Rp.	2,713,215,250

I.2	FOREST REPLACEMENT LAND			
I.2.1	LAND COMPENSATION			
	Land	60 ha x Rp	15,000,000 = Rp	900,000,000
	Crop	60 ha x Rp	4,000,000 = Rp	240,000,000
			Rp.	1,140,000,000
I.2.2	REVEGETATION	60 ha x Rp	10,000,000 = Rp	600,000,000
I.2.3	STUDY OF REFORESTATION & LAND REHABILITATION		= Rp	150,000,000
I.2.4	COMMITTEE HONORARIUM		Rp.	7,000,000
I.2.5	COMMITTEE ADMINISTRATION		Rp.	17,100,000
I.2.6	MAPPING AND ASSET INVENTORY		Rp.	11,400,000
	TOTAL I.2.1 - I.2.6		Rp.	1,925,500,000
I.3	LAND BOUNDARY STACKING OUT			
I.3.1	PROJECT AREA	160 ha x Rp	3,000,000 = Rp	480,000,000
I.3.2	FORESTRY REPLACEMENT LAND	60 ha x Rp	3,000,000 = Rp	180,000,000
	TOTAL I.3.1 - I.3.2		Rp.	660,000,000
	TOTAL LAND COMPENSATION		Rp.	5,298,715,250
II.	RESETTLEMENT COST			
II.1	TRAINING (120 PERSONS)			
	Transportation		Rp.	10,000,000
	Living accommodation		Rp.	90,000,000
	Living allowance		Rp.	60,000,000
	Instructors		Rp.	24,000,000
	Training facilities		Rp.	50,000,000
	Hand outs		Rp.	10,000,000
	TOTAL II.1		Rp.	244,000,000

II. 2	TRANSMIGRATION (40 FAMILIES)		
	Recruitment	Rp.	10,000,000
	Site Visit	Rp.	25,000,000
	Living allowance & Moving cost (under the budget of Ministry of Transmigration and Forest Encroacher)		
	40 x Rp. 10,000,000	Rp.	400,000,000
	TOTAL II.2	Rp.	435,000,000
II.3	Credit allowance and income generating schemes		
	129 x Rp. 400,000	Rp.	51,600,000
II. 4	RESETTLEMENT COMMITTEE		
	Operational cost (6 years)		
	6 x Rp. 50,000,000	Rp.	300,000,000
	Honorarium (7 years)		
	6 x Rp. 24,000,000	Rp.	144,000,000
	TOTAL II.4	Rp.	444,000,000
	TOTAL RESETTLEMENT COST	Rp.	1,174,600,000
III	MONITORING COST OF RESETTLEMENT AND LAND COMPENSATION		
	Monitoring by the local University & NGO (6 years)		
	6 x Rp. 50,000,000	Rp.	300,000,000
	Monitoring by the local government (7 years)		
	6 x Rp. 30,000,000	Rp.	180,000,000
	TOTAL OF MONITORING COST	Rp.	480,000,000
	TOTAL I + II + III	Rp.	6,953,315,250
	EQUIVALENT	US \$	3,296,973

Price level is October 01, 1993 (US \$ 1 = Rp. 2109 = 105.82 Yen)

ANNEX 1
LAND COMPENSATION SCHEDULE
BESAI HYDROELECTRIC POWER PROJECT

NO	ACTIVITIES	YEAR 1993					YEAR 1994																	
		08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12						
1	Mapping/cadastral survey	■					■																	
2	Forest land area mapping	■																						
3	Asset inventory (crop & others)	■					■																	
4	Land Negotiation						■		■															
5	Land Compensation payment						■				■													

NOTE : ■ **FIRST STAGE** (Surge Tank, Intake Dam, Temporary Building, Access Road)
 ■ **SECOND STAGE** (Power House, Spoil Bank, Inundation area)
 == **PHYSICAL CONTIGENCY** (Minor Construction lay out changes due to field condition)

ANNEX 2

RESETTLEMENT & REHABILITATION IMPLEMENTATION SCHEDULE BESAI HYDRO-ELECTRIC POWER PROJECT

No	DESCRIPTION	1994												1995											1996			1997			1998			1999			
		5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11							12										
1	Appointment of PLN Development Officer (DO), by PLN	█																																			
2	Establishment of Resettlement and Rehabilitation Management Working Group (RMWG), by PLN	█																																			
3	Draft Contract and TOR for NGO-involvement, by RMWG		█																																		
4	Draft detailed plan/budget July-Sept, by RMWG		█																																		
5	Form Implementation Unit (IU)		█																																		
6	Community Information, Education and consultation, by RMWG/PLN/IU		█	█																																	
7	Community Development Facilitator Training by IU			█	█																																
8	Draft annual plan budget, by RMWG				█																																
9	Form Community Groups, by IU				█	█																															
10	Training Programs, by IU/PLN				█	█																															
11	Implementation of Dev. Program																																				
	a. Transmigration-resettlement of forest encroachers																																				
	b. Credit for income generation																																				
	c. Purchase new agriculture land (if required)																																				
12	Self Evaluation of Rehabilitation																																				
13	Monitoring, by independent Org.																																				
14	Land Compensation																																				
	CONSTRUCTION OF POWER PLANT																																				
1	Preparatory work																																				
2	Main construction work																																				
3	Inundation																																				

Note: This option still open for the FAF

ANNEX 3.

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**Number of Owners and Area of Land for
Access Road, Intake Dam, Surge Tank**

Location : Dusun Dwikora Barat (Ds.5)

No.	Name of Head of Family	Affected (Ha)	Not Affected (Ha)	Total (Ha)	Compensation payment
1	Masnan	0.70	1.70	2.40	Feb. 7, 1994
2	Gunawan	0.28	0.72	1.00	Feb. 7, 1994
3	Yazid	0.42	1.07	1.49	Feb. 7, 1994
4	Suhalmi	0.07	0.17	0.24	Feb. 7, 1994
5	Junaidi	0.42	1.07	1.49	Feb. 7, 1994
6	Saini	0.14	0.37	0.51	Feb. 7, 1994
7	Muis	0.02	0	0.02	Feb. 7, 1994
8	Ramsi	0.70	1.70	2.40	Feb. 7, 1994
	Sub total	2.75	6.80	9.55	

Location : Dusun Dwikora Barat (Ds.5)

No.	Name of Head of Family	Affected (Ha)	Not Affected (Ha)	Total (Ha)	Compensation payment
9	Nurdin	0.84	2.16	3.00	Feb. 7, 1994
10	Waluto	0.42	1.08	1.50	Feb. 7, 1994
11	Polani	0.28	0.72	1.00	Feb. 7, 1994
	Sub. Total	1.54	3.96	5.50	

ANNEX 3:
Number of Owners and Area of Land for
Access Road, Intake Dam, Surge Tank
Location : Dusun Lubuk Laban

(2/7)

No.	Name of Head of Family	Affected (Ha)	Not Affected (Ha)	Total (Ha)	Compensation payment
12	Supli	1.12	2.88	4.00	Feb. 7, 1994
13	Rumayu	0.56	1.44	2.00	Feb. 7, 1994
14	Tasan	0.28	0.72	1.00	Feb. 7, 1994
15	Syahid	0.28	0.72	1.00	Feb. 7, 1994
16	Hairin	0.84	2.16	3.00	Feb. 7, 1994
17	Marroib	0.56	1.44	2.00	Feb. 7, 1994
18	Hamni	0.84	2.16	3.00	Feb. 7, 1994
19	Suparudin	0.84	2.16	3.00	Feb. 7, 1994
20	Ajri	0.28	0.72	1.00	Feb. 7, 1994
21	Sutan Suradi	0.56	1.44	2.00	Feb. 7, 1994
22	Dariah	0.28	0.72	1.00	Feb. 7, 1994
23	Sukamto	0.42	1.08	1.50	Feb. 7, 1994
24	Nanja	0.28	0.72	1.00	Feb. 7, 1994
25	Syahril	0.84	2.16	3.00	Feb. 7, 1994
	Sub. Total	7.98	20.52	28.50	
	Total	12.27	31.28	43.55	

ANNEX 3.

(3/7)

**List of affected people whose own land at
Power House, Spoil bank and temporary building Besal HEPP
Dusun Dwikora Barat (Dusun 5 and Dusun I)**

No.	Name Head of Family	Estimation affected land (Ha)	Estimation non- affected land (Ha)	Total (HA)	Compensation payment schedule
Dusun 5					
26	Mustar	1.00	1.00	2.00	June, 1994
27	Sogol	2.00	2.00	4.00	June, 1994
28	Burhasan	1.25	1.25	2.50	June, 1994
29	Kedul	2.00	2.00	4.00	June, 1994
30	Khun Maryono	2.00	2.00	4.00	June, 1994
31	Burhani	0.75	0.75	1.50	June, 1994
32	Salam	2.00	2.00	4.00	June, 1994
33	Perman	0.75	0.75	1.50	June, 1994
34	Sutrisno	1.00	1.00	2.00	June, 1994
35	Mukroni	0.50	0.50	1.00	June, 1994
	Sub-Total	13.25	13.25	26.50	
Dusun I (Sinar Ogan)					
36	Slamet	1.50	1.50	3.00	Feb. 7, 1994
37	Hamdan	2.00	2.00	4.00	Feb. 7, 1994
38	Gimun	2.00	2.00	4.00	Feb. 7, 1994
39	Man	2.00	2.00	4.00	Feb. 7, 1994
40	Darno	1.00	1.00	2.00	Feb. 7, 1994
41	Jenawi	1.50	1.50	3.00	Feb. 7, 1994
	Sub-Total	10.00	10.00	20.00	
	Total	23.25	23.25	46.50	

ANNEX 3.

(4/7)

**List of Land owners Affected by the Inundation of Besai HPP Project,
Village of Sukapura, Sub-District (Kecamatan) of Sumber Jaya, West Lampung**

No	N A M E	TOTAL AREA TO BE INUNDATED (Ha)	LAND USE	NON AFFECTED LAND (Ha)	COMPENSATION PAYMENT SCHEDULE
42	Fajri	0.75	Wet rice	0.50	June-July 1994
43	Maman	0.50	Estate	0.00	June-July 1994
44	Anjak	0.50	Estate	3.50	June-July 1994
45	Julik	0.50	Wet rice	1.00	June-July 1994
46	Cecek	0.50	Wet rice	1.00	June-July 1994
47	Kasman	0.50	Wet rice	1.50	June-July 1994
48	Ruhadi	0.25	Wet rice	1.75	June-July 1994
49	Sarmad	0.125	Wet rice	1.68	June-July 1994
50	Sadiman	1.00	Wet rice	6.00	June-July 1994
		1.00	Estate		June-July 1994
51	Dadang	0.25	Wet rice	0.00	June-July 1994
52	Jasmin	1.50	Bare land	1.50	June-July 1994
53	Sahalik	4.00	Estate	0.00	June-July 1994
54	Hamim	0.75	Wet rice	0.25	June-July 1994
55	Julid	1.00	Wet rice	0.00	June-July 1994
56	Men	1.00	Wet rice	0.50	June-July 1994
57	Sayadi	1.00	Wet rice	0.50	June-July 1994
58	Sulaiman	1.00	Estate	0.25	June-July 1994
		0.50	Wet rice		June-July 1994
59	Subandi	0.75	Estate	0.00	June-July 1994
60	Bahrudin	0.75	Bare land	0.00	June-July 1994
61	Darman	0.25	Wet rice	1.00	June-July 1994
62	Misman	0.25	Wet rice	2.75	June-July 1994
63	Ipun Sulaema	0.25	Dry Cultivation	0.75	June-July 1994
64	Kadlr	0.75	Estate	0.00	June-July 1994
		0.75	Wet rice		June-July 1994
65	Suparmen	0.25	Estate	0.00	June-July 1994
		0.75	Estate		June-July 1994
66	Sarkasih	1.00	Wet rice	1.00	June-July 1994
67	Oon	0.25	Wet rice	2.25	June-July 1994
68	Juhana	0.50	Wet rice	3.50	June-July 1994
	Sub-Total	23.125		31.175	

Note: The acreage stated in this table is rough estimation is not intended for land compensation.

ANNEX 3.

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**List of Land owners Affected by the Inundation of Besai HPP Project,
Village of Sukapura, Sub-District (Kecamatan) of Sumber Jaya, West Lampung**

No	N A M E	TOTAL AREA TO BE INUNDATED (Ha)	LAND USE	NON AFFECTED LAND (Ha)	COMPENSATION PAYMENT SCHEDULE
69	Daryak	0.50	Wet rice	2.50	June-July 1994
70	Panarman	0.50	Wet rice	1.00	June-July 1994
71	Oji Rosidi	0.25	Wet rice	1.75	June-July 1994
72	Taryan	0.50	Wet rice	0.25	June-July 1994
73	Kholid	0.50	Wet rice	1.00	June-July 1994
74	Jamad	0.50	Wet rice	2.00	June-July 1994
75	Sajak	0.50	Wet rice	1.50	June-July 1994
76	Somantri	0.75	Bare land	0.00	June-July 1994
77	Saspan	0.125	Wet rice	0.88	June-July 1994
78	Madnan	0.25	Wet rice	0.25	June-July 1994
79	Jaman	0.25	Wet rice	0.00	June-July 1994
		1.00	Dry Cultivation		June-July 1994
80	Odak	0.75	Wet rice	0.25	June-July 1994
81	Wandi	1.00	Wet rice	0.00	June-July 1994
82	Panji	1.25	Wet rice	0.00	June-July 1994
83	Miharja	0.75	Wet rice	0.00	June-July 1994
84	Rasman	0.50	Wet rice	0.00	June-July 1994
		0.50	Estate		June-July 1994
85	Zainudin	0.50	Wet rice	0.50	June-July 1994
86	Madnan	1.00	Wet rice	0.00	June-July 1994
87	Ojiki	0.56	Wet rice	0.00	June-July 1994
		0.25	Pond	0.00	June-July 1994
88	Rahmad	0.25	Wet rice	0.50	June-July 1994
		0.04	Pond		June-July 1994
89	Parjono	0.25	Wet rice	0.75	June-July 1994
90	Rainan	0.125	Wet rice	0.38	June-July 1994
91	Mang Wasjan	0.50	Wet rice	1.50	June-July 1994
		0.50	Dry Cultivation		June-July 1994
92	Harli	0.25	Wet rice	0.25	June-July 1994
93	Oma	0.50	Wet rice	0.00	June-July 1994
94	Suladin	0.75	Wet rice	0.75	June-July 1994
		0.75	Estate		
	Sub-Total	16.04		16.00	

Note: The acreage stated in this table is rough estimation is not intended for land compensation.

ANNEX 3.

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**List of Land owners Affected by the Inundation of Besai HPP Project,
Village of Sukapura, Sub-District (Kecamatan) of Sumber Jaya, West Lampung**

No	N A M E	TOTAL AREA TO BE INUNDATED (Ha)	LAND USE	NON-AFFECTED LAND (Ha)	COMPENSATION PAYMENT SCHEDULE
95	Sarja	1.00	Wet rice	0.00	June-July 1994
96	Ujuk	0.75	Wet rice	0.75	June-July 1994
97	Ganda	0.75	Wet rice	0.00	June-July 1994
		0.50	Estate	0.25	June-July 1994
98	Zarkasih	0.75	Wet rice	0.00	June-July 1994
99	Sarjan	0.50	Dry Cultivation	0.00	June-July 1994
100	Sajar	0.50	Wet rice	0.00	June-July 1994
		0.25	Wet rice	0.00	June-July 1994
101	Nahrudin	0.25	Dry Cultivation	0.50	June-July 1994
		0.25	Wet rice		June-July 1994
102	Tatak	0.50	Wet rice	0.00	June-July 1994
103	Omin	0.25	Wet rice	0.00	June-July 1994
		0.25	Dry Cultivation		June-July 1994
104	Sutarman	0.50	Wet rice	1.00	June-July 1994
		0.50	Wet rice		June-July 1994
105	Sukiman	0.06	Wet rice	1.40	June-July 1994
106	Sabar	0.125	Wet rice	0.38	June-July 1994
107	Aljan	0.125	Wet rice	0.38	June-July 1994
	Sub-Total	7.81		4.65	

Note: The acreage stated in this table is rough estimation is not intended for land compensation.

ANNEX 3.

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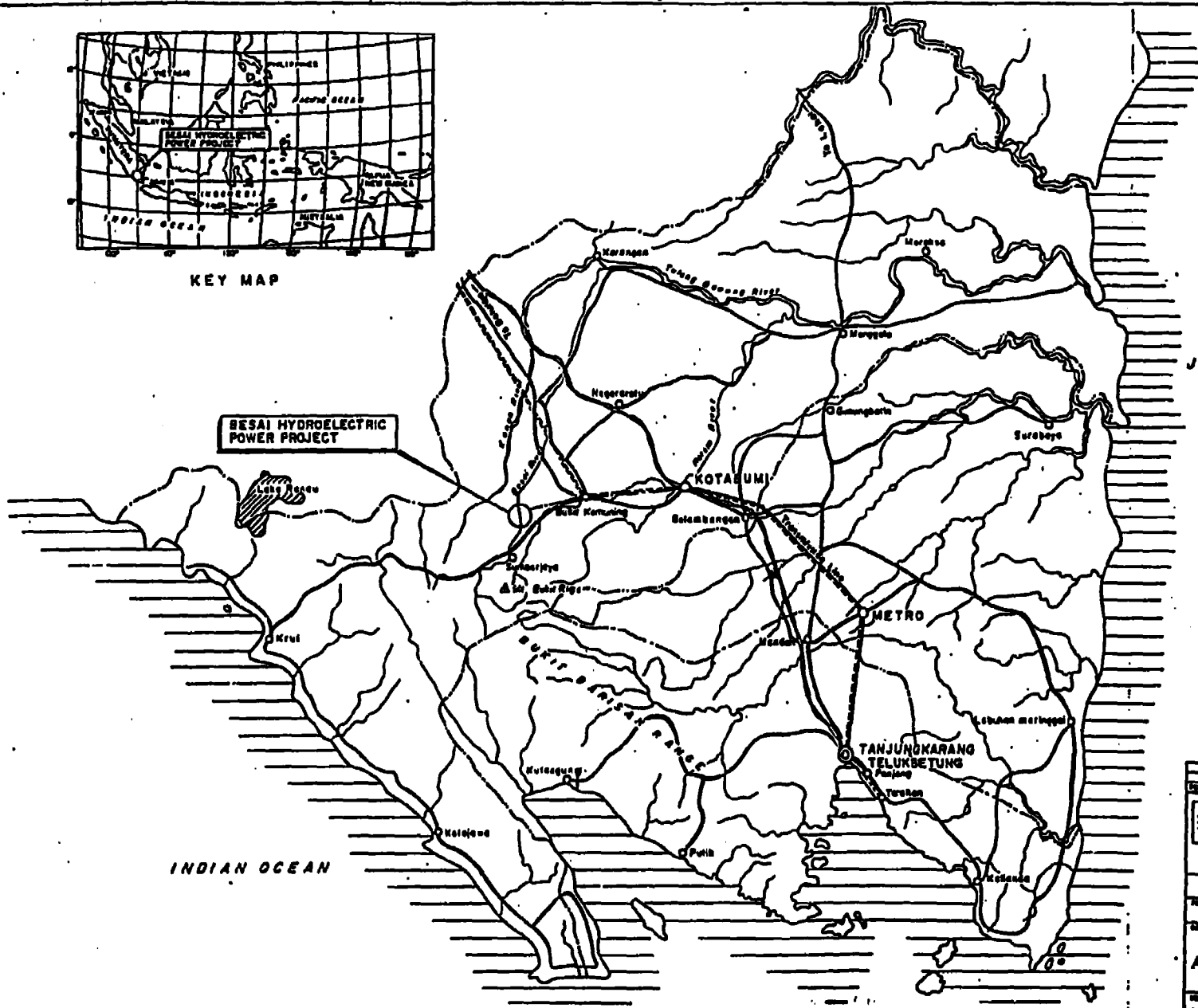
**List of Land owners Affected by the Inundation of Besal HPP Project,
Village of Waypetal, Sub-District (Kecamatan) of Sumber Jaya, West Lampung**

No	N A M E	TOTAL AREA TO BE INUNDATED (Ha)	LAND USE	NON AFFECTED LAND (Ha)	COMPENSATION PAYMENT SCHEDULE
108	Umar Nawl	1.00	Estate	1.00	June-July, 1994
		1.00	Wet rice		June-July, 1994
109	H. Abdul Hanan	1.75	Wet rice	0.00	June-July, 1994
110	Nangsina	0.50	Wet rice	0.00	June-July, 1994
111	Ridi	0.50	Wet rice	1.00	June-July, 1994
112	Nurdik	0.50	Wet rice	1.00	June-July, 1994
113	H. Salam	0.50	Wet rice	0.50	June-July, 1994
114	H. Ibrahim	1.00	Wet rice	0.00	June-July, 1994
		1.00	Estate		June-July, 1994
115	Sukardi	2.50	Wet rice	0.00	June-July, 1994
116	Cek Nani	0.50	Wet rice	1.00	June-July, 1994
117	Usman	1.00	Wet rice	1.00	June-July, 1994
118	Dakrun	1.25	Wet rice	0.00	June-July, 1994
119	Nuri	0.25	Wet rice	0.50	June-July, 1994
120	Bosrah	0.50	Wet rice	0.00	June-July, 1994
121	Sofyan	0.50	Wet rice	0.00	June-July, 1994
122	A. Azis	1.00	Wet rice	0.00	June-July, 1994
123	Mawi	0.75	Wet rice	0.00	June-July, 1994
124	Jaman	0.50	Wet rice	0.25	June-July, 1994
125	Said Aman	1.00	Wet rice	5.00	June-July, 1994
126	Idris	0.50	Estate	0.00	June-July, 1994
127	A. Budin	0.75	Estate	2.00	June-July, 1994
128	Sarjo	0.25	Wet rice	0.00	June-July, 1994
129	Urnen	0.25	Wet rice	0.00	June-July, 1994
	Sub-Total	19.25		13.25	
	Total	66.23		65.08	

Note: The acreage stated in this table is rough estimation is not intended for land compensation.




KEY MAP

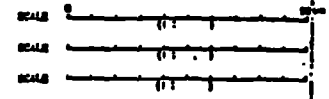


JAVA SEA

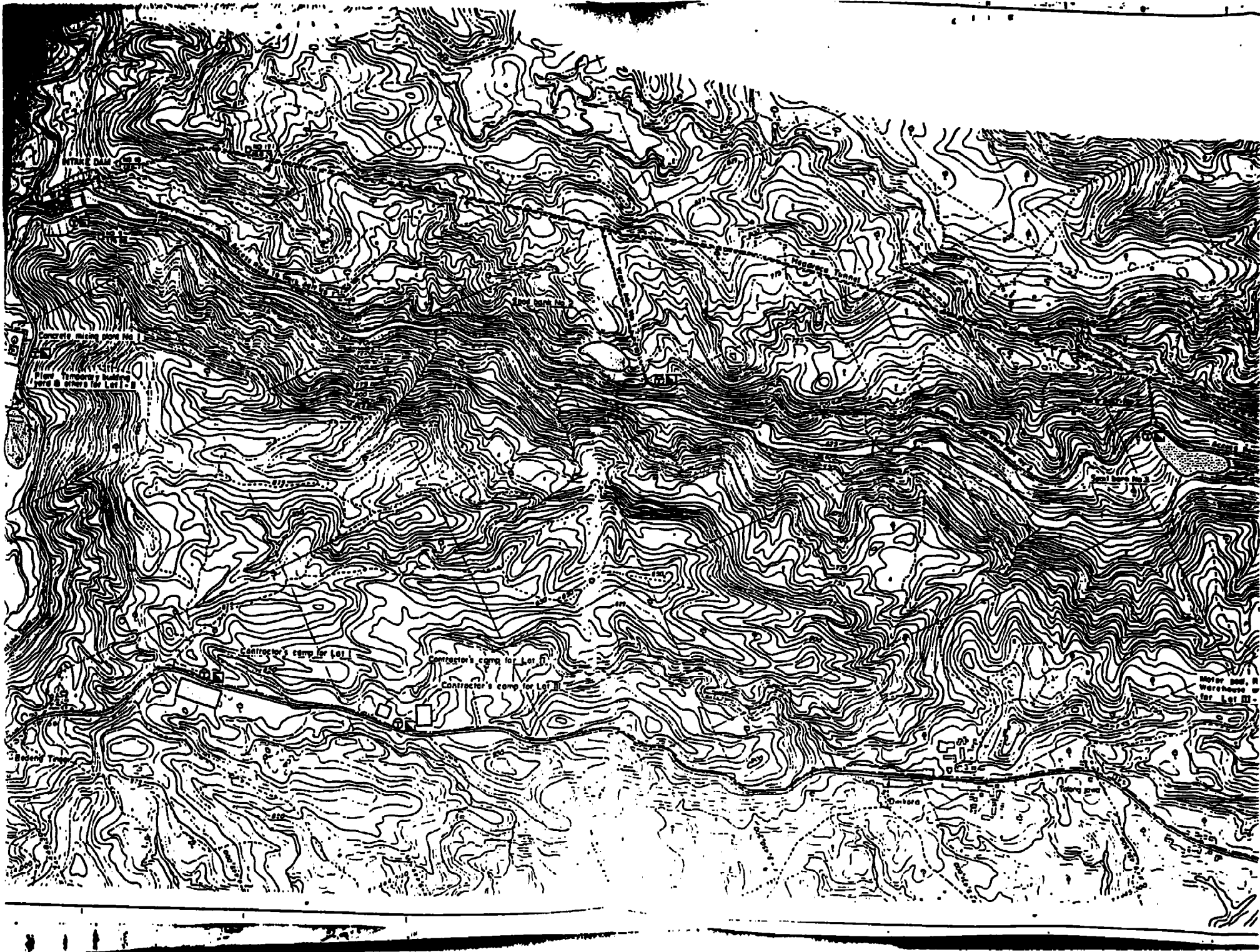
INDIAN OCEAN

DWG. - 1

NO. SURVEY	CHANGING	REVISION	DATE
 PERUSAHAAN UMUM LISTRIK NEGARA AGENCY OF THE MINISTRY OF POWER AND ENERGY OF THE GOVERNMENT OF THE REPUBLIC OF INDONESIA ENGINEERING SERVICES CENTER (PPE) PT. BINA KARYA a subsidiary of NIPPON KAIEN CO. LTD. THE TITLE BESAI HYDROELECTRIC POWER PROJECT DRAWING TITLE GENERAL Annex 4. LOCATION MAP			
DESIGNED BY	DRAWN BY		
CHECKED BY	APPROVED BY		
DATE	PROJECT	STATUS	PROJECT
NO.			







MOTOR CAMP

Contractor's camp for Lot I
Contractor's camp for Lot II
Contractor's camp for Lot III

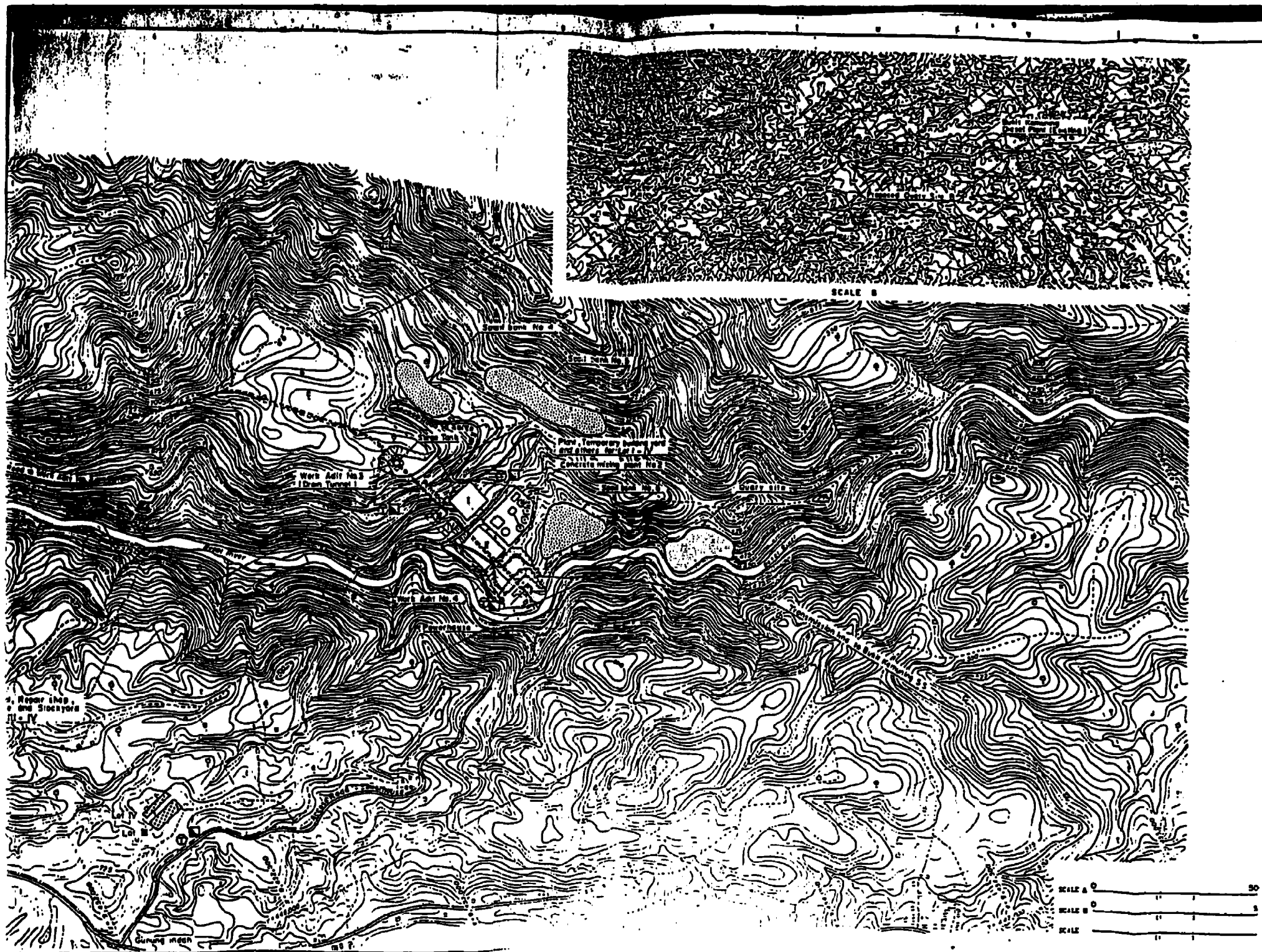
Contractor's camp for Lot I

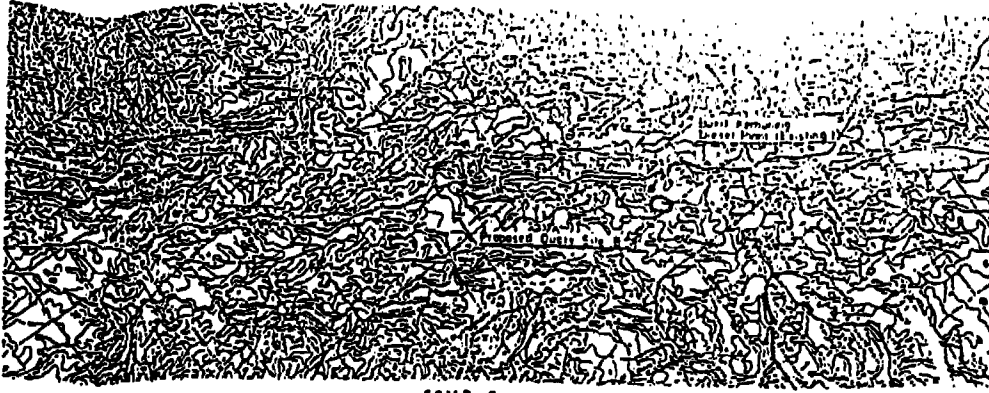
Contractor's camp for Lot II

Contractor's camp for Lot III

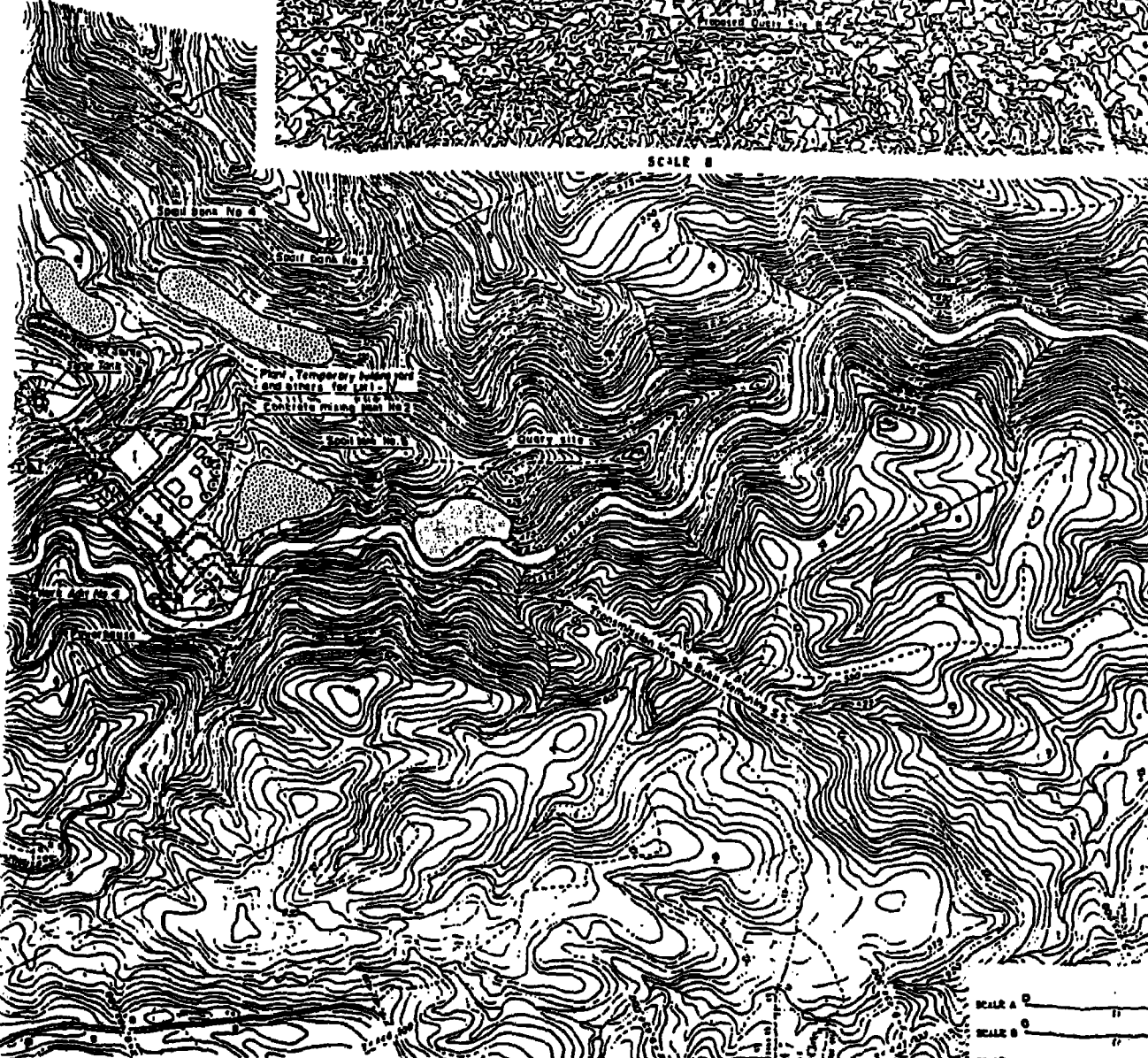
Dumbora

MOTOR CAMP
Contractor's camp for Lot III





SCALE B



SCALE A

LEGEND:

- Low voltage terminal of Transformer
- ⊙ Terminal box of Telephone System

PERUSAHAAN UNUM LISTRIK NEGARA	
AGENCY OF THE MINISTRY OF MINES AND ENERGY OF THE GOVERNMENT OF THE REPUBLIC INDONESIA	
ENGINEERING SERVICES CENTER (PPE)	
PT. ENDRA KARYA & ASSOCIATES PTE. LTD. SUPPER SOEI CO. LTD.	
BESAI HYDROELECTRIC POWER PROJECT	
Annex 5: GENERAL ALLOTTED AREA AND CONSTRUCTION FACILITIES	
REVISION NO. PJ 252 / 1957 / 80.	REVISION NO. 1202 sub. 1153 10000 01-1
APPROVED BY: [Signature]	APPROVED BY: [Signature]
SCALE: [Signature]	SCALE: [Signature]
DATE: 15/7/61	DATE: 15/7/61