

**JBIC SPECIAL ASSISTANCE FOR PROJECT SUSTAINABILITY (SAPS)
FOR
KOTAPANJANG HYDROELECTRIC POWER
AND ASSOCIATED TRANSMISSION LINE PROJECT**

INTERIM REPORT

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Location Map of Resettled Villages	
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CHAPTER 1 BACKGROUND OF THE STUDY

1.1 Background of the Study

The Kotapanjang Hydroelectric Power and Associated Transmission Line Project (I) and (II) (hereinafter called the Project) was implemented from June 1992 to November 1997 using yen-loan scheme financed by the Japan Bank for International cooperation (JBIC). The basic policies of the Government of Indonesia (GOI) for electric power source development in 1990 were: 1) shifting power from petroleum to non-petroleum sources; 2) facilitation and improvement of transmission lines; and 3) rural electrification. Based on the policy of the GOI, the Project was implemented aiming at economic development, improvement of rural electrification, stabilization of power supply in the region and efficient operation of the plant. For implementation of the Project, the Loan Agreements IP-358 and IP-374 between GOI and JBIC were concluded on December 14, 1990 and September 25, 1991 respectively. The plant has been in commercial operation since November 1998.

In the implementation of the Project, 4,886 Project Affected Families (PAFs) of 10 villages had to relocate since those villages were submerged after the construction of the dam. The resettlement of the PAFs was completed on February 1996. It was however, reported that there were still unsolved issues on social and natural environmental aspects, especially relating to PAFs. To examine the situation from a neutral point of view, an independent local consultant was hired by JBIC to conduct a study on the Project, and this was completed on April 2001. Based on the results of the study, JBIC found that there were some crucial issues that should be solved as soon as possible. Therefore, JBIC requested BAPPENAS and the relevant agencies to prepare an action plan to solve these issues.

As a result of JBIC's request, it was decided that the local governments, West Sumatra Province and Riau Province, as well as PLN prepare an action plan on the PAFs and environmental issues. On the other hand, JBIC decided to assist the finalization of the action plan through a Special Assistance for Project Sustainability (SPAS) study. In addition, to support finalization of the action plan, the SAPS study will collect data for ex-post evaluation of the project to be carried out by the third party evaluators.

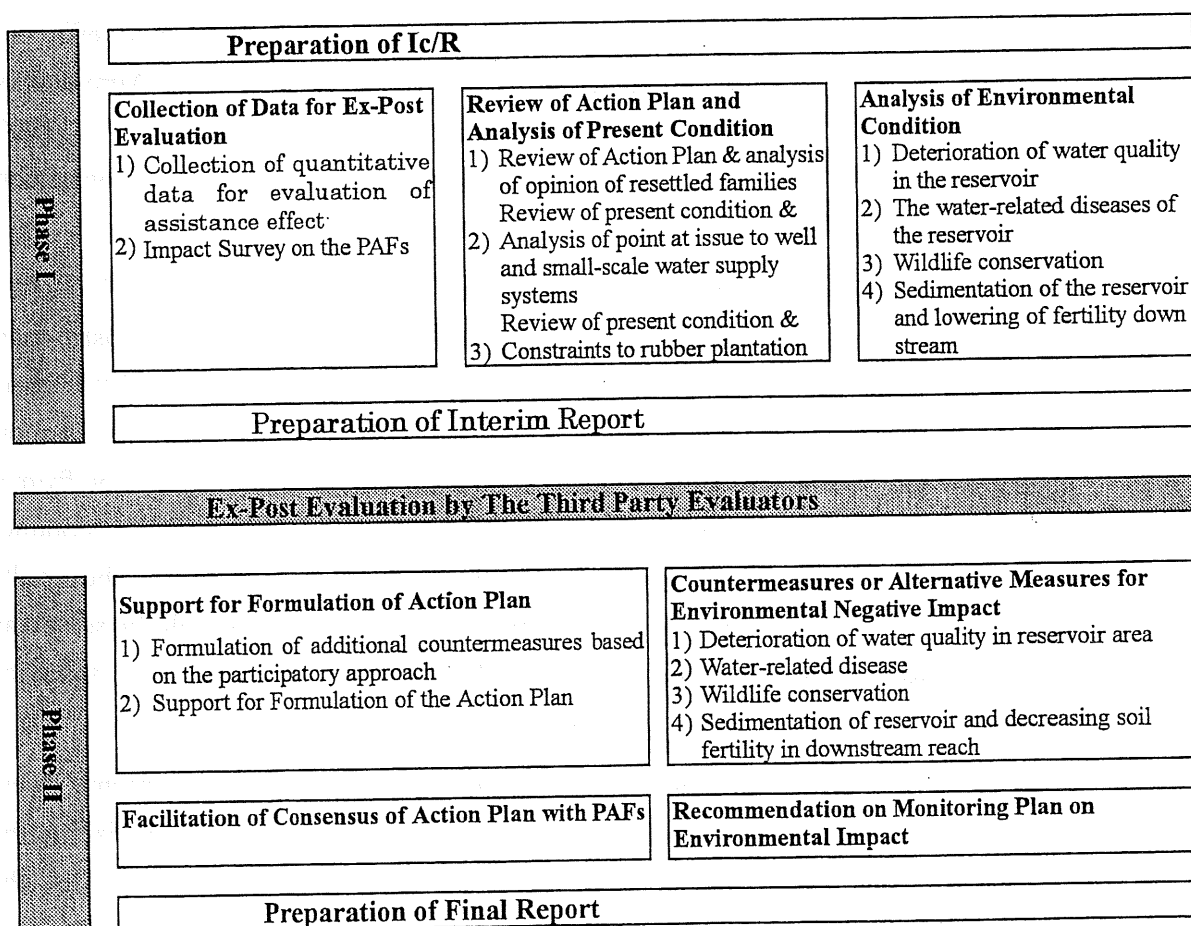
1.2 Objective of the Study

The objectives of the SAPS Study are to: i) carry out additional study on the Project in terms of ex-post evaluation of the project, action plan on PAFs and environment,

and ii) prepare recommendations based on the result of additional study to ensure the project sustainability, as well as to improve post-project management and operation.

1.3 Outline of the Study

This SAPS Study would be implemented for about eight (8) months from the end of February to the middle of October 2002. The SAPS Study consists of two phases, namely, Phase I (March-April) and Phase II (June-October). Between Phase I and II, ex-post evaluation will be carried out by the third party evaluators based on the data collected by the SAPS Team. The workflow for the SAPS Study is summarized as follows:



The terms of reference for the SAPS Study in each phase are summarized as follows:

(Phase I)

Additional Data Collection for Ex-Post Evaluation

- (1) To collect quantitative data to evaluate the project effect according to the following DAC rules (i) Relevance, ii) Efficiency, iii) Effectiveness, iv) Impact, and v) Sustainability), and
- (2) To collect additional and/or updated data to evaluate the impact of the Project on PAFs through a social survey and questioner surveys.

Resettlement and PAFs

(1) Water Supply:

- To review small-scale water supply facilities or wells prepared in each resettled village;
- To review and analyze the problems in the operation and maintenance system(O/M) for small-scale water supply facilities; and
- To review the countermeasures already implemented by the GOI.

(2) Rubber Plantations:

- To review rubber plantations in each resettled village;
- To review and analyze problems in the O/M for the rubber plantations and to assess the O/M capability of the resettled families; and
- To review the countermeasures already implemented by the GOI;

Environment

(1) Water Quality in the reservoir:

- To implement water quality analysis in the reservoir by utilizing the existing data; and
- To assess the environmental impact of trees left submerged without being cut off.

(2) Water related diseases:

- To assess the epidemiological impact of water related diseases such as malaria and snail fever caused by the shallows in the reservoir.

(3) Conservation of wildlife:

- To examine the present monitoring system for wildlife prepared by the GOI; and
- To appraise the relevancy of the said monitoring program.

(4) Sedimentation in the reservoir and lowering fertility in the downstream reaches:

- To examine the current conditions of the sedimentation in the reservoir and to

- make cause and effect analysis on the sedimentation; and
- To assess the impact on the fertility in the downstream reaches of the reservoir .

Preparation of Interim Report

(Phase II)

Resettlement and PAFs

(1) Action Plan on PAFs:

- To assist the finalization of the action plan on the basis of discussions and mutual consent between the PAFs and the GOI, including the Central and Local Governments, and PLN.

(2) Water Supply:

- To recommend additional countermeasures and provide advice for the improvement of O/M based on the above reviews; and
- To recommend countermeasures, especially for those villages that face more serious problems, which should reflect on the willingness of PAFs by means of PRA and so on.

(3) Rubber Plantation:

- To recommend additional countermeasures and provide advice for the improvement of O/M based on the above reviews;
- To recommend countermeasures especially for those villages that face more serious problems, which should reflect on the willingness of PAFs by means of PRA and so on.

Environment

(1) Water Quality in the reservoir:

- To forecast future water quality deterioration in the reservoir and recommend countermeasures if negative impacts are expected; and
- To recommend a water quality monitoring system.

(2) Water related diseases:

- To recommend alternative countermeasures and monitoring system.

(3) Conservation of wildlife:

- To recommend alternative countermeasures for the conservation of wildlife on the basis of the results of the monitoring.

(4) Sedimentation in the reservoir and lowering fertility in the downstream reaches:

- To recommend countermeasures for sedimentation in the reservoir; and
- To recommend countermeasures for lowering fertility in the downstream reaches.

Preparation of Final Report

1.4 Major Activities Made in Phase I

The field survey in phase I of the SAPS Study is commenced on 28th February 2002 and the interim report based on the result of phase I is submitted to JBIC on 30th April 2002. The following activities and discussions have been mainly made in Phase I.

Date	Major Activity	Matters Discussed
29, March (Thu)	<ul style="list-style-type: none"> • Negotiation with P.T. Bitu Bina Semesta 	<ul style="list-style-type: none"> • Discussion of Impact Survey and signing contract
01, March (Fri)	<ul style="list-style-type: none"> • Meeting with JBIC JKT Office • Kick-off Meeting with Central Government 	<ul style="list-style-type: none"> • Discussion with content of study • Explanation of IC/R and request of support to the SAPS Study
02, March (Sat)	<ul style="list-style-type: none"> • Preparatory work of Impact Survey 	
03, March (Sun)	<ul style="list-style-type: none"> • Preparation of contract with Bina Swadaya (NGO) • Preparatory work of Impact Survey 	
04, March (Mon)	<ul style="list-style-type: none"> • Meeting with head office of PLN (PERSERO) • Meeting with TEPSCO • Meeting with Ministry of Health and WHO • Negotiation with Bina Swadaya (NGO) 	<ul style="list-style-type: none"> • Collection of data relating to Post Evaluation • Collection of information relating to Health • Signing contract
05, March (Tue)	<ul style="list-style-type: none"> • Meeting with PLN Sector Pekanbaru • Meeting with Bitu Bina Semesta and Riau and Andras Universities for Impact Survey • Meeting with PLN Region III, Padan 	<ul style="list-style-type: none"> • Explanation of IC/R • Discussion of Impact Survey • Collection of data relating to Post Evaluation
06, March (Wed)	<ul style="list-style-type: none"> • Kick-Off Meeting with Local Government of Riau Province • Meeting with Department of Health, West Sumatera • Meeting with Bina Swadaya (NGO) • Meeting with PLN UPB 	<ul style="list-style-type: none"> • Explanation of IC/R and request of support to the SAPS Study • Collection of information relating to Health • Explanation of PRA meeting • Collection of data relating to Post Evaluation
07, March (Thu)	<ul style="list-style-type: none"> • Meeting with Provincial and Regency Governments • Site Survey • Meeting with PLN Sector Padang and Bukittinggi • 	<ul style="list-style-type: none"> • Explanation and discussion of impact survey • Collection of data relating to Post Evaluation

08, March (Fri)	<ul style="list-style-type: none"> • Kick-Off Meeting with Local Government of West Sumatera Province • Site Survey • Implementation of Impact Survey 	<ul style="list-style-type: none"> • Explanation of IC/R and request of support to the SAPS Study • Explanation of impact survey
09, March (Sat)	<ul style="list-style-type: none"> • Meeting with 50 Kota regency • Site Survey • Implementation of Impact Survey 	<ul style="list-style-type: none"> • Discussion of Action Plan
10, March (Sun)	<ul style="list-style-type: none"> • Implementation of Impact Survey • Site Survey 	
11, March (Mon)	<ul style="list-style-type: none"> • Meeting with JBIC Mission • Implementation of Impact Survey • Meeting with PLN Pekanbaru • Meeting with PLN Site Office • Meeting with Department of Health, Riau Province 	<ul style="list-style-type: none"> • Discussion of schedule • Collection of data relating to project and dam operation • Collection of data relating to health
12, March (Tue)	<ul style="list-style-type: none"> • Discussion with BAPEDA, Riau Province • Implementation of Impact Survey • Site Survey 	<ul style="list-style-type: none"> • Collection of information relating to Action Plan
13, March (Wed)	<ul style="list-style-type: none"> • Meeting with Bina Swadaya (NGO) • Meeting with JBIC Mission • Discussion with Andras University • Meeting with PLN Sector Pekanbaru 	<ul style="list-style-type: none"> • Discussion of schedule • Report of progress and fact-findings relating to health • Confirmation of progress of Impact Survey • Collection of data/information relating to environment
14, March (Thu)	<ul style="list-style-type: none"> • Meeting with the third evaluation group • Site Survey and data collection • Implementation of Impact Survey • Meeting with Public Work, Riau Province • Meeting with Department of Agriculture, Riau Province 	<ul style="list-style-type: none"> • Discussion of SAPS Study in terms of Post-Evaluation, Impact Survey and Environment • Collection of data/information relating to water supply • Collection of data/information relating to rubber plantation
15, March (Fri)	<ul style="list-style-type: none"> • Implementation of Impact Survey • Site survey and data collection • Internal Meeting 	
16, March (Sat)	<ul style="list-style-type: none"> • Discussion with BAPEDA, Riau Province • Implementation of Impact Survey • Site Survey 	<ul style="list-style-type: none"> • Collection of data relating to provincial budget

17 , March (Sun)	<ul style="list-style-type: none"> • Meeting with Bina Swadaya (NGO) 	<ul style="list-style-type: none"> • Discussion of detailed content of field assessment
18 , March (Mon)	<ul style="list-style-type: none"> • Meeting with PLN Sector Pekanbaru • Implementation of Impact Survey • Preparation of Table of Content (draft) 	<ul style="list-style-type: none"> • Collection of data relating to post evaluation and environment
19 , March (Tue)	<ul style="list-style-type: none"> • Meeting with BAPEDA, PU, Transmigration Office of Kampar regency • Implementation of Impact Survey • Site survey and data collection 	<ul style="list-style-type: none"> • Collection of data relating to Action Plan
20 , March (Wed)	<ul style="list-style-type: none"> • Discussion with Tanjung Pauh village • Implementation of Impact Survey • Site survey and data collection 	<ul style="list-style-type: none"> • Explanation of Village Assessment made by Bina Swadaya (NGO)
21 , March (Thu)	<ul style="list-style-type: none"> • Meeting with Provincial Government and Riau University • Site survey and data collection • Completion of field activities of Impact Survey 	<ul style="list-style-type: none"> • Discussion of program of Feedback Workshop •
22 , March (Fri)	<ul style="list-style-type: none"> • Meeting with BBS and Riau University • Site survey and data collection 	<ul style="list-style-type: none"> • Discussion of program of Feedback Workshop •
23 , March (Sat)	<ul style="list-style-type: none"> • Meeting with BPN of Kampar Regency • Site survey and data collection 	<ul style="list-style-type: none"> • Collection of data relating to Action Plan
24 , March (Sun)	<ul style="list-style-type: none"> • Site Survey 	
25, March (Mon)	<ul style="list-style-type: none"> • Meeting with BAPPEDA of West Sumatra Province • Meeting with BBS and Andres University • Site survey and data collection 	<ul style="list-style-type: none"> • Collection of data relating to Action Plan and discussion of Feedback Workshop • Discussion of program of Feedback Workshop, and progress of Impact Survey •
26, March (Tue)	<ul style="list-style-type: none"> • Feedback Workshop in West Sumatera Province • Site survey and data collection 	<ul style="list-style-type: none"> • Discussion amongst stakeholders
27 , March (Wed)	<ul style="list-style-type: none"> • Meeting with BAPPEDA of Lima Puluah Kota Regency • Site survey and data collection • Discussion with BBS and Riau University 	<ul style="list-style-type: none"> • Discussion of implementation plan of SAPS Study in Phase II • Confirmation of preparatory works for workshop

28 , March (Thu)	<ul style="list-style-type: none"> • Feedback Workshop in Riau province • Meeting with Bina Swadaya (NGO) • Site survey and data collection • 	<ul style="list-style-type: none"> • Discussion amongst stakeholders • Confirmation of progress of village assessment
29 , March (Fri)	<ul style="list-style-type: none"> • Internal Meeting • Site survey <p>(National Holiday)</p>	<ul style="list-style-type: none"> • Confirmation of study progress of each expert
30 , March (Sat)	<ul style="list-style-type: none"> • Discussion with BAPEDA of Kampar Regency • Site Survey 	<ul style="list-style-type: none"> • Discussion of Implementation plan of SAPS Study in Phase II
31 , March (Sun)	<ul style="list-style-type: none"> • Preparation of Progress Report III 	<ul style="list-style-type: none"> •

CHAPTER 2 BACKGROUND OF THE PROJECT

2.1 Background of the Project

2.1.1 Historical Background

In the 1980s, the installed capacity of electric supply in Region III, which contains Riau and West Sumatra Provinces, was 285.1 MW. This accounted for 19.6% of the total supply to Sumatra and 3.3% of the entire Indonesian supply. The breakdown was 117.3 MW (41%) for Riau and 167.8 MW (59%) for West Sumatra. Along with the rapid economic development in the region, the electricity demand increased at 20.2% per annum on average from 1983 to 1988. It exceeded the average in Sumatra (14.1%) and Indonesia (20.0%) for the same period. In addition, the demand in the region was expected to increase rapidly over the ensuing five years. PLN had forecast that the demand in the region would increase by 24.1% per annum from 1988 to 1999, and the demand was expected to reach 1,178.9 GWh in West Sumatra and 568.5 GWh in Riau. The peak load in the region was expected to be 387 MW in 1999.

In 1988, power sources in West Sumatra were: hydroelectricity, 46.9%; gas turbine, 25.7%; and Diesel, 27.4%. Riau depended completely on diesel. A grid transmission line system was developed only in Padang City, the capital city of West Sumatra Province, and its vicinity. On the other hand, there was no grid transmission line system in Riau, and electricity was supplied through small diesel power plants coupled with isolated distribution systems. As a consequence, the village electrification ratio in Riau Province was only 12.3% at that time, which was the lowest in Sumatra (24.9% on average).

The higher quality and lower tariff of PLN's electricity supply provides a strong incentive for industrial and commercial consumers to receive power from PLN rather than to generate their own power. However, PLN was unable to satisfy demand in Riau Province. The region did not have enough natural gas or geothermal resources for a power station. The coal field in the region was supposed to supply coal for the newly constructed Ombilin power station. Apart from that there were no reserves for another power station. In addition, an oil or diesel-fired power station would have been against the Government's policy of reducing fuel oil consumption. In order to meet the increasing demand in the region, particularly in Riau, and to obtain maximum benefit from water resources in the region, PLN decided to construct the Kotapanjang Hydroelectric Power Station, with capacity of 114 MW, along the middle reaches of the Kampar Kanan River.

Besides the power station, PLN planned to construct associated transmission lines, which connected West Sumatra, Kotapanjang hydroelectric power station, and Riau. These transmissions were expected to ameliorate the demand-supply balance in Riau by transmitting generated electricity from Kotapanjang Hydroelectric Power Station and surplus electricity from West Sumatra.

In consideration of the necessity and urgency of the Project, the Government of Indonesia (GOI) requested the Government of Japan (GOJ) to carry out a feasibility study for the Project in June 1981. As a result of the feasibility study, which started in January 1982 and was completed in March 1984, the feasibility of the Project was confirmed. Detailed design works and preparation of the tender and contract documents commenced in February 1987 and were completed in August 1988.

Following the detailed design works, the former Overseas Economic Development Fund of Japan (OECF) and the GOI concluded the loan agreements for the Kotapanjang Hydroelectric Power Plant and Associated Transmission Line Project I & II. (These are Loan Agreement Number IP-358 dated 14th December 1990, and IP-374 dated 25th September 1991.) An outline of the loan agreements is summarized below:

Table Outline of the Loan Agreements

	Phase-1 (IP-358)	Phase-2 (IP-374)
Loan Amount	12,500 million Yen	17,525 million Yen
Loan Disbursed Amount	10,626 million Yen	12,184 million Yen
Date of Exchange of Notes	December 1990	September 1991
Date of Loan Agreement	December 1990	September 1991
Terms and Conditions		
Interest Rate	2.5 % p.a.	2.6 % p.a.
Repayment Period (Grace Period)	30 years (10 years)	30 years (10 years)
Procurement	Partially Untied	Partially Untied
Final Disbursement Date	December 1997	September 1999

Source: Project Completion Report, PLN, Oct. 2001

After evaluation of the tenders and other necessary processes followed by the GOI, the construction of the Project was undertaken from June 1992 to November 1997. The commercial operation of power plantation commenced in November 1998. The historical background of the Project is illustrated in Figure 2.1.

2.1.2 Project Purpose

The Project purpose defined in the Loan Agreement No.IP-358 and IP-374 is to supply electric power to cope with rapidly growing demand in Riau and West Sumatra Provinces and to increase electrification levels and improve the standard of living of the people in the provinces. This purpose has not been modified since the Project was completed.

2.1.3 Project Scope

The Project was carried out in two phases. Phase I (IP-358) included civil works for the construction of the dam, land acquisition and resettlement. Phase II (IP-374) included civil works for the construction of transmission lines, substations and others. At the time of original appraisal, the total project cost was estimated at 15,508 million yen and 20,618 million yen equivalent, with 79% and 85% of the total project cost (12,500 million yen and 17,525 million yen equivalent) being covered by the Japanese ODA loan. A brief outline of the project scope is shown below:

A. Construction of Kotapanjang Hydroelectric Power Plant

1) Hydroelectric Power Plant

Maximum Output: 114MW (38 MW x 3 Units)

Maximum Discharge: 348 m³/s

Annual Generated Energy: 542 GWh

Annual Firm Energy: 396.3 GWh

Secondary Energy: 145.7 GWh

2) Reservoir

Reservoir Capacity: 1,547 million m³

Active Storage Capacity of Reservoir: 1,040 million m³

High Water Level: 85.0 m, Normal Water Level: 80.6 m, Low Water Level:
73.5 m

Annual Average Inflow: 184.4 m³/s

Dam Type: Concrete Gravity (Height 58 m, Crest length 257.5m)

Effective Head: 38.1 m

Surface area: 124 m²

3) Compensation and Resettlement

Compensation and relocation of 10 villages (4,886 families)

B. Construction of transmission line voltage

Kotapanjang –Payakumbuh (West Sumatra, 150 kV, 83km)

Kotapanjang –Pekanbaru (Riau, 150 kV, 70km)

C. Construction of Substations

New Construction: Bangkinang Substation, and Pekanbaru Substation

Connecting Transmission lines to Payakumbuh Substation (dam site)

D. Consulting Services

2.2 Background to the Biogeophysical (*i.e.* non-social) Issues

Environmental studies began in 1982 during the feasibility study and a draft EIA was issued in 1983 (Institute for Regional Economic Research, 1983). The Final Report, which included some additional studies and an Environmental Management and Monitoring Plan, was completed in 1984. It was approved by the Central Environmental Committee of the Government of Indonesia in 1989.

The Environmental Management Plan (RKL) and Environmental Monitoring Plan (RPL) were drawn up by Riau University. These plans were aimed at specifying measures to avoid or minimize negative impacts and to maximize or maintain the benefits of the Project. They also identified the agencies that would be responsible for implementation (Table 2.1).

It is noted that environmental management in Indonesia is a cross-sectoral responsibility rather than sectoral or project based. There is no national environmental management authority with the mandate and capacity to supervise and monitor implementation at a project level. PLN is able to request action by sectoral departments in support of the RKL and RPL, but cannot compel them to take action.

Implementation of the Plans began in 1994. A review of the work to date, and recommendations for further work, were made in September 2001 by the Environment Research Center, Riau University, the institution contracted by PLN to undertake monitoring activities on their behalf.

Biogeophysical (*i.e.* non-social) issues identified in the Environmental Monitoring and Management Plans are listed in the Table 2.2. The action taken, based on a review by the Environment Research Centre, Riau University (PLN, 2001), is summarized in Table 2.3.

2.3 Background of the Resettlement Program

2.3.1 Land Acquisition

The implementation of land acquisition for the Project was carried out under the following conditions:

- The legal basis for land acquisition is PERMENDAGRI 1975 (Regulation of Ministry of Internal Affairs, 1975).
- The area subject to compensation was limited to the planned reservoir area with maximum elevation of +85 m amsl. Other areas close to the reservoir boundaries were to be considered case by case.
- The matters to be compensated and criteria for doing so were to be based on the results of discussion between the GOI and the representatives of the PAFs.
- The basic unit price of each object and criteria for setting them were to be based on discussions between the GOI and the representatives of the PAFs.
- The field inventory of each PAF property was to be witnessed and approved by the property owner.
- The compensation payment for each PAF property was to be paid in cash (in the form of a cheque) to the owner.
- After compensation, the owners were to still have the right to utilize their building materials, agriculture fields, plantations, fishpond etc. up until the properties would be destroyed by the project activities.
- The main public facilities that would be submerged, such as schools, offices, markets etc., were to be constructed at the new resettlement location by the Regency Governments.

The agreements on compensation were made between the GOI and representatives of the PAFs of Kampar Regency on 20th December 1990 and Lima Puluh Kota Regency on 18 January 1991. Subsequently, the agreements on basic unit prices were made between the GOI and representatives of the PAFs of Kampar Regency on 14th April 1991 and Lima Puluh Kota Regency on 19th April 1991.

The first payment of compensation was made in April 1992 for Pulau Gadang village. It then continued village by village up to December 1996. Most of the compensation payments have now been settled. According to the Project Completion Report (PCR), the progress of compensation payments is summarized below:

Table Progress of Compensation Payment

	Paid by PLN	Unpaid by PLN	Total
Kampar Regency	23,642.0 ha	64.5 ha	23,706.5 ha
50 Kota Regency	2,080.0 ha	0.0 ha	2,080.0 ha
Total	25,722.0 ha	64.5 ha	25,786.5 ha

Source: Project Competition Report, PLN, Oct. 2001

Note: The reasons of unpaid compensation are: i) disagreement of compensation amount; and ii) the compensation payment not taken by the land owners.

In addition, it is reported in the PCR that after the impoundment was completed, some owners made compensation claims to PLN for areas that had been isolated by the reservoir and for other unsubmerged areas in Tanjung, Gunung Bungsu, Tanjung Pauh and Tanjung Balit. These will be solved case by case for each location. The GOI has discussed the matter through the national environmental coordination meeting, and no decision has been made in the meeting so far.

2.3.2 Resettlement Program

In 1990 and 1991, the University of Riau, in cooperation with the Regional Governments, conducted a census of the PAFs to confirm acceptance of relocation and relocation pattern. According to the results of the census, 100% of the PAFs agreed to relocate from the original villages. The number of PAFs and resettlement pattern is summarized below:

Table Resettlement Pattern of PAFs (Unit: families)

	Free*	Rubber Plantation	Oil Palm Plantation	Total
Kampar Regency	128	3,313	706	4,152
50 Kota Regency	0	734	0	734
Total	128	4,047	706	4,886

Source: Project Competition Report, PLN, Oct. 2001

Note*: 128 PAFs rejected to relocate to a transmigration area of rubber plantation and chose instead to relocate to an unsubmerged area near the original village, namely Pongkai Isiqumah.

In the resettlement program, the GOI provided certain land, facilities, and support to each PAF, including public facilities for each village. The facilities and support provided in the resettlement program are shown in Figure 2.1 and summarized below:

- a) Facilities based on the standard for public transmigration program

b) Additional facilities and support

- Additional facilities for rural electrification, pavement of main road, permanent bridges, cement floor for house, and water supply facility;
- Additional living support for 2 years;
- Maintenance of rubber plant for one year;
- Elementary schools and junior high school at Muara Mahat; and
- Traditional markets.

The historical chart of the rehabilitation program is illustrated in Table 2.4. The construction of new resettlement villages commenced in the fiscal year 1990 and was completed in fiscal year 1995. Relocation of the PAFs of Pulau Gadang commenced in August 1992 and then continued village by village until February 1996. The following issues and actions were reported from the implementation of the resettlement program:

- Only 15-20% of the rubber plantations were successfully grown in both Kampar and Lima Puluh Kota Regencies.
- To solve the above issue on rubber plantations, it was planned that the rubber plantation area would be used as PIR-Palm Oil under the management of PIR company in 1997. However, the transfer of forest rights was not approved.
- Kampar Regency rehabilitated the rubber plantation area in 1999 and 2000, while the plantations in Lima Puluh Kota Regency were rehabilitated in 1998 and 1999. However, most of the rehabilitated rubber plantation of Tanjung Pauh and Tanjung Balit was burned by wildfire and become useless.
- Due to non-success of the rubber plantations, the GOI provided the PAFs with additional living support for 12 months from April 1997 in Kampar Regency and for 6 months from February 1998 in Lima Puluh Kota Regency.
- In 1995, it was found that most of the public hydrants were not working due to lack of maintenance and insufficient water. Rehabilitation or new construction of water supply facilities was undertaken in 1997 and 1998.
- To improve the economic situation of the PAFs, the roads and bridges were rehabilitated or improved in 1997 and 1998.

Table 2.1

Lead Agencies Responsible for Implementing the Environmental Management and Monitoring Plans.

Issue	Lead Agencies
Water pollution: lead	Department of Mines and Energy
Water pollution: removal of vegetation	PLN
Water quality monitoring	PLN
Forest protection	Department of Forestry
Erosion control	Department of Forestry; Local Government
Wildlife conservation and management	Department of Forestry
Fish conservation	Department of Fisheries; universities
Fisheries development	Department of Fisheries
Disease vector control	PLN; Department of Fisheries
Downstream impact mitigation and development	Public Works Department
Land use planning	Provincial government/BAPPEDA

Source: Riau University. Environmental Management Plan (RKL) / Environmental Monitoring Plan (RPL)

Table 2.2

Actions proposed to monitor and manage biogeophysical impacts of the Kotapanjang HPP

Item	Issue	Management Plan	Monitoring Plan
Water quality	Pollution from flooded lead mines.	Revoke lead mining license.	Monitor water quality.
	Decomposition of inundated biomass.	Remove vegetation from reservoir area.	Monitor water quality. Monitor removal of biomass from the reservoir. Monitor arrival of biomass and aquatic weeds at inflows.
Sedimentation	Reduced life of the reservoir.	Restore land and stop erosion near resettlement villages. Train local farmers in soil conservation. Preserve forest areas where slope > 40%. Undertake reforestation.	Monitor sedimentation along cross-sections of the reservoir.
Vegetation	Encroachment of forests along new roads.	Regulate against settlement. Enforce regulations.	Monitor encroachment.
	Infestation of aquatic weeds in reservoir.	Clear weeds from reservoir. Check water quality to assess risk of infestation. Restrict the use of fertilizer in the catchment.	
Wildlife	Population changes due to loss of habitat.	Relocate elephants.	Monitor changes to plankton, fish and vegetation.
	Prevention of fish migration.	Restock with cultured fry.	
	Fishery development	Prepare project proposals for development.	
	Increase in disease vectors (malaria mosquitoes and bilharzia snails)	Introduce fish to control mosquito larvae and snails	Monitor incidence of malaria and bilharzia
Land use planning	Optimization of potential benefits and reduction of project impacts on landscape and natural resources.	Prepare a tourism development plan. Prepare a reforestation plan. Restrict resettlement areas to land with slopes of < 15%. Reforest and conserve areas with slopes > 40%.	

Suorce : TEPSCO, 1988a. Environmental Management Plan (RKL). Volume 32, Detailed Design Report, Kotapanjang Hydroelectric Power Project. Agency of the Ministry of Mines and Energy, Government of the Republic of Indonesia.

TEPSCO, 1988b. Environmental Monitoring Plan (RPL). Volume 33, Detailed Design Report, Kotapanjang Hydroelectric Power Project. Agency of the Ministry of Mines and Energy, Government of the Republic of Indonesia.

Table 2.3 Summary of actions taken to implement the Environmental Management and Monitoring Plans for biogeophysical issues to September 2001 (adapted from PLN, 2001).

Item	Action Proposed in 1984	Action Taken up to 2001
Water quality	Revoke lead mining license.	None reported
	Remove vegetation from reservoir area.	25 ha (out of 11,300 ha) cleared.
	Monitor removal of biomass from the reservoir.	See above.
	Monitor arrival of biomass and aquatic weeds at inflows.	Monitoring of aquatic weeds has been carried out.
	Monitor water quality.	In progress (from 1994 to 2003)
Sedimentation	Restore land and stop erosion near resettlement villages.	No action reported.
	Train local farmers in soil conservation.	None reported.
	Preserve forest areas where slope > 40%.	No forest preserved.
	Undertake reforestation.	Replanting has occurred in Tiga Belas sub-district, Koto Kampar.
	Monitor sedimentation along cross-sections of the reservoir.	None reported. (monitoring has been carried out subsequently).
Vegetation	Regulate against forest encroachment.	None reported.
	Monitor encroachment.	None reported.
	Enforce regulations.	None reported.
	Clear weeds from reservoir.	None reported.
	Restrict the use of fertilizer in the catchment.	None reported: fertilizer use is unrestricted.
	Check water quality to assess risk of aquatic weed infestation.	Water quality monitored but no assessment made.
Wildlife	Relocate elephants.	35 animals moved to Giam Siak Kecil Wildlife Forest Reserve.
	Monitor changes to plankton, fish and vegetation.	Mammals, birds, plankton and vegetation monitored.
	Restock rivers with cultured fry of endangered fish	None reported.
	Prepare project proposals for fisheries development.	Plan to develop pilot aquaculture project implemented.
	Introduce fish to control mosquito larvae and snails	Fish introduced to the reservoir.
	Monitor incidence of malaria and bilharzia	None reported (but see section 5.6.1)
Land use planning	Prepare a tourism development plan.	No action taken.
	Prepare a reforestation plan.	Land use planning under discussion.
	Restrict resettlement areas to land with slopes of < 15%.	None reported.
	Reforest and conserve areas with slopes > 40%.	None reported.

Source: PLN, 2001a. Report of Realisation of Environmental Management Plan and Environmental Monitoring Plan. PLTA Koto Panjang. Term III, September 2001. PLN, Pekanbaru

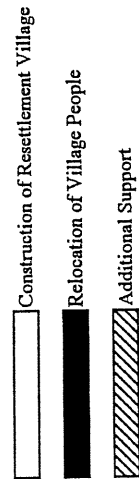
Table 2.4 Facilities and Service for PAFs

Provided Items	Standard for Transmigration Program	Additional Facilities and Services for the Project
1. Land Cleaning and Land Preparation		
(1) Housing and house yard	0.15 ha per family	0.10 ha per family
(2) Food crops	0.25 ha per family	0.40 ha per family
(3) Plantain	1.75 ha per family	2.50 ha per family
2. Housing and Facilities		
(1) Wooden House (36m ²) without cement floor and ceiling	each family	Cement floor and ceiling for each house
(2) Outdoor wooden latrine	each house	Not changed
(3) Dig-well and accessories	1 unit for 4 houses	1 unit for 2 houses
(4) Simple furniture and kitchen sink	1 package for each house	Not changed
3. Public Infrastructures		
(1) Unpaving main access road, village road and farm road	1 package	Pavement of main road
(2) Wooded bridge, concrete culverts and ditches	1 package	Permanent concrete bridge along the main road
(3) Office and storage's	2 units	Not changed
(4) Housing for transmigrator staff	3 units	Not changed
(5) Mosque	2 units	Not changed
(6) Village hall	1 unit	Not changed
(7) Sub-health center	1 unit	Not changed
(8) Dig-well and accessories	8 units	Additional public hydrant
(9) Cattle grazing field	1 unit	Not changed
(10) Public cemetery	1 unit	Not changed
(11) Sports field	1 unit	Not changed
(12) Elementary Schools and Junior High School	Not Applicable	Established
(13) Public Market	Not Applicable	Established
4. Food Crops Activities		
(1) Package A, B, C (seeds, fertilizer tools)	1 package 1 unit	Not changed Not changed
(2) Test farm		
5. Plantation Activities		
(1) Rubber seeds, fertilizer, agricultural tools	1 package	Seeds planting
(2) Maintenance	3 months	1 year
6. Other		
(1) Living support	1 year	2 years
(2) Providing technical guidance	1 package	Not changed
(3) Cost of relocation	1 package	Not changed
(4) Incentive for Government Employee (19 persons)	1 package	Not changed
(5) Education and religion books	1 package	Not changed
(6) Medicines and medical tools	1 package	Not changed

Source: TEPCO, 1999. Project Completion Report on Kotapanjang Hydroelectric Power Project. Main Report. Pt. Perusahaan Listrik Negara (Persero), Jakarta.

Figure 2.1 Resettlement Background

No.	Origin Village	Resettlement Location	Current Village	Number of PAFs	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Kampar Regency – Riau Province															
1.	Pulau Gadang	Koto Ranah	1. Pulau Gadang	333											
			2. Koto Mesjid	259											
2.	Batu Bersurat	Ranah Sungkai	3. Ranah Sungkai	337											
			4. Lubuk Agung	220											
			5. Batu Bersurat	522											
			6. Binaamang	178											
3.	Pongkai	Southern Siberuang Unit 2	7. Pongkai Baru	72											
			8. Pongkai Istiqomah	128											
			9. Mayang Pongkai	259											
4.	Tanjung Alai	PIR-Palm Oil Sungai Pagar	10. Tanjung Alai	313											
			11. Muara Takus	244											
5.	Muara Takus	Southern Muara Takus	12. Koto Tuo	599											
6.	Koto Tuo	Southern Muara Takus	13. Muara Mahat Baru	447											
7.	Muara Mahat	PIR-Palm Oil Bangkinang Blok X/G	14. Gunung Bungsu	241											
8.	Gunung Bungsu	Southern Siberuang Unit 1													
50 Kota Regency – West Sumatera Province															
9.	Tanjung Pauh	Rimbo Datar	15. Tanjung Pauh	421											
10.	Tanjung Balit	Rimbo Datar	16. Tanjung Balit	313											



Source: TEPSCO, 1999. Project Completion Report on Kotapanjang Hydroelectric Power Project. Main Report. Pt. Perusahaan Listrik Negara (Persero), Jakarta.

CHAPTER 3 EX-POST EVALUATION

3.1 Ex-Post Evaluation Based on Five Criteria

3.1.1 Relevance

(1) Relevance of the Project to the Indonesian Policy at Appraisal

At the time of the JBIC appraisal, crude oil production in Riau Province accounted for about 50% of total crude oil production in the country. In spite of abundant natural resources, the economy of Riau Province has been relatively backward in comparison with that of other provinces due to a delay in investment in essential infrastructure. In 1988, the installed capacity in Region III, comprising Riau and West Sumatra Provinces, was 285.1 MW. West Sumatra depended for its power source on 46.9% hydroelectric, gas turbine 25.7% and 27.4% diesel, while Riau depended completely on diesel. A transmission grid was developed only in Padang, capital city of West Sumatra Province, and its environs. On the other hand, there was no transmission system in Riau, and electricity was supplied from isolated small diesel power plants having individual distribution systems. Riau and West Sumatra did not have sufficient natural gas and geothermal resources for exploitation. The coalfield in the region was expected to supply coal for the newly constructed Ombilin power station, leaving no reserves for another facility. Oil-fired power, including diesel power runs against the government policy of reduced fuel oil consumption.

(2) Relevance of the Project to Indonesia's Current Policy

Oil still dominates primary energy consumption. It remains a very important export commodity but internal demand has taken an increasing share of total production. Since 1989 exports have dropped slightly while local consumption has increased at 8 % per annum. It is expected that oil resources will be depleted within the next ten years if no new major discoveries are made. The government of Indonesia has adopted a General Energy Policy (KUBE) covering five goals: a) energy diversification, b) intensification of exploration for energy sources, c) energy conservation, d) energy price, and e) environmental protection.

To preserve the rapidly dwindling oil reserves of Indonesia, the government has established the National Energy Conservation Program. The program aims to formulate steps in managing the transition from basically oil-dependent systems to systems where the total non-oil energy mix will consist of natural gas, coal, geothermal and hydro power.

The renewable energy policy is a part of KUBE particularly on energy diversification.

The utilization of renewable energy is still small compared to the national energy demand, and its development has to be supported to make it a significant contributor to the national energy supply mix. Hydro and mini-hydro, geothermal and mini-geothermal, large-scale grid-connected biomass and wind-based power generation should fall within this scope of interest.

3.1.2 Efficiency in Implementation

(1) Project Scope

At the time of the Feasibility Study of the Japan International Cooperation Agency (JICA) Team in 1982-1984, an optimization study was executed based on the scale of the proposed dam and annual generated energy. The construction cost was calculated for three cases as shown in the table below. The study took into account the height of the dam, operating hours, effective water storage capacity and effective depth. Each case was evaluated on the basis of a cost-benefit analysis. According to the analysis, the case of HWL¹ 100 m was economically optimal. However, to prevent inundation of a part of Pangkalan Kotabaru with a population of 8,572 (elevation of 88.2 m-91.5 m) and the Muara Takus Temple² (elevation of 86.3 m) the proposed HWL was decided at 85 m.

Table: Comparison of Dam Scales Studied at Feasibility Study

	HWL= 76 m	HWL= 85 m	HWL= 100 m
Maximum Output (kW)	90,000	111,000	160,000
Annual Generated Energy (kWh)	393 x 10 ⁶	495 x 10 ⁶	697 x 10 ⁶
Construction Cost (10 ³ US\$)	155,447	190,194	268,796
Benefit- Cost (B- C)	9,534	12,551	17,923

Data Source: JICA Feasibility Study

The originally scope envisaged from the project appraisal was realized without major deviations. In dealing with actual site conditions, the modifications described below were made during the implementation period.

a) Modification of Transmission Line Route

The transmission line between Kotapanjang switchyard and Pekanbaru substation was 69.3 km in the original plan. However, as the Pekanbaru substation was relocated toward Kotapanjang, taking into consideration actual site conditions, the line length was reduced to 64.4 km.

¹ HWL: Highest Water Level

² Muara Takus Temple is located 135 km from Pekanbaru, established at the edge of Kampar Kanan river. The temple is also believed to have been the symbol of Sriwijaya Empire.

b) Change in Design of Relocation Road

Alignment of the national road in the resettlement area was carried out with modification of gradient of slope and deck plats. These minor modifications were made taking into account the topography of the project site.

c) Cancellation of Riverbank Reinforcement at Muara Takus Temple

At appraisal, reinforcement of the slope along the riverbank at the western part of the temple was envisaged, in order to avoid landslides due to the reservoir. However, as a result of geological site inspection and slope stability calculation, the riverbank was judged to be very stable. Hence, protection work was not carried out. At present, the riverbank slope is self-supported and there is no evidence of landslides.

(2) Project Implementation Period

The major construction/ installation works were completed in September 1999, a delay of 33 months given the original completion date of November 1996. The consulting service for the project was completed in October 1999, as against the scheduled completion date of November 1997, a delay of about 23 months. The delay was brought about by the following factors:

- a) Installation of generating equipments (24 months delay);
- b) Installation of substation equipment (11 months delay);
- c) Procurement of transmission line materials (19 months delay); and
- d) Relocation of national road (24 months delay).

(3) Project Cost

At the time of the project appraisal, the total construction cost was estimated at 36,499 million yen equivalent, comprising 6,948 million yen in foreign currency and 8,933 million yen equivalent in local currency. The actual expenditure of 29,898 million yen equivalent was 18% lower than the estimated figure. Considerable cost savings resulted due to the following reasons; i) decrease in the contract tender price arising from intense competition, ii) appreciation of the Japanese yen *vis-à-vis* the Indonesian rupiah and the US dollar.

3.1.3 Effectiveness

(1) Gross Energy Production of the Power Station

The Kotapanjang Hydroelectric Power Plant (hereafter Kotapanjang HEPP) generates energy by utilizing water discharged from the Kotapanjang Dam. Commencement of commercial operation of Units 1, 2, and 3 were 21st November 1998, 20th April 1998, and 28th February 1998, respectively. At the time of appraisal, the target level for annual gross energy production³ of the power station was established at 542,000 MWh. On the other hand, the power station has achieved a revised target level prepared in 1998 which reflected the actual demand (see the below table).

Table: Year-wise Gross Energy Production of the Kotapanjang HEPP (Unit: MWh)

		1998	1999	2000	2001	2002*
Original Target Level		542,000.0	542,000.0	542,000.0	542,000.0	542,000.0
Revised Target Level**		308,540.0	392,260.0	412,346.0	472,872.0	542,000.0
Actual Operation	Unit 1	28,825.5	160,343.8	132,799.8	102,131.4	46,943.1
	Unit 2	135,048.2	120,264.0	138,994.5	161,088.4	46,185.0
	Unit 3	137,574.9	112,615.4	140,570.4	220,497.0	59,406.0
	Total	301,448.6	393,223.2	412,364.7	483,716.8	153,164.1

* Actual figures in 2002 are from January 1st to March 31st only

Data Source: Kotapanjang HEPP

** Target level of 1998-1999 is quoted from "Energy Balance 1998 up to 2001", target level of 2000 - 2002 is quoted from "Estimation of Energy Demand & Generated Energy Year 2000 up to 2005" prepared by PLN UPB Sumbar- Riau

Since commencing operations, the power station has experienced three major outages. Two planned outages⁴ of Units 2 and 3 occurred in 1998. These outages resulted from necessity of replacement of inferior grade nuts of the units. A forced outage⁵, occurred in 2001 due to the malfunction of a circuit board of the governor controller of Unit 1. Since the malfunctioning occurred during the warranty period, it was rectified within the original budget. Except for these outages, each unit has not experienced a major outage so far.

(2) Daily Operation Pattern of the Power Station

The figure below is a typical daily load curve of the system. At present, there are seven major power stations within the system. The largest power station, in terms of rated capacity, within the system is the Ombilin thermal power plant. The Ombilin runs on coal, and is utilized as a base load⁶ facility. On the other hand, the hydroelectric power stations, namely the Kotapanjang, the Singkarak, the Maninjau, and Batang Agam, play a role of middle/peak load facility.

³ The total amount of electric energy produced by the generating units at a generating station, measured at the generator terminals

⁴ The shut down of one generating unit for maintenance and/or rehabilitation

⁵ The shut down of one generating unit for emergency reasons

⁶ The minimum amount of power demanded over a given period at a constant rate. On a daily load curve this will be located at bottom.

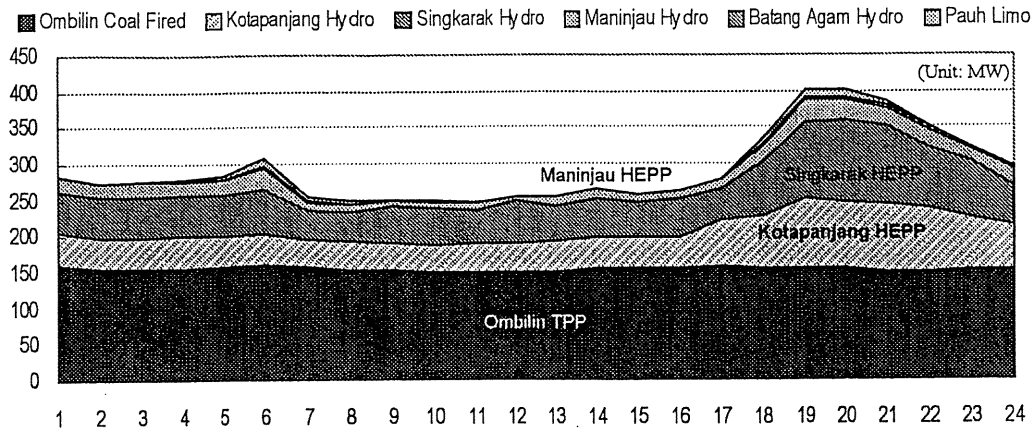


Figure: Typical Daily Load Curve of the Sumbar- Riau System.

Data Source: PLN UPB Sumbar- Riau

Since commissioning, the Kotapanjang HEPP has been utilized for middle load facilities. Normally, three units are operated during the evening peak hours (18:00-23:30), outputting 70-114 MW of load, while one or two units are operated during off-peak time, outputting 20-70 MW of load.

(3) Generation Cost of the Power Station

The table below shows the item-wise generation cost of the Kotapanjang HEPP from 1998 to 2001.

Table: Generation Cost of Kotapanjang HEPP

(Unit: 1,000 Rp.)

	Fuel and Lubricant	Material and Spare Parts	Salary	Other	Administration	Depreciation	Total	Generation Cost (Rp/kWh)
1998	0.0	63,333	425,812	106,941	92,955	2,946,905	3,635,946	12.06
1999	0.0	98,164	765,638	291,212	245,298	21,755,502	23,186,130	58.96
2000	299.6	380,513	969,354	495,653	1,629,197	22,223,425	25,832,538	62.64
2001	177.8	1,006,075	1,074,999	1,826,007	2,507,308	21,836,287	29,379,373	60.74

Data Source: PLN Sector Pekanbaru

(4) Water Inflow and Outflow of the Kotapanjang Reservoir

The following table indicates, estimated and actual inflow of the Kotapanjang Reservoir.

Table: Water Inflow to the Kotapanjang Dam

(Unit: m³/sec)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave.
Actual 1998	-	-	-	-	-	-	-	-	335.9	134.4	101.3	335.9	134.4
Actual 1999	427.0	324.3	225.9	97.4	136.1	93.0	113.2	131.6	218.8	355.7	270.6	318.9	225.8
Actual 2000	538.9	232.5	153.9	170.2	102.0	111.2	59.6	129.1	55.6	66.1	264.3	176.5	170.9
Actual 2001	305.6	294.1	156.2	250.7	164.7	106.1	80.0	89.0	101.2	113.0	164.0	200.1	168.7
Actual 2002	220.9	232.5	-	-	-	-	-	-	-	-	-	-	226.7
Estimate Very Wet	310.6	278.0	278.8	377.8	245.2	154.1	100.5	78.2	112.1	175.4	294.4	410.6	234.3
Estimate Normal	331.2	193.8	263.2	195.8	240.4	79.7	73.3	82.0	151.5	225.8	337.4	334.3	209.4
Estimate Very Dry	269.4	159.3	172.8	174.0	191.8	127.6	76.1	56.0	103.5	122.6	188.3	237.1	156.6

Quoted from "Study on Kotapanjang Hydroelectric Power Plant and Associated Transmission Project Final Report" Data Source: Kotapanjang HEPP

The table below indicates the breakdown of water outflow from the reservoir.

Table: Water Outflow from the Kotapanjang Dam

(Unit: m³/sec)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1998	Turbine Discharge	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
	Discarded Flow	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
	Total Outflow	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	145.5	143.0	138.9	136.5
1999	Turbine Discharge	123.6	147.8	137.3	138.4	136.5	135.3	106.8	79.2	203.8	167.0	144.1	123.9
	Discarded Flow	247.3	185.6	51.4	0.0	0.0	0.0	0.0	0.0	0.0	222.6	142.3	136.7
	Total Outflow	370.9	333.4	188.7	138.4	136.5	135.3	106.8	79.2	203.8	389.6	286.4	260.6
2000	Turbine Discharge	162.7	226.8	134.0	169.4	156.8	138.8	92.4	132.7	113.2	98.7	127.9	170.8
	Discarded Flow	353.87	86.59	0	0	0	0	0	0	0	0	0	0
	Total Outflow	516.6	313.4	134.0	169.4	156.8	138.8	92.4	132.7	113.2	98.7	127.9	170.8
2001	Turbine Discharge	182.0	264.8	207.5	156.7	245.3	178.3	126.1	137.3	106.4	88.1	134.6	207.5
	Discarded Flow	0	0	0	0	0	0	0	0	0	0	0	0
	Total Out Flow	182	264.8	207.5	156.7	245.3	178.3	126.1	137.3	106.4	88.1	134.6	207.5
2002	Turbine Discharge	220.9	232.5										
	Discarded Flow	0	0										
	Total Outflow	220.9	232.5										

Note: Discarded Flow= Water outflow from spillways

Source: Kotapanjang HEPP

(5) Water Level of the Reservoir

The figure below illustrates the Rule Curve⁷ and actual water level of the reservoir.

The water discharge from the reservoir is decided by the PLN UPB Sumbar- Riau (Load Dispatch Center of the Sumbar- Riau system), based on the electricity demand and the rule curve. Under the instruction of the UPB, the actual operation of spillway gate and water intake for the power station is carried out by the power station staff as per Standard Operation Procedures (SOP) laid down in the “Reservoir Operation Manual” and “Spillway Gate Operation Manual” prepared by the consultant.

If the reservoir level is below +83.00 m, water is utilized only for power generation. If the level is above +83.00 m, and the inflow is above 1,000 m³/sec, the spillway gates

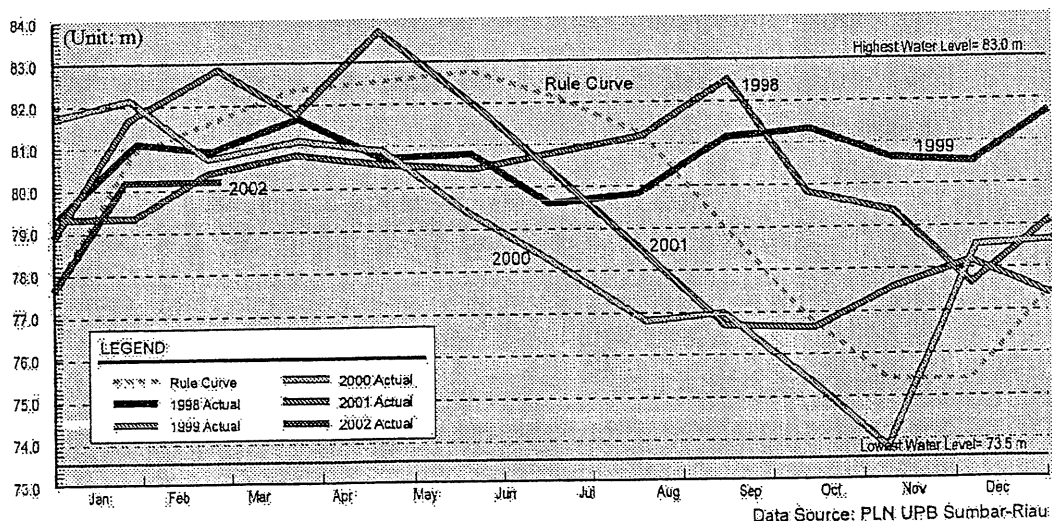


Figure: Ideal Rule Curve and Actual Water Level of the Dam

⁷ Water levels, represented graphically as curves, that guide reservoir operations. A curve indicating how a reservoir is to be operated under

are kept open to avoid upstream flooding. A water level difference of 2.00 m (+85.00 m and +83.00 m) with a volume of 216 million m³ is used for accommodating the surplus inflow during floods or during the wet season.

Table: Relation between Reservoir Water Level and Reservoir Volume

	Reservoir Water Level	Reservoir Volume
1. Highest reservoir water level	+85.000 m	1,545 million m ³
2. Highest reservoir water level for generation	+83.000 m	1,329 million m ³
3. Normal reservoir water level	+80.600 m	1,058 million m ³
4. Lowest reservoir water level for generation	+73.500 m	517 million m ³

During 1999 to 2000, PLN Sector Pekanbaru, as operator of the Kotapanjang HEPP, opened the spillway gates four times, for seven days each time, not in accordance with the SOP. These operations were to fulfill the request of representatives of Pangkalan Kotabaru residents and/or Public Works Department at Pangkalan Kotabaru due to flood threat (see table below). In addition to the above, the spillway gates were opened during the floods of January 6th 1998 and 2nd February 1998⁸ at Pangkalan Kotabaru (detail will be mentioned in later sections), in accordance with the SOP. As shown in the above table, 12,831.63 m³/sec of water was discharged from the spillway gates due to the flood threat. According to the Sector Pekanbaru's estimation, 100.88 GWh of electricity or 27,238 billion rupiahs⁹ was lost, due to the flood threat. However, no request has been made to open the spillway gates since then.

Table: Loss of Electricity due to Flood Threats

Period	Water Level (m)	Inflow (m ³ /s)	Discarded Discharge (m ³ /s)	Request from
14 th - 20 th January 1999	+81.200 m	1,009.40	3,147.60	Representative of Residents
7 th - 13 th February 1999	+81.200 m	674.00	3,818.85	Public Works
8 th - 14 th January 2000	+82.760 m	795.80	3,728.10	Representative of Residents
1 st - 7 th February 2000	+82.140 m	574.19	2,137.08	Representative of Residents
Total			12,831.63	

Source: "A study for Mitigation of Annual Flood Impacts" Final Report, TEPCO and P.T. Modulatama Intikreasi

(6) Development of Grid Transmission System in Region III

The power station is connected to the Sumbar-Riau grid transmission system. The three substations newly constructed and three sections of transmission lines are also connected as a part of the system.

specific conditions to obtain best or predetermined results.

⁸ During the floods on January 6th 1998 and 2nd February 1998, reservoir water levels were +83.420 m and +83.150 m and inflow of 3,576 m³/sec and 3,456 m³/sec, respectively.

⁹ Selling unit price of 1 kWh= 2.70 rupiahs

Before project implementation, while West Sumatra had a well-developed transmission system and medium-scale power stations, power supply in the Riau Province completely depended on isolated diesel power plants.

Since completion of the Kotapanjang HEPP project, part of West Sumatra Province and a substantial area of Riau Province have received electricity from the Sumbar- Riau system. As a result, most of existing PLN's isolated diesel power plants were either shut down or moved to other locations. Consumers within the system area received electricity from the large-scale power station, including the Kotapanjang HEPP, through the 150 kV/ 20 kV transmission line system.

(7) Financial Internal Rate of Return (FIRR)

The Financial Internal Rate of Return (FIRR) of the project was re-evaluated taking into account the changes in project cost and the power sale price, operational data, and related variables. As a result, the newly calculated FIRR is 6.1% for the base case, which is 3.8 percentage points lower than the appraisal estimate of 9.9 %.

a) Basic Assumptions

Except for benefits, basic assumptions of the calculation follow the same methodology as used in the appraisal. The economic life of the project is assumed to be 50 years from 1998. All prices and costs are expressed in Indonesian rupiah at 1998 values.

b) Costs

The costs used for re-evaluation are financial capital costs and O&M costs of the power station and dam. The financial capital cost of the project is derived from the actual financial costs of both stages of the project, which include civil work, construction cost of power station/ transmission line/ substations/ relocation of road and bridge, consulting services, land acquisition, monetary compensation for ousters and tax, but does not include village resettlement related cost¹⁰. O&M costs from 1998 to 2001 used actual costs, and future O&M costs are assumed to be the same as 2001 actual costs.

c) Benefits

In calculating the project benefit, the re-evaluation does not follow the original methodology adopted at appraisal, because the following methodology is

¹⁰ Estimated Resettlement Related costs include, development and rehabilitation cost of rubber plantation, construction of water supply system and housing for resettlement village, additional support from ODA loan (construction of water supply system, etc). Resettlement Related cost was estimated by the SAPS team, based on the actual disbursement from Riau province, and rehabilitation/ maintenance cost for the action plan.

deemed to reflect a much more realistic situation.

In re-evaluating FIRR of the project, benefit is defined as sales volume from North KITLUR to Region multiplied by the average transfer price from North KITLUR to Region. Sales volume to Region was worked out by “net energy production” minus “auxiliary use of power station” minus “transmission loss of the system”. Benefit from 1998 - 2001 was calculated based on available data collected during the site survey. For the base case, future gross energy production is assumed to be the same volume as the target level.

d) Sensitivity Analysis

Twenty-four cases were conducted for sensitivity analysis: including the resettlement related cost, decrease and increase of energy production, and transfer price (see tables below). The transfer cost to PLN Region was increased from 191.78 rupiah/ kWh in 2001 to 319.93 rupiah KWh in 2002. This price increase was based on the increase in selling price from Region to consumers.

Table: Sensitive Analysis Excluding Resettlement Villages Related Cost

Future Energy Production \ Future Transfer Price	20% lower than actual price in 2002	10% lower than actual price in 2002	Same as actual price in 2002	10% higher than actual price in 2002
10% lower than target	4.47%	5.05%	5.59%	6.09%
Same as target level	4.99%	5.59%	6.14% (Base Case)	6.65%
10% higher than target	5.47%	6.09%	6.65%	7.18%

Table: Sensitive Analysis Including Resettlement Villages Related Cost

Future Energy Production \ Future Transfer Price	20% lower than actual price in 2002	10% lower than actual price in 2002	Same as actual price in 2002	10% higher than actual price in 2002
10% lower than target	2.36%	2.89%	3.37%	3.83%
Same as target level	2.83%	3.37%	3.88%	4.35%
10% higher than target	3.27%	3.83%	4.35%	4.83%

(8) Contribution to Stable Electricity Supply

The tables shown below indicate the “System Average Interruption Duration Index” (SAIDI)¹¹ and the “System Average Interruption Frequency Index” (SAIFI)¹² from 1997 to 2001.

¹¹ The cumulative length of power interruption, in hours, that a customer within a certain area experiences on the average, during a year

¹² The average number of times each customer within a area experiences interruption during a year

Table: System Average Interruption Duration Index in the Region III (hours/ customer)

Province	Branch	1997	1998	1999	2000	2001
West	Padang	15.19	31.38	44.25	35.76	25.62
Sumatra	Bukittinggi	28.22	20.14	17.97	16.14	14.06
Province	Solok	16.27	7.63	7.03	4.32	3.78
Riau	Pekanbaru	80.69	38.96	36.05	37.18	23.66
Province	Dumai	19.21	20.51	17.12	67.46	67.28
	Rengat	33.59	27.84	30.06	30.38	24.18

Data Source: PLN Region III

Table: System Average Interruption Frequency Index in the Region III (times/ customer)

Province	Branch	1997	1998	1999	2000	2001
West	Padang	15.46	36.04	46.60	45.38	35.10
Sumatra	Bukittinggi	16.01	14.02	13.09	16.14	12.71
Province	Solok	41.86	20.15	13.40	9.14	5.60
Riau	Pekanbaru	75.20	46.40	31.07	31.51	19.15
Province	Dumai	13.25	17.84	13.06	20.38	30.03
	Rengat	31.54	31.88	31.36	28.26	21.77

Data Source: PLN Region III

3.1.4 Impact

(1) Background

The rural electrification survey was conducted in the villages near the project site in order to examine the direct and indirect impact of the project. Although rural electrification or the extension of distribution lines was not included in the project scope, it is regarded as the most important overall goal of the project. That is, the ultimate goal of the project is not simply to fulfill the growing demand for electricity, but to increase the electrification ratio in rural areas of West Sumatra and Riau Provinces. According to PLN Region III office, the number of customers whose electricity is supplied through the substations of Kotapanjang HEPP is estimated to be more than 200,000. Consumers from residential categories, including both rural and urban areas make up 92%. This survey, therefore, seeks to explore the extent to which rural electrification has contributed to improve the living standard of the people in the project area.

In conducting this interview survey, the major focus was placed on the rural villages where electricity was installed after project implementation. Rural electrification was therefore, conducted by taking 150 sample households from 6 villages. In order to make a comparative study, 50 sample households were also taken from urban areas and non-electrified rural areas near the project site.

(2) Rural Electrification Survey

(a) Reduction of expenses for light and fuel after electrification

The consumption of diesel was reduced dramatically after electrification. This is due to

the fact that people stopped using diesel generators after electrification. It should be noted that the increase in expenditure on kerosene was due to the rise in the price of kerosene. In real terms, the consumption for kerosene decreased after electrification.

In rural areas, firewood has been another important source of household energy for a long time. It is normally collected from the forest and is used for cooking. It was observed however, that the number of respondents using firewood was reduced from 137 to 107 when the electricity was installed. This indicates that, while there are still many households using firewood, economically better-off households prefer to use kerosene or gas for cooking.

(b) Purchase of items before / after electrification

According to the survey, many respondents have already purchased electric items such as lights, TV, and irons even before electrification. The majority of respondents used kerosene lamps for lighting before electrification. Fifty-two people replied that they replaced charcoal irons with electric ones after electrification. Fifty-three households who possessed TV before the electrification had access to diesel generators supplied either by private owners or by PLN (i.e., isolated grid system) before electrification. With cheaper and more stable supply of electric power after the connection to PLN transmission system, purchase of these three items, i.e., lights, TV and irons were almost doubled. Purchase of more luxurious items such as videos, electric fans, rice cookers and refrigerators have increased 5 to 7.5 times after electrification.

(c) Improving rural security and network

When asked about the positive impact of electrification, many interviewees replied that they feel 'happier' after electrification (see the figure below). Although nearly one-third of respondents had access to diesel generators before the project, they felt more confident to be connected with the PLN transmission system. Forty-eight percent of respondents answered that the access to electricity increased their self-confidence.

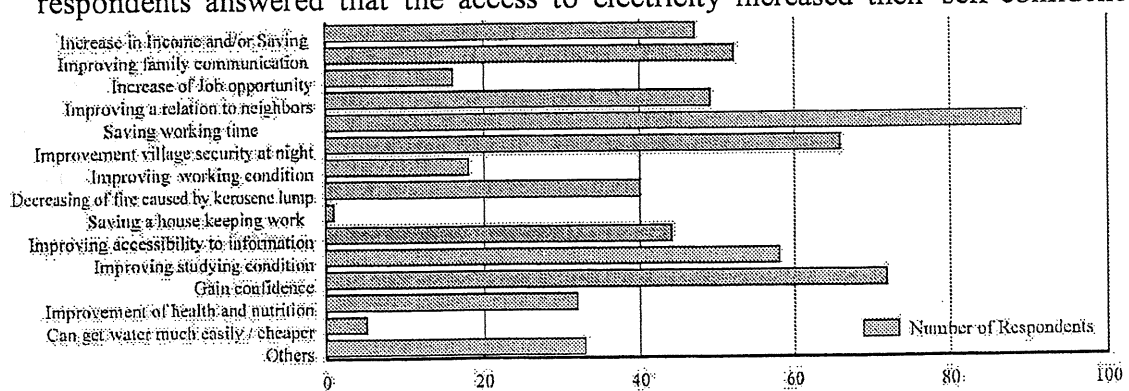


Figure: Positive Impacts of Rural Electrification (Sample no.= 150)

Some answered that the electric light literally brought about the 'brightness' into their

life. Furthermore, electrification contributed to improve the social network of village and family. With electric lights, village residents have now more chances to visit one another at night time, watching TV together or socialising until late. Thirty-five percent of respondents replied that their family communications are better and 33% felt that their relationship with neighbors improved after electrification.

As far as the village security is concerned, 44% of respondents answered that village security improved after electrification. Forty households answered that the incidence of fire caused by kerosene lamps decreased after electrification. One respondent added that the incidence of thieving was also reduced due to the lighting at night. Therefore, after electrification rural life has become physically more secure.

(d) Increase in income and job opportunity

Electrification has also brought out economic benefits to the consumers. According to the survey, 31% of the respondents experienced an increase in income and/or savings, while 11% answered that they gained opportunities for new jobs.

(e) Saving working time/saving house keeping work

Nearly two thirds of respondents marked either 'saving working time' or 'saving housekeeping work' as a positive impact of the project. As already indicated in the previous analysis, electrification enabled rural households to reduce the burden of such housework as collecting firewood and using charcoal irons. Purchase of refrigerators, water pumps and rice cookers also save time and effort of housekeeping.

(f) Negative impact of the project

Among 150 respondents, one third commented on the negative aspects of the project. Fifty-one interviewees replied that the reduction of sleeping hours is the main negative impact of electrification. Seventeen respondents experienced increased liability, while 11 respondents felt they are losing traditional values. During the interview, one major concern of the respondents was the price of electricity. According to the respondents, monthly electricity bills often turn out far more expensive than what they actually used. It is caused either by the inaccuracy of metering or by the registration of high tariff category (1,300VA) despite their demand of 450 VA or 900 VA. Nevertheless, none of the respondents intend to terminate their electric contract, as electricity has already occupied an important part of their lives.

(3) Urban Electrification

Since the early 1980s the urban area of Pekanbaru has been electrified by the PLN

isolated system, based on diesel generators. With the implementation of Kotapanjang HEPP project, new substations were constructed through which low voltage electricity was distributed to consumers in Pekanbaru. Consumers in Pekanbaru were connected with the transmission system of PLN after completion of Kotapanjang HEPP project.

According to the interview survey, 31 out of 50 respondents experienced better stability of voltage when compared with the preceding period. When electricity was supplied by diesel generators of an isolated system, the voltage tended to fluctuate widely during the peak time at night. According to the respondents, instability of voltage often caused a breakdown of diesel generators as well as electric equipment used at home.

(4) Non-Electrified Rural Villages

A brief questionnaire survey was conducted in two non-electrified villages near the project site: Bukit Talao in West Sumatra Province and Deli Makmur in Riau. When asked about the willingness to pay (WTP) for future electric charges, 15 out of 50 respondents answered that they are ready to pay in accordance with the PLN's norm. The average amount of WTP among the rest of the respondents was Rp.778,571 for connection fees and Rp.38,441 for monthly tariff. Whatever the level of electricity costs, all respondents assumed that their current expenses of fuel could be lower after the connection with the PLN transmission system. Although not electrified by the PLN transmission system, the village of Deli Makmur possesses its own diesel generator through which electricity is supplied to all households. This diesel generator was purchased at the villagers' own expense and the minimum electricity tariff per month (for two lamps plus television) is reported to be Rp.75.000. The electricity charge in Deli Makmur is high provided that the average tariff paid by 150 electrified households is Rp.57,000. Although having their private generator, the residents in Deli Makmur are applying for the PLN transmission, hoping that it will bring them a better and cheaper supply of electricity.

(5) Constraints on Rural Electrification

The table below shows the rural electrification rate of the six villages in which the survey was conducted. In Koto Alan, a village in West Sumatra Province, the rate of connection to the transmission system was less than 5 %. Although the village had a diesel generator provided by PLN, its use was limited to public offices, the mosque and upper class residents. When the line was connected in 1999, the electrification rate rose to 15% and 91 households are electrified by the grid system.

Table: Rural Electrification Ratio of Villages

Village	District/ Province	Total (H/Hs)	Electrified (H/Hs)	Electrification ratio
Koto Alan	50 Kota/ W. Sumatra	675	91	15 %
Banjar Ranah	50 Kota/ W. Sumatra	236	39	16.5 %
Banjar Batu	50 Kota/ W. Sumatra	550	77	14 %
Kashikan	Kampar/ Riau	700	218	31 %
Patapahan	Kampar/ Riau	500	100	20 %
Ganting Damai	Kampar/ Riau	327	140	42.8 %

Source: Interview Survey

Given that the rural electrification rate in the whole country is 42.6 % (as of December 1992), the electrification rate in these six villages still remains low. Among six villages, the electrification rate marked less than 20 % in four villages. While the electrification ratio before the project is not known, the reasons for the low electrification rate in these villages can be explained as follows:

- 1) The village electrification rate depends primarily on the distance from the transmission lines. Distribution of electric cables normally starts from the main road and gradually spread inside the village. Remote settlements or isolated households have the least priority for electrification.
- 2) Limited number of transmission lines and electric current dividers (transformers) are supplied by PLN at one time.
- 3) In rural areas, three different tariff categories are applied according to the differences in contracted power: 450VA (Rp.4,588/kVA/month), 900VA (Rp.4,633/kVA/month), and 1300va-2,200VA (Rp.11,500/kVA/month). The majority of surveyed households were supplied with 1,300VA despite their requirement level of 450VA or 900VA. This is mainly due to the PLN regulation to restrict the number of low tariff category (450VA or 900VA) in order to maintain its financial viability. Unable to pay for high electricity tariff, village applicants keep waiting for a long time to receive electricity in the low tariff categories.

(6) Flood Impacts Originating from Impounding of the Reservoir

(a) Floods in the Pangkalan Kotabaru (upstream of the reservoir)

Pangkalan Kotabaru is located along the Mahat River about 49 km upstream from the dam site, and about 4 km away from the point of river entry into the reservoir (44.90 km from the dam site). After reservoir impoundment in 1997, the village suffered from flooding on 2nd February 1998, and 6 January 1998. The center of flood area at the village was Pangkalan Kotabaru bridge (49.15 km away from the dam site). Some of

the residents in the village believed the floods occurred due to the backwater effect¹³ of the reservoir.

In order to examine the reasons for the floods, a flood impacts study¹⁴ was conducted in 2000 with financial help from JBIC. During the field survey, the study team interviewed residents in Pangkalan Kotabaru. According to the information gathered, floods in the village had been occurring in the past, nearly every year, on different scales, during the heavy rainy season (December-February). The largest floods recorded by the residents were in the years 1961, 1968, 1972, 1978, 1991, and 1998.

Under the survey, in order to determine the impact of reservoir backwater effect to Pangkalan Kotabaru flood, calculation of influence length of backwater effect is conducted by comparison before and after filling the reservoir in two flood discharge scenarios (3,000 m³/sec¹⁵ and 8,000 m³/sec¹⁶) by applying the Bernoulli formula, the Manning formula and the Standard Step method.

As a result of this calculation, the report concluded the relation of the flood in Pangkalan Kotabaru and impounding of the reservoir as follows:

1. Backwater ended at 45.30 km (flood discharge of 3,000 m³/sec), and 46.55 km (flood discharge of 8,000 m³/sec) away from the dam site. Thus, the existence of Kotapanjang reservoir, which is the cause of the backwater effect, does not reach Pangkalan Kotabaru.
2. Special topographic features and abrupt river change¹⁷ at Pangkalan Kotabaru Bridge and the strong rainfall intensity within the catchment area were believed to be the main factors which caused flooding.
3. The actual capacity of tributaries of the Mahat River, which function as flood drainages, are considered more than adequate to accommodate the flood discharge from their own catchment areas.

(b) Floods downstream of the Kotapanjang Dam

Before implementation of the project, some places downstream of the dam site (e.g., Rantau Berangin, Danau Bingkuang) suffered from frequent floods. However, after construction of the Kotapanjang dam, the amount of water discharged from the dam became much more stable. As a result, according to the information gathered from the

¹³ Backwater effect: The effect which a dam or other obstruction has in raising the surface of the water upstream from it.

¹⁴ "A study for Mitigation of Annual Flood Impacts in Pangkalan Kotabaru 50 Kota Regency, West Sumatra Province" Final Report, April 2000, prepared by Tokyo Electric Power Services Co. Ltd. and P.T. Modulatama Intikreasi, The survey was financed by JIBC. Information in section 4.5.1 is mostly quoted from the report.

¹⁵ 3,000 m³/sec was considered equivalent to the flood scales that occurred on 6th January 1998 and on 2nd February 1998.

¹⁶ 8,000 m³/sec is equivalent to a design flood of the Kotapanjang project of a 200-year return period.

¹⁷ Bottleneck effect due to narrow river narrow at about 1,300 km downstream of steel truss bridge of Pangkalan Kotabaru located in Pangkalan Timur village. The flood discharge contributed by Mahat River and its tributaries was detained at the bottlenecks, then the flood flow moved slowly downstream and the upstream water level was rapidly increased.

project site, no flood has occurred downstream of the dam site since its completion.

(7) Other Impacts

(a) Impact on tourism

Since the completion of the project, the government of Riau has been attempting to promote tourism in Kotapanjang area. Kotapanjang Lake, developed for the construction of the hydroelectric power plant, has been one of the main tourist attractions of Riau together with Muara Takus Temple.

To promote tourism, the temple underwent overall restoration between 1978 and 1992. The number of visitors increased rapidly after the restoration; from 500-1,000 visitors annually before the restoration to 10,006 in 2000 and 7,012 in 2001. Besides promotion by the government, an increasing number of small shops and restaurants opened near the dam site and around Muara Takus Temple taking advantage of the flow of visitors.

(b) Effects on Fisheries

Increase in the population engaged in fisheries is another indirect impact of the project. As a part of the Action Plan for resettled villages, the Fishery Department, in collaboration with PLN and Riau University, currently implements 20 small pilot projects by providing 200 units of floating nets in the Kotapanjang Lake. Though the number is unknown, the beneficiaries of this programme are the farmers from the relocated villages who undertake fishing as a secondary occupation. Apart from the organized fisheries, individual farmers are also engaged in fishing to supplement their primary source of income.

3.1.5 Sustainability

(1-1) Restructuring and Privatization of PLN in Java-Bali Area

The Indonesian Government began to introduce commercial practices within PLN, particularly in the Java-Bali area. As a first step for implementing this strategy, PLN's generation-related assets were transferred to two of PLN's subsidiary companies, namely, PT Indonesia Power and PT Power Generation Java-Bali. Transmission-related functions were also transferred to P3B (Java-Bali Transmission Company). The company has the responsibility to purchase electricity from all generating companies connected to the grid on behalf of the distribution units, and then sell electricity to the distribution units. In the case of distribution business in Java-Bali, PLN is currently preparing five decentralized strategic business units.

While the privatization strategy for two generation companies and four distribution

units shall be implemented after the companies reach a position of being able to produce profit, transmission business will remain under public control.

(1-2) Restructuring of Power Sector in Sumatra Island

Outside Java PLN has 11 administrative regions, and there are 11 PLN Regional Offices (hereafter PLN Region or Region). Originally PLN Regions were in charge of generation, transmission, and distribution functions within their command areas. In the case of Sumatra Island, there are four PLN Regions. All four Regions in Sumatra also had vertically integrated role in the power sector.

Medium-scale grid transmission systems have developed in Sumatra recently. To cope with the development of the grid system in the island, PLN established two generation and transmission business units in 1997, namely North KITLUR and South KITLUR. KITLURs are responsible for the operation, maintenance, and management of transmission systems and linked power stations. On the other hand, Regions are currently responsible for distribution services and customer services as well as operation and maintenance of isolated diesel power stations. Regions sell electricity, generated by their own isolated diesel power stations, to consumers within their command province. In addition, Regions receive electricity from KITLUR's grid system and then sell to consumers through their interconnected distribution system.

The operation, maintenance and management of the Kotapanjang HEPP is executed under the responsibility of North KITLUR. Actual operation and maintenance of the power station is carried out by the staff under the supervision of the Sector Pekanbaru. Sector Pekanbaru is also responsible for operation and maintenance for the transmission lines and substations of Kotapanjang - Bangkinang - Pekanbaru. The transmission line of Payakumbuh - Kotapanjang section is operated and maintained by the Sector Padang.

(2) Capability of Operation and Maintenance

(2-1) Training Program Implemented under the ODA loan

Under the ODA loan, related PLN personnel received training for operation and maintenance of the project facilities, prior to the completion of the project. The training sessions were arranged by the contractors in accordance with the provision in the contracts between PLN and the contractors.

(2-2) Current Training System to Sustain Technical and Management Capability

It is the responsibility of the chief of Kotapanjang HEPP to monitor the quality and achievement of each staff member. There is a periodical monitoring conducted every 4 months by using a prescribed format. The result of the monitoring is forwarded to the Sector for reference. If the technical capacity/skill level is found inadequate as a result of the periodical monitoring, the staff are sent for special training.

(2-3) Maintenance Method

Maintenance of the project facilities is carried out in accordance with the operation and maintenance manual provided by the original contractors. Operation and daily/ weekly/ monthly maintenance of the project facilities are executed by the power station staff without outside assistance. The power station staff carry out annual maintenance and overhauling of the project facilities with the help of PLN's internal maintenance organization and the original suppliers/ contractors. In order to control the stock of spare parts, the power station prepared an inventory of spare parts. Based on the list, they carried out spare parts control and established a procurement schedule.

(3-1) Financial Conditions of the PLN

As shown in the figures listed in the table below, the three major categories of tariff show a downward trend as against 1990 constant price.

Table: Profit and Loss Statement of PLN (1996-2000) (Unit: million rupiah)

	1996	1997	1998	1999	2000
Operation Revenue					
Electricity Sales	9,418,269	10,877,278	13,766,222	15,670,552	22,139,883
Others	227,724	248,822	269,793	326,566	416,780
Total Operation Revenues	9,645,993	11,126,100	14,036,015	15,997,118	22,556,663
Total Operation Cost	7,642,510	9,449,753	16,808,773	21,502,678	27,215,821
Operational Income (Loss)	2,003,483	1,676,347	(2,772,758)	(5,505,561)	(4,659,158)
Non Operating Expense (Net)	(754541)	(2255361)	(6382787)	(5349229)	(19331236)
Net Income (Loss) before Tax	1178415	(579014)	(9155545)	(10854790)	(23990394)
Deferred Tax			(390077)	(514293)	(620975)
Net Income (Loss) after Tax	1178415	(579014)	(9545622)	(11369083)	(24611369)

Source: PLN Annual Report 2000

In order to recover the company's profitability, PLN increased the tariffs in April 2000 in most consumer categories, except for the lowest-electricity consuming group. According to the year 2000 annual report of PLN, the increase of the tariff in April 2000 brought average sales all over Indonesia to 280 rupiah/kWh. However, it was still lower than the average production cost of 547 rupiah/kWh. Thus, PLN is planning to implement a further increase in the basic tariff, as well as a non-uniform tariff in all territories of Indonesia, depending on economic capability (customer purchasing power).

(3-2) Financial Conditions of the Region III and the North KITLUR

PLN's Regions as well as KITLURs prepare their own financial statements, in order to assess profitability. KITLUR is selling their electricity to Region at prices prescribed by PLN headquarters. Actually this internal transfer is only for preparing financial statements of each business unit, and no actual transaction is made. This average transfer price includes Plant Service Agreement Price (PSA Price) and Transmission Service Agreement Price (TSA Price); the former defined by amount of energy and latter defined by peak load.

Table: Profit and Loss Statement of the Region III (million Rp.)

	1996	1997	1998	1999	2000
Income from Operation	201,382.5	255,076.0	340,512.9	399,864.3	576,148.3
Operation Cost	316,935.9	328,666.5	370,800.6	642,616.3	801,226.9
Operating Profit (Loss)	(115,553.3)	(73,590.5)	(30,287.7)	(42,752.0)	(225,078.6)
Net Other Income Expense	(2,480.0)	(3,520.0)	(19,190.7)	(12,010.9)	(38,619.7)
Net Profit (Loss)	(118,033.3)	(77,110.4)	(49,478.4)	(254,762.9)	(263,698.3)

Data Source: PLN Region III

Table: Average Selling/ Transfer Price (Unit: kWh)

	1998	1999	2000	2001	2002	2003	2004	2005
Average Selling Price*	198.66	206.59	259.42	319.93	400.84	460.97	530.11	609.63
Average Transfer Price**	105.68	267.86	186.22	191.27	319.93	350.38	365.98	386.84

* Average selling electricity from the Region III to consumers (from 2002 onwards estimated figure by the Region III)

** Average selling electricity from North KITLUR to the Region (from 2003 onwards estimated figure by the North KITLUR)

Table: Profit and Loss Statement of the North KITLUR (Unit: 1000 Rp.)

	1998	1999	2000	2001
Income from Operation	489,171.0	1,280,048.3	951,882.3	1,048,267.4
Operating Expense	1,264,235.8	1,182,148.5	1,262,321.8	1,554,677.8
Operating Profit (Loss)	(775,064.8)	97,899.8	(310,439.5)	(506,430.4)
Net Other Income Expense	(9,429.6)	(7,817.9)	(39,264.0)	(32,928.4)
Net Profit (Loss)	(784,494.4)	90,081.9	(349,703.5)	(539,358.8)

Data Source: North KITLUR

(4-1) Current Demand- Supply Condition of the Sumbar- Riau System

At present, electricity is supplied to the Sumbar- Riau system from seven major power stations and a few small diesel power stations with a total installed capacity of 674.75 MW.

According to PLN UPB Sumbar-Riau, when taking into account the deterioration in generating units and seasonal deterioration in hydroelectric power stations, the system still has 517 MW of effective capacity¹⁸. On the other hand, the present peak demand of the system is around 390-410 MW. From the beginning the system had been providing a supply of stable electricity to consumers. However, recently, the system was forced into load shedding¹⁹ due to insufficient electricity supply from the power stations. The

¹⁸ Power producing capacity intended to be available at all times during the period covered by a guaranteed commitment to deliver, even under adverse conditions.

¹⁹ Removal of pre-selected demand from a customer's electric system in the facility to maintain electric load below a certain level.

reasons of recent energy shortage can be explained by i) lack of water availability at the Maninjau HEPP and the Singkarak HEPP, ii) inadequate coal supply to the Ombilin TPP.

Because of low water availability, the Singkarak and the Maninjau were operated only in the evening peak hour, while the Kotapanjang was operated as usual or a little below normal.

(4-2) Future Prospect for Demand- Supply Balance of the Sumbar- Riau System

Currently, in order to stabilize energy supply within the grid system, PLN keeps on negotiating with coal companies for increasing the coal quota.

However, even if these issues are successfully settled, the demand is expected to go beyond the effective capacity of the system (see table below). At present, because of acute fund constraints, there is no plan for constructing new power stations within the grid. However, there is a proposal to relocate a 20 MW gas turbine generator from Semarang in Java Island to Telku Lembu (Riau) in the middle of 2003. If the system does not interconnect with other systems, energy shortages seem unavoidable.

Table: Demand Supply Forecast of the Sumbar-Riau System (Unit: MW)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Installed Capacity	674.75	674.75	674.75	694.75	694.75	694.75	694.75	694.75	694.75	694.75	694.75
Effective Capacity	516.75	516.75	516.75	536.75	536.75	536.75	536.75	536.75	536.75	536.75	536.75
Peak Load	324.50	373.27	429.00	483.60	544.60	604.40	644.20	688.20	734.50	787.90	847.70
Reserve Capacity ²⁰	192.3	143.5	87.8	53.2	-7.9	-67.7	-107.5	-151.5	-197.8	-251.2	-311.0

Data Source: PLN UPB Sumbar- Riau

(4-3) Sumatra Interconnection Project

To materialize stable electricity supply throughout Sumatra Island, PLN is currently carrying out interconnection projects. According to North KITLUR, the Sumbar-Riau system and the Sumsel-Lampung system, as well as small isolated systems of Bengkulu and Jambi will be interconnected by the end of 2002, and formed into an integrated large 150 kV grid system.

The table shown below is the demand-supply forecast of the aforementioned interconnected system. The forecast is based on the completion of all planned projects without delay and/or cancellation.

²⁰ Extra generating capacity available to meet unanticipated demands for power or to generate power in the event of loss of generation

Table: Demand- Supply Forecast of the Integrated Sumatra System (Unit: MW)

	Sumbar- Riau	Integrated Sumatra System			
	2002	2003	2004	2005	2006
Peak Load	430.00	1,167.26	1,262.98	1,366.54	1,478.60
Installed Capacity	694.80	1,631.84	1,631.84	1,871.84	2,041.84
Effective Capacity	548.00	1,305.45	1,301.20	1,518.20	1,658.20
Reserve Capacity	118.00	138.19	38.22	151.66	179.60
Reserve Capacity (%)	27.44%	11.84%	3.03%	11.10%	12.15%
Energy Production (GWh)	2,260.08	5,623.87	6,085.04	6,584.01	7,123.90

* This forecast is draft version, has not yet been approved by PLN headquarters

Source: South Sumatra KITLUR

3.2 Result of Impact Survey on the Resettled Families

3.2.1 Schedule of Impact Survey

(1) Mobilization of Local Consultant

PT. Bitu Bina Semesta, a local consultant, was employed to conduct the impact survey. It then sub-let the field works of the survey to the University of Riau in Pekanbaru, which then undertook the impact survey within Riau Province. The University of Andalas in Padang was selected to carry out the impact survey within West Sumatra Province. The schedule of impact survey of each village consisting of a participatory rural appraisal (PRA) meeting and statistical household survey is shown in the Figure 3.1.

The survey was not carried out under ideal conditions in terms of time scale. It would be better had the questionnaire survey been carried out before the PRA meeting was held. If so, the survey result would have been presented at the PRA meeting. Alternatively, the PRA meeting could be held before questionnaire survey was carried out. Either way, one aspect of the survey is reflected on the other. However, it is easy to control and discredit the biased views if reflected in the survey result. In this instance, both surveys are combined in order to complete the survey within a very compressed period of 2.0 months. Thus the survey result should be carefully examined with full understanding of such limitations.

(2) Mobilization of Local Universities

Under the supervision of PT. Bitu Bina Semesta, the University of Riau in Pekanbaru mobilized six survey supervisors and fifty enumerators for the impact survey. It consists of PRA meeting and statistical household survey. The survey area consists of the villages in the resettlement created by the Project. For comparison purposes, nearby villages not affected by the Project and a transmigration village were selected within Riau Province.

The University of Andalas in Padang mobilized six survey supervisors and 16

enumerators for the impact survey of two villages in West Sumatra Province.

3.2.2 Method of Survey

(1) PRA meeting

a) Attendance

The PRA meeting was planned to invite at least 50 of the villages i.e., a set of fifty invitation letters was provided to the head of village for distribution among the villagers. Since the PRA meeting hoped to invite as many people as possible and encourage active participation without imposing any restrictions on the thought of major topics, the receiver of the invitation letter was advised to bring as many neighbors as possible.

b) Topics of PRA meeting

The PRA meeting was held once in each village compulsorily. In a form of public hearing, the following topics, in this order, were discussed at the meeting:

- Compensation – whether it was justifiably assessed and paid;
- Rubber plantation – whether it was provided with proper seedlings and maintenance works carried out for commercial yield;
- Water supply – whether it was provided to satisfy the local needs;
- Electricity – whether it was provided as planned by the government;
- Housing conditions – whether it was provided as planned by the government;
- MCK(Public Washing and Toilet Space) – whether it was provided as planned by the government;
- Road conditions – whether it was constructed to satisfy the local needs;
- Job opportunities – whether the resettled families have been given a choice of alternatives;
- Conditions of new families – whether newly married couples should be given a chance to acquire agricultural area;
- Boundary dispute – whether there is any village boundary dispute to the neighboring village; and
- Living allowance – whether living allowance promised before the resettlement was paid as planned.

The original intention of the PRA meeting that it was to split the participating

group into two for discussion on the negative and positive effects of the resettlement program. However, this was not carried out as the participants thought it would create a feeling of secrecy and suspicion on either side. All proceedings of the PRA meeting were recorded and are reproduced in Appendix 2.1 of this report.

c) Ranking exercise

The items shown in section b) were the items of selection for the ranking exercise carried out at the end of the PRA meeting. Each participant was given a card and requested to write three of the above issues that had been troubling them the most. In Riau Province, each participant was instructed to rank three items in their own thinking i.e., the participants determined the ranking. In some instances, participants wrote the same issue for all three. This implies that the participants are more concerned on one topic of discussion than the others. As a result, the total numbers of polling from the first priority to the others are different altogether.

In West Sumatra, participants selected three major items out of the above items of topics. The University of Andalas then counted the polling and determined the ranking in the order of majority. The result is shown in the Table 3.2.

(2) Statistical Household Survey of the Resettled Families

A statistical household survey of the resettled families was carried out using a set of questionnaire. Surveyed numbers of households are 4,842 and its distribution in each village is shown in the Table 3.1. The questionnaire was pre-tested both in Riau Province and West Sumatra Province as follows:

- Riau Province: 5 samples in Kota Tuo and 6 samples in Binamang
- West Sumatra: 9 samples in Tanjung pauh

As a result of the pre-test, the original questionnaire was slightly modified in question No. 7 and No. 34 as shown in Appendix 2.3. In No.7, the item of "Bath room" is deleted, since the item is depilated. In No. 34, "u. Gambier" is newly introduced as an item of livelihood. During the survey in the resettlement area, each enumerator was instructed to ask if the respondent was the resettled family's member and whether he/she can be responsible for answering the questions. If he/she was the member of family which moved into the village after the resettlement, they were not surveyed.

(3) Selection of Additional Villages for Comparison Purposes of the Impact Survey

For the purpose of comparing the socio-economic conditions of the villages affected by the Project and not affected by the Project, two additional villages of Tanjung and Karya Bakti, not directly affected by the Project were selected for household surveys. Karya Bakti was a village created by the national transmigration program while Tanjung was one next to the village directly affected by the Project. Tanjung was believed to be the village not affected by the Project.

Contrary to previous belief, however, there were 45 households in the village found to be directly affected by the Project. These 45 households were originally located in an area between 83 m amsl to 85 m amsl of the reservoir level. At the time there was an initial survey of the limit of reservoir which was up to 85 m amsl. They were then told that their plots and houses were to submerge. Therefore they voluntarily moved to higher ground within the village before receiving compensation. Thus this village was considered as being directly affected by the Project.

Therefore Gunung Malero to the west of Tanjung, was additionally selected for the purpose of comparison with the villages directly affected by the Project. In each village, including Tanjung, 100 households were selected at random for the statistical household survey. The questionnaire used for the household survey of these villages is shown in Appendix 2.4 for Tanjung and Gunung Malero and in Appendix 2.5 for Karya Bakti.

3.2.3 Result of Survey

(1) PRA Meeting Attendance

The result of attendance at each PRA meeting is shown in Table 3.1. The total number of persons attending the PRA meetings was 1,260. This is compared to the total number of 4,842 respondents of the household survey of the resettlement village including those villages selected for comparison purposes. Thus the average of attendance at PRA meeting is 26 percent. As shown in Figure 3.2, Batu Rersurat, Koto Tuo and Muara Mahat Baru had the smallest percentage of PRA meeting attendance in Riau Province. Both Tanjung Balit and Tanjung Balik in West Sumatra Province had also recorded the lowest rate of attendance.

(2) Result of Ranking Exercise at PRA Meeting: Project Affected Area as a Whole

The transcript of PRA meeting held in each village affected by the Project and other villages selected for comparison purposes are reproduced in Appendix 2.3. Based on

the discussions that took place during the first half of the meeting, the ranking exercise was carried out at the end of each PRA meeting. The result on the ranking exercise in the number of polling is shown in Table 3.2. Based of the numbers, Figure 3.3 shows, in percentage, the patterns of polling on the overall trend and the priority of issues. As a result, the following is noted:

- As a whole, people are mostly concerned with compensation, rubber plantation and job opportunities. These are followed by poor housing conditions, present road conditions, and electricity supply;
- The majority of villagers complained that the unit rate of compensation, that was agreed between the government and PAFs, was unjustifiably low and the entitled amount was not fully paid. In some instances, no compensation was paid to those who believe they are entitled;
- The initial planting of rubber trees was not carried out. Thus there was no income from rubber to make a living before the living allowance was cut off; and
- The villagers stated that they were in need of job opportunities and better income sources very urgently.

(3) Result of Ranking Exercise at PRA Meeting – Village as a Whole

In Figure 3.3, the patterns of consistency on the ranking of issues are shown in two different types of indicators. Note of the figure is shown in Table 3.3 (b). One is the ranking of issues and the other is the pattern of consistency on the issues they are facing at present. For the ranking of issues, circles show the percentage of the total number polling on issues the participants discussed during the PRA meeting. The numbered rectangles show the percentage of the total number of each priority ranking of issues, which in the opinion of the villagers need to solved as soon as possible.

For illustrating the patterns of consistency, results of overall counting is shown in a thick broken line joining in the order of ranking of top three circles. On the other hand, the pattern of the order of priority ranking is shown in a thin dotted line joining the top three numbered rectangles. These two lines illustrate clear or un-clear thinking of the villagers on the concentration of the top three issues regardless of the contents of issues.

If two lines are more compatible with each other, it appears that these lines illustrate the overall thinking of the villagers on the issue is the same as individuals i.e. awareness on the issues are more clear in the village as a whole. In some villages there are more consistent on the ranking of issues than the other villages in terms of the thinking on the order of priority by individuals. Thus, the following are noted:

a) Pulau Gadang

Job opportunity, rubber plantation, water supply, and compensation, in this order, are the four issues the villagers are most concerned about. However, the villagers selected compensation as the top priority issue requiring resolution. This is followed by water supply and job opportunity. Patterns of consistency are relatively clear. The attendance at the PRA meeting was approximately 20 % of the total village population. It may be assumed that the rest of the village population is not overly confused on these issues.

b) Koto Masjid

Job opportunity, rubber plantation, and road condition, in this order, are the three issues the villagers are most concerned about. In the same order, they ranked the issues as the most concerned at present. Patterns of consistency are clear. The attendance at the PRA meeting was approximately 16 % of the total village population. It may be assumed that the rest of the village population is not overly concerned about these issues.

c) Ranah Sungkai

Job opportunity, boundary dispute, housing conditions, and compensation, in this order, are the top four issues the villagers are most concerned about. However, the villagers selected compensation as the top priority issue requiring resolution. This is followed by job opportunity and boundary dispute. The attendance of the PRA meeting was almost 58 % of the total village population. It may be assumed that the rest of the village population is not overly confused on these issues.

d) Lubuk Agung

While compensation, job opportunity and living allowance are the order of the ranking of priority, overall ranking shows the concern over the new family, where the children of families married after relocation do not have any land to acquire. Patterns of consistency are relatively clear. The attendance at the PRA meeting was 45 % of the total village population. It may be assumed that the rest of the village population is not overly confused on these issues.

e) Batu Bersurat

Rubber plantation, compensation, and water supply are the order of the ranking of priority and overall ranking. Thus patterns of consistency are relatively clear except that ranking is different altogether. Since the attendance of the PRA meeting was only 8 % of the total village population, it is not quite plausible to assume the rest of the village population is confident on these issues. This village stated that they are against information gathering activity.

f) Binamang

There is no striking difference among the issues. While compensation in the overall polling is ranked lower than electricity, and living allowance, it is ranked first with rubber plantation in the order of priority. Patterns of consistency indicate confusion among the issues. The attendance at the PRA meeting was approximately 47% of the total village population. It may be assumed that the rest of the village population is not overly confident on these issues.

g) Pongkai Baru

There is no indifference between overall ranking and the order of priority. Compensation, water supply and job opportunity in this order are the most concerned issues. Patterns of consistency are very clear. Since the attendance of the PRA meeting was 42% of the total village population, it may be assumed that the rest of the village population is confident on these issues.

h) Mayang Pongkai

There is no striking difference among the issues. While compensation in the overall polling is ranked lower than housing, and road conditions, it is ranked first with rubber plantation in the order of priority. Patterns of consistency indicate one of the worst confused among other villages on the issues. The attendance of the PRA meeting was 13.5% of the total village population. It may be assumed that the rest of the village population is not overly confused on these issues. This is one of the two villages selected to grow oil palms but they had to pay for the plantation land while rubber plantation land was given free to each resettled family.

i) Pongkai Istiqomah

There is a striking difference among the issues. Rubber plantation, housing and job opportunity, in this order are the same on the overall ranking and the order of priority. Patterns of consistency indicate very clear concerns on these three issues while the attendance of the PRA meeting was approximately 52 % of the total village population. It may be assumed that the rest of the village population is confident on these issues.

j) Tanjung Alai

There is a striking difference among the issues. Compensation, job opportunity and road condition, in this order are relatively the same on the overall ranking and the order of priority. Patterns of consistency are very clear. The attendance at the PRA meeting was approximately 17% of the total village population. It may be assumed that the rest of the village population is confident on these issues.

k) Muara Takus

There is a striking difference among the issues. Rubber plantation, water supply, and washing and bathing place (MCK), in this order, are the same on the overall ranking and the order of priority. Patterns of consistency indicate very clear concerns on these three issues. The attendance at the PRA meeting was approximately 24% of the total village population. It implies that it is very plausible to assume the rest of the village population is confident on these issues.

l) Koto Tuo

Issues on rubber plantation and job opportunity indicate striking difference than other issues. Patterns of consistency on the second and third rankings are inverted. The attendance at the PRA meeting was 8.5 % of the total village population. It may be assumed that the rest of the village population is confused on these issues.

m) Muara Mahat Baru

The order of priority indicates compensation, rubber plantation and housing conditions. This is different from the overall ranking. Patterns of consistency on the first and second rankings are inverted. However, these three issues are strikingly outstanding from other issues. The attendance at the PRA meeting was

11.3 % of the total village population. It may be assumed that the rest of the village population is confused on these issues.

n) Gunung Bungsu

Boundary dispute is the most concerned issue in Gunung Bungsu at the moment. Thus, patterns of consistency show confusion among the issues. The attendance at the PRA meeting was approximately 37 % of the total village population. It may be assumed that the rest of the village population is confused on these issues.

o) Tanjung

It is believed that this village has not been affected by the Project. However, at the PRA meeting, 45 households claimed that they were directly affected by the Project. Patterns of consistency on compensation, rubber plantation, and job opportunity illustrate their concerns on these issues. Since the attendance at the PRA meeting was approximately 37% of the total village population, it may be assumed that the rest of the village population is confident on these issues.

p) Karya Bakti

This is a village created by the national transmigration program. Therefore compensation is not the applicable issue to the PRA meeting participants. Road, electricity and water supply are the three most and clearly concerned issues. Patterns of consistency are relatively clear. The attendance at the PRA meeting was 28 % of the total village population. It may be assumed that the rest of the village population is confident on these issues.

q) Gunung Malero

While this village was not affected by the Project, mistakenly, compensation was included as an item of selection during the PRA meeting. As a result, four people listed the item as a concern. Nevertheless, water supply, rubber plantation, and job opportunity, in this order, are the concern of the villagers. Patterns of consistency are not quite clear while these issues are outstanding from other issues. Since the attendance of the PRA meeting was 44 % of the total village population, it may be assumed that the rest of the village population is relatively not confident on these issues.

r) Tanjung Pauh

This is a village in West Sumatra Province and the way the ranking exercise was conducted during the PRA meeting was different from what was carried out in Riau Province. Villagers wrote three items on a card and the ranking was determined on the basis of the order of larger numbers to small numbers. Thus, as is indicated, their concern over compensation and the rubber plantation became the same number as the top priority issues followed by water supply. Since the attendance of the PRA meeting was approximately 12 % of the total village population, it may be assumed that the rest of the village population is not overly confused on these issues. This village rejects government intervention.

s) Tanjung Balit

This is a village in West Sumatra province and the way the ranking exercise was conducted during the PRA meeting was the same as in the case of Tanjung Pauh. As is indicated, their concern over rubber plantation became the first priority followed by compensation and water supply. While the attendance of PRA meeting is approximately 9 % of the total village population, the patterns of consistency is very clear. It may be assumed that the rest of the village population is not overly confused on these issues.

(4) Analysis of the Result of PRA Meetings

The summary of the contents of PRA meeting is shown in the Table 3.4. Table 3.5 shows a matrix of issues and suggestions raised during the PRA meeting held in each village. In broad generalization, the resettled families of the villages affected by the Project have been kept waiting patiently for action to be taken to rectify the existing adverse conditions since the resettlement operation began. The present social attitude of the settlers can be attributed to the following:

- a) Issues of the resettlement program, especially the provision of rubber plantation area where rubber seedlings were not planted successfully at first;
- b) Living allowance was cut off before the rubber trees began yielding;
- c) Unequal treatment of one village to the other in terms of the provision of facilities such as free electricity in Pulau Gadang;
- d) Issues of the rectification program carried out during the post-resettlement period such as re-planting program of rubber plantation;
- e) Provision of a sophisticated water supply system, where most villagers were not able to carry out maintenance works and also afford the operation cost; and

- f) Lack of commitment and response by the Government of Indonesia to date that may be blamed on the political turmoil in the country since May 1998; the time the dam construction was completed.

Because of the unfortunate events that took place one after the other since the resettlement, the anxiety among the villagers for rectification of the issues and economic condition of the village has been left unattended to the extent that they are no longer expecting the government to take any further action. Tanjung Pauh in West Sumatra Province is an extreme case. A couple of villages in Riau Province also stated their concern over the solitudes since the resettlement. On the other hand, there is a village that has taken necessary action in order to supplement the adverse conditions they faced during the past years. Koto Mesjid in Riau Province is in this case.

During the past 12 months, because the villages affected by the Project have drawn very close attention, a number of local and international NGOs, Japanese university, and international aid agencies from Japan and France visited the villages. Villagers have been anxious or in some cases confused by the NGOs and university professors if they were offering assistance after obtaining information from the villagers. They expect follow-up actions to rectify their present hardships in exchange for disseminating information. Since they were not informed of any follow-up actions to date, they voiced their concern during the PRA meeting that the data gathering should end at this stage.

As shown in Table 3.5 of the matrix of the issues and suggestions made by the villagers during PRA meeting, the villagers think that compensation is the most important and should be resolved without delay. However, there is a difference of opinion between villages in terms of managing the adverse conditions created by the resettlement. As above, Koto Mesjid took a collective action to invest the cash income derived from compensation for improving the living conditions of the village. Although they voiced their concerns on compensation, it is not their top priority issue. This is because they managed to obtain government subsidy for improvement of water supply and other facilities necessary to improve the village economy. As a result, despite their complaint on the unjustifiable compensation issue, they are more concerned with development of the village by themselves i.e., trying to draw more public investment for the future development of the village. This is not the case in other villages. This difference may depend much on the thinking among the villagers of the future of the village, and probably depends on the level of knowledge in organizing the villagers and the leadership of the head of village as well.

There is also much difference in terms of natural conditions of each village that the settlers had to cope with since resettlement. In general, the more the natural conditions

are favorable to the collective actions that the villagers took, the more the degree of adverse conditions have been eased. In this respect, Koto Mesjid and Pulau Gadang have had favourable geographical conditions compared to other villages. However, among the villagers of these two villages, discontent still remains in that they did not receive what they were entitled to. This feeling is much stronger in other villages, despite the fact that there must be much exaggeration on their statements, the natural conditions of villages other than Koto Mesjid and Pulau Gadang were much unfavorable to their life style.

For example, the villagers used to be able to use the river for drinking water and bathing. In other words, traditional villages are located along the river because of the water supply. This was not the case in the resettlement area. Without proper running water, therefore, the villagers do not learn the way wells are used and maintained individually.

In the traditional society, the river was a place where the villager could maintain his solitude in the case of bathing, washing and latrine facility. However, it is wrong to assume that the river is a "public facility" of the village, where a lot of people can come and use at the same time. The river is, to the villagers, a "maintenance free" facility. There was no "traditional organization" for maintaining the river for the purpose of bathing, washing and latrine facility. Thus these public facilities constructed in a resettlement village that would require maintenance, is a beyond the villagers conception unless an organization is arranged and trained for maintenance work i.e., the program is destined to fail.

(5) Result of Statistical Household Survey

a) Surveyed Number of Households

The number of households surveyed including three villages selected for comparison purposes is as follows:

Table **Surveyed Number of Households**

-	Riau Province:	
	Target No. of households -	4,349 Households
	Total No. of respondents-	3,953 Households
	Total No. of additional respondents-	344 Households
	Sub-total of Respondents in Riau-	4.297 Households
-	West Sumatra:	
	Target No. of households -	800 Households
	Total No. of respondents -	545 Households
	Sub-total of Respondents in West Sumatra-	545 Households
	Total No. of respondents -	4,842 Households

The enumerators were not able to interview 401 households that are not living in the resettlement village in Riau Province or out in the field for several days at a time in search of commercial commodities. There were also 14 households refusing to answer the questionnaire. Thus 90.5 % of the total target number of households answered the questionnaire of the impact survey.

In West Sumatra, there have been 545 respondents out of the target 800 households. As is shown in Table 3.6, there are 112 households that have gone back to the old village for making a living. There were 11 households that refused to answer the questionnaire. The rest of 132 households were out in the field for several days in search of commercial commodities at the time of the survey. As a result, 68.1 % of the total number of resettled families answered the questionnaire.

Initially two villages not affected by the Project were selected for comparison purposes. As a result of the PRA survey in Tanjung, there were 45 households claiming to be the directly affected by the Project. Thus, the village is considered as an affected village. At the time the PRA meeting was held, the statistical household survey was completed in Tanjung. The survey data of this village was not considered valid for the data of the village as "Not-affected by the Project". However, it is shown in Table 3.6 as well as in other part of this report as "Non Relocation" for reference purpose only. Further, because of an invalid answer, results of the survey of this village became 99 households while originally surveyed for 100 households.

In place of Tanjung, therefore, Gunung Malero next to Tanjung, was selected as a village "Not affected by the Project" and also because the village is located in the area near the reservoir created by the Project. Karya Bakti was selected as a transmigration village not related to the Project. It is thought that the nature of transmigration program and its degree of success should be compared to the villages affected by the Project. Thus, the number of households surveyed is 344 in addition to the originally targeted number of households. As a result, 4,842 samples were obtained for the purpose of the impact survey. Details of the result of survey and its analysis carried out by the local consultant of PT. Bitu Bina Semesta is shown in Appendix 2.2.

b) Demographic and Socio-economic Characteristics of the Resettled Families
Demographic characteristics of the resettled families are shown in Table 3.6.

Socio-economic characteristics of the resettled families are shown in Table 3.7. The number of households originally intended for survey was 5,349 including 200 households of two villages selected for comparison purposes. Later, because of additional findings and invalidity of the survey, 144 households were further added. As stated in the above section, because of the absence of the resettled families and those who refused to answer, the total number of respondents became 4,842. This is 87.8 % of the total number of the target households for survey.

Majority of the respondents were between 31 and 50 years of age, and 77 % of the respondents were the head of households followed by 21 % of the respondents being the spouse of household. There are a number of villages whose population declined after the resettlement as is shown in Table 3.8 and is summarized as follows:

Village	Gender	Total No. of Decline
Plau Gandag	Male	6
Ranah Sungkai	Female	32
Pongkai Baru	Male and Female	61
Mayang Pongkai	Female	34
Pongkai Istiqomah	Male and Female	70
Tanjung Alai	Male and Female	96
Muara Mahat Baru	Male and Female	255
Tanjung	Male and Female	78
Karya Bakti	Female	5
Tanjung Balik	Male and Female	368
Tanjung Pauh	Male and Female	176

Source: Result of Statistical Household Survey

Table 3.8 also shows the changes in the number of ownership of capital goods since resettlement. Electronics appliances such as color TV are re-saleable goods in Indonesia. When in need of cash, local residents could sell them. It is the same with a motorcycle and other goods. As is shown, while the numbers of color TV in all of the villages affected by the Project have not declined, Tanjung, the village not affected by the Project indicated a decline. Increase of refrigerators except for Binamang is a notable item of capital goods that increased since resettlement. In Batu Bersurat, Binamang, Pongkai Baru, and Tanjung Balik, the number of motorcycles, a valuable means of transportation in Indonesia has gone down.

Increase of color TV and refrigerator indicates that people's life-style is modernizing. This implies that the income level is on the increase. However, it also implies that the resettled families have to have refrigerator because they do not maintain food crops in the garden while food stocking is necessary. Thus pressure on the payment of electricity and purchase of food items must be increasing. Nevertheless, in general, income level is on the increase.

Decline of the number of buffalo, goat and poultry implies that the natural conditions in the resettlement areas are not favorable for rearing them. The resettlement areas on the hillside are not good for buffalo since there is no water for bathing. To some extent, decline in the number of livestock is a reflection of the need for cash as villagers had to sell livestock for cash income since resettlement.

Koto Mesjid is the only village that has no capital goods and has, therefore, never declined since the resettlement. On the other hand, Tanjung, Gunung Malero and Karya Bakti that are not affected by the Project would be the indicator of "better-off" on socio-economic characteristics of the villages in the vicinity of project area, Koto Mesjid is the only village "better-off" than these villages in terms of the ownership of capital goods. Pulau Gadang is second to Koto Mesjid, achieving almost a compatible level in the ownership of capital goods to these indicator villages. Thus in general the resettlement program in other villages could be considered negatively affected in terms of the ownership of capital goods.

Source of income of the resettled families before and after the resettlement are shown in Table 3.15 and illustrated in Figure 3.9, which indicate the result of the total number of respondents on the income sources. As the bar chart shows, there is a striking difference in the primary income source before and after resettlement. Decline of secondary and tertiary income sources since resettlement are also illustrated in the bar chart. This is compared to the opinion on life after resettlement as is shown in Figure 3.10, which shows the thinking of the resettled families as a whole on life after the resettlement. Those who stated that the life after resettlement is unhappy are on the increase; more than doubled. Equally, those who stated they were happy before the resettlement became less than half.

On the other hand, as above and Figure 3.7 illustrates, in terms of the ownership of capital goods of the resettled families as a whole, based on color TV, motorcycle and refrigerator, is on the increase i.e., standard of living in general is on the increase. However, approximately one-third believe that the standard of living is on the decline as is shown in Figure 3.11. Further, as is shown in Figure 3.8, negative effect of the impact of resettlement on the social activities is not as great as the negative answers on the standard of living. In other words, approximately a half of the resettled families are demonstrating that they are making a satisfactory living despite the present hardships imposed on them.

c) Compensation

Table 3.9 shows the results of the survey on compensation. There are striking differences, or inequality, between the villages receiving compensation on the house and courtyard and those not receiving it. Almost all families in Pulau Gadang, Koto Mesjid, Binaman and Koto Tuo received compensation on the house and courtyard. In other villages, 55 households stated that they did not receive compensation for their houses. There are 266 households that have not received compensation, including those who stated that they received a portion of compensation for their houses. This is 4.8 % of the total number of resettled families.

The total number of households who stated that compensation for the land submerged in the reservoir has not been paid is 130. Those who received a portion of compensation are 431 households. Total number of households claiming for compensation is 561 and this is 10.6 % of the total number of resettled families.

Compensation for isolated areas and remote areas including improvement on the land such as perennial trees bearing fruits for sale are a matter of thorough assessment on the eligibility of compensation. It is noted that there are still a large number of resettled families claiming compensation as shown in Table 3.9.

The results of the survey shows that there are discrepancies on the issue of compensation. The following is a set of four selected villages that exemplifies the discrepancy:

Table Selected Result of Survey on Compensation

	Plau Gadang	Koto Mesjid	Binamang	Koto Tuo
Compensation Not Received	0	0	2	2
Claims Made	19	18	40	17

Source: Result of Statistical Household Survey

There is a similar trend with other villages as shown in Table 3.9. This indicates that some of the resettled families are making claims on the area away from their living area further to the compensation they received. Some claim that a patch of land in the middle of the forest should be subject to compensation. Although aspects of compensation issues are in need of thorough investigation, the above indicates the social attitude of the resettled families; that they are confused on this issue. However, this is contrary to the contention raised during PRA meetings that:

- The PRA meeting participants complained on the compensation scheme as they did not receive compensation on the house, courtyard and major farming area; and
- The assessment of property subject to compensation was unjustifiably low.

It appears to be true that some received compensation on the remote area while some did not. Thus, establishing clear criteria, clarification of properties entitled to claim, and clarification of the current claims based on urgency should be made to satisfy not only the claimants of compensation but also those of the village as a whole.

There have been very strong complaints on compensation expressed by the participants of PRA meetings held during the survey period. If the chorus of complaints on the compensation scheme was made even from those who received compensation, it should be considered that the individuals of the local society are compassionate towards each other. This view has to come from a unique community viewpoints derived of social cohesion of Minangkabau society.

The compassion to each other must have affected, to some extent, the atmosphere of the PRA meeting. This may in turn have affected the statistical household survey. Thus, it may be appropriate to look for some sort of indicator to substantiate it. The results of the survey on compensation on the following three villages should illustrate the feeling of the resettled families to some extent:

Table Selected Result of Survey on Fairness & Compensation

	Pulau Gadang	Koto Mesjid	Binamang	Koto Tuo
Good	3.8 %	14.5 %	1.4%	0.6%
Fair	36.3 %	53.0 %	6.1%	0.0%
Unfair	41.4 %	33.3 %	90.9%	75.6%

Source: Result of Statistical Household Survey

As is shown in Table 3.9, almost all of the resettled families in both Pulau Gadang and Koto Mesjid have received their share of compensation. However, as above, a substantial number of respondents in these two villages expressed their dissatisfaction on the compensation scheme. Binamang and Koto Tuo are two villages where there are a few families who have not received their share of compensation. However, an exceptionally high percent of the resettled families in Binamang and Koto Tuo have expressed their dissatisfaction on the compensation issue. A more or less similar trend is noticed in the statistics of other villages.

These statistics alone may have to be considered as a statement of compassion to community members. In other words, this may be considered as an “indicator of exaggeration” unless substantiated as a “true indicator of dissatisfaction”. This

aspect is in need of in-depth study of inventory on the detailed items subject to compensation.

The above "indicator of exaggeration" may further be applied, with careful consideration, when the survey results of other villages are analyzed. Oftentimes, qualitative answers, which may well be affected by external factors, should be treated as subject to some amount of exaggeration. However, importance to respect and appreciation of the social cohesion and compassion to fellow villagers of the local society remain very significant.

d) Rubber Plantation

Original migration patterns and that of after resettlement were essentially the same as shown in Table 3.16. However, there are large differences in Batu Bersurat, Binamang, Pongkai Baru, Muara Takus and Koto Tuo. In the case of Koto Tuo, all of the resettled families finally acquired rubber plantation land while the original intention of the rest of resettled families was to acquire palm oil plantation. In Muara Takus, the majority of the resettled families received rubber plantation land. In Binamang, 64 % of the total number of resettled families acquired oil palm plantation land. This is different from their original intention of acquiring rubber plantation area. None of the respondents in Pongkai Baru maintains rubber or oil palm. Originally, the resettled families of Batu Bersurat were split approximately in half for rubber plantation and oil palm plantation. At present, less than half of the resettled families maintain rubber plantations. As a result, there are more than half of the resettled families who do not maintain rubber plantation land although they were originally intended to do so.

There have been a number of resettled families that did not receive plantation land at the time of resettlement. The majority of Ranah Sungkai and Koto Tuo did not receive their plantation land at the time of resettlement. In Lubuk Agung, 23 % of the resettled families were not given plantation land. In Batu Bersurat, 31 % of them did not receive the plantation land. In other villages, a few did not receive their share of plantation land at the time of resettlement.

Except for Muara Takus, all other villages in Riau Province responded that there was not much plantation land with trees planted in it. In West Sumatra, the majority of the resettled families of both Tanjung Balik and Tanjung Pauh stated that there were planted areas as shown in Table 3.16 c

Not many people responded to the question for the reason of not planting rubber/oil palm trees. In the case of Tanjung Balik and Tanjung Pauh, there have

been more than one answer to the question. Nevertheless, as shown in Figure 3.6, lack of seedlings, manpower and diseased trees are the average answers.

The majority of the respondents stated that they did or do participate in the replanting program. They have also stated that they are receiving subsidy at present from the government for plantation program in both province. Thus it appears that the majority of the resettled families are willing to accept government subsidy for rehabilitation of plantation program if there were any.

e) Water Supply

Based on Table 3.10 (a), 44% of resettled families received no water supply at the time of resettlement. A large number in Koto Mesjid, Lubuk Agung, Batu Bersurat, Pongkai Istiqomah, and Koto Tuo stated that they did not receive a water supply. There has been a great deal of complaints on the water supply.

The shallow well originally provided by the government at the time of resettlement is least used among the resettled families. As is shown in Table 3.10 (b), in Plau Gandag and Pongkai Baru, more than half of the total number of households is using the shallow well. There are 45.7 % and 33.3 % of the resettled families in Muara Takus and Muara Mahat Baru respectively using the shallow well. There are 535 families that are currently using the wells provided by the government. This is 11.9 % of the total number of respondents.

Table 3.10 (c) and Figure 3.4 show the source of clean water supply of the resettled families. There is a striking difference before and after the resettlement. Before resettlement, the families were very heavily relying on rivers for clean water supply throughout the year. It is not the case in the resettlement area.

Although the villagers claimed during the PRA meeting that the shallow wells are dried up during the dry season, Figure 3.4 shows that they can obtain water from shallow wells. However, they use shallow wells with some problems. Lubuk Agung, Batu Bersurat, and Binamang as well as Tanjung Alai do not have water resources. Most of villagers manage to fetch water from the near-by river, receive water from a neighbor, purchase or rely on a municipal water delivery truck. Currently, in Binamang, Muara Takus and Koto Tuo, the municipal water supply system is under construction. It is a very primitive system of collecting water from nearby streams that they may require great deal of improvement and maintenance in the future. Details of it are shown in the Section 4.2.2.

f) Housing

There has been a provision of uniformly built houses within the framework of the resettlement program of the Project. The size of house was 5 m x 6 m with plastered floor, wooden wall and asbestos roofing. It was considered as temporary shelter from the project implementation point of view. It was also a standardized provision of house built by the Ministry of Transmigration at the time of resettlement. It was this temporary nature of house that had to meet the construction program of the Project i.e., the sooner the resettlement is carried out, the less problematic in terms of the implementation of the Project. Thus a uniformly constructed wooden house was provided in the first place. The philosophy of the resettlement program was that those who owned permanent and larger houses could rebuild their house in the resettlement area upon receiving compensation.

As shown in Table 3.14, a large number of resettled families renovated their wooden houses. Roofing material has been changed to corrugated iron sheet for gathering rainwater because asbestos is not suitable for water harvesting. In general, families consider the provision of house within the framework of the resettlement program should be at least a semi-permanent type.

It appears that there have been a number of misunderstandings between the government and the families on the provision of housing for resettlement. Because the Ministry of Transmigration was the main institution to handle the resettlement operation, provision of housing was standardized and a unit of wooden house per family was provided in the first place. Families reluctantly accepted this since they are not "transmigration families" and have no reason to receive a uniform size of house. However, in order to leave from the area to be inundated, they accepted the given option, with the feeling that they were forced to resettle. In some cases, there are a number of families who appreciate the wooden houses, being better living quarters than before resettlement.

When the issue the failure of rubber plantation and water supply became clear in later years, and made life difficult in the resettlement villages, the anxiety of the families and the fear of securing income appear to have been amplified over the years.

The resettled families are requesting that the government should provide financial assistance for renovation of their houses. In their words "the price should be calculated based on the cost per m² of a semi-permanent house. This amount is subtracted by the cost per m² of the wooden house built at the time of resettlement. The net difference should be paid to an individual family in order to renovate the

house”.

In view of the modernizing trends in society, the settlers strongly feel that facilities such as washing place, bathing place, and latrine should be provided on an individual family basis rather than as a common facility. Table 3.11 (b) exemplifies this. There are 703 households using the facility and it is 15.6 % of the total number of respondents. Amplification of their demand should continue unless a carefully elaborated program for rectification of the resettlement program as a whole is implemented.

g) Electricity

Table 3.12 shows the electricity supply to the resettlement villages. Pulau Gadang and Koto Mesjid villages received electricity installation and connection free of charge. A few of the resettled families in Muara Takus and Gunung Bungsu in Riau Province and Tanjung Balik and Tanjung Pauh in West Sumatra also received free electricity installation and connection. There are 4,420 of the families, or 98.3 % of the respondents, at present who can afford to pay for electricity supplied by PLN despite the fact that they did not use electricity before the resettlement. Electricity supply is one of the positive effects of the Project that the families appreciate a great deal. However, the question still remains that there was unequal treatment between two villages that received electricity free of charge and the rest of the resettlement villages that paid for installation and connection.

h) Road Conditions

Exposure to the main road has been one of the positive effects of the Project. This is exemplified in Table 3.13. Those villages that are not affected by the Project including transmigration villages do appreciate the construction of a main road with an asphalted surface. In the case of Maynag Pongkai and Muara Mahat Baru, both oil palm plantation villages in the flat area away from the project area in Riau Province, the conditions of the main road are not much appreciated, while that of the village road is much appreciated after resettlement. In the case of a plantation road, the majority of the resettled families do not appreciate it. In some cases, based on what was heard in the village, no road is existing at all. In extreme case, one has to take a boat across the reservoir and walk to the plantation area. Thus both the road and distribution of plantation area may have to be the subject of much in-depth analysis and elaboration as well as survey and negotiations between villages if consolidation of plantation lands becomes necessary.

3.2.4 Analysis of the Impact of Resettlement Program

(1) Anthro-developmental Characteristics of the Resettled Families

Those living around the reservoir area are called "Gunit", one of the small ethnic groups in Riau, forming "Melayu" as a whole. However, their tradition and culture reflects strong influence of "Minagkabau", which is a large ethnic group of West Sumatra. It appears that they are "semi-hunter-gatherers" living on the forest products including trees, fruits, wildlife and fish. They also grow tree crops such as durian, mango, papaya, and rambutan. Rubber tapping has been a more recent development among "Gunut" families since the Dutch occupation. Both wet and dryland rice cultivation are practiced to some extent. Growing annual crops such as vegetables is not very common.

As a broad generalization, the resettled families affected by the Project had been a society in transition from the "semi-hunter-gatherer society" to an "agricultural society" based on tree crops before the resettlement. Historically, their life had developed in the middle of the rain forest of Sumatra Island. Primitive practice of slash and burn agriculture was in the process of transition to a more modern form of agriculture at the time of resettlement.

They have been growing a variety of forest products ranging from rubber and durian to other fruits trees, as well as dryland rice based on the historical knowledge of the area. To some extent, they engaged in a primitive level of commercial logging, which in modern day laws and regulations is considered illegal but was not the case in the traditional society. Firewood obtained from the forest was the major source of cooking fuel. Lighting was candle or kerosene lamp in most families affected by the Project. In some cases, firewood after cooking was the source of lighting. They obtained water for drinking and bathing from the nearby river i.e., settlements grew up along the streams.

In such a traditional society with primitive daily practices, diversification of the means to obtain primary commodities was important for supporting the population. Thus, hunting and gathering were maintained while agricultural practice was carried out. Cash income and self-sufficiency in food supply were generally obtained to their satisfaction. It is important to note that, in traditional society, the concept of investment is not fully developed. Such diversification for making a living, with some emphasis on security of food supply, has functioned well and included preparation for drought years. With the traditional way of land management, offspring were able to acquire land for cultivation. They would begin growing perennial crops on the infertile ex-forest soil. They would then begin to learn more agricultural skills to enable cultivation of more modern annual crops.

It appears that the patterns of traditional life-style have been disturbed upon resettlement. Since resettlement, the original villagers have been subdivided into fourteen villages in Riau Province and two villages in West Sumatra Province. They have acquired modern facilities during the past ten years. Thus, it is not easy to observe signs of a "semi-hunter-gatherer society." Some engage in modern business while some are compelled to go back to the forest to find commercial goods such as trees, birds, and stones for cash income. However, their psychology remains one way or another as a type of "semi-hunter-gatherer society." Thus it is important to note that the resettled families should be given an opportunity to go through a transition to modern society through social development and training programs. In respect of this, the following are noted:

- a) Carefully studied characteristics of the existing society should become the basis of resettlement program's construction works;
- b) Carefully studied needs and demands of the resettled families based on self-determination of the existing society should be incorporated in elaborating the resettlement program i.e., people's participation is an essential part of the resettlement program; and
- c) Appropriate action plans should be elaborated based on the principles of self-determination and the characteristics of the existing society in order to rectify the present circumstances.

(2) Analysis of the Impact of Resettlement Program

Construction of facilities was a major part of the resettlement program and was designed from the viewpoint of the dam construction schedule. Thus it appears that removing the local population was more important than ensuring that traditional society and culture of the resettled population was re-established. As a result there was no consideration on the social development or training programs for the resettled families, and no consideration of the traditions of the society affected by the Project in the first place.

The original program probably considered it more important to maintain social cohesion of the villages. For example, despite the fact that a number of families were living above the high water level of the reservoir, the entire population of the village was removed. The concept of maintaining social cohesion itself has to be appreciated. Thus it was thought that the cohesion of the village upon resettlement will be maintained. However, it does not mean that this was leading to social development.

On the other hand, this resulted in the disenfranchisement of community-owned land in remote areas. In the traditional society of the area affected by the project, each clan

would maintain community-owned land termed "*tanah ulayat*". This is parceled out to newly married couples as to make a living for the new family. This practice was not considered as one of the very important factors for maintaining the cohesion of traditional society and was not included in the resettlement program. The provision of 2 ha of plantation area per family provided in the resettlement village was only for the resettling families i.e., there was no extra land for the population likely to increase in the future. The original resettlement program therefore failed to cater for the future expansion of population and the increase of households of each village. In the old village, however, traditional life-style and the community owned land catered for the expansion of population.

The effort to elaborate an EIA report, which was not very common in the late 1980s, should be praised. However, the original resettlement program appears to have ignored the various factors necessary to understand the characteristics of the local population and their likely behavior after resettlement. The natural conditions of the resettlement areas and the consequences of the changed environment were also not carefully examined. Thus the following features of the program are noted:

- Because of the provision of 2 ha plantation area per family in the resettlement village, newly married couples are no longer entitled to any portion of community-owned land in the remote area;
- Village leaders are trying to bring the government's attention to the community-owned land as a part of compensation package in some cases;
- The villages resettled in areas distant from their community-owned land have been facing problems parceling out their land to members of the community;
- Compensation for the community-owned land in the remote area was not included in the resettlement program;
- Provision of the living allowance for three years meant that it cut out well before rubber plantations began to yield;
- Provision of living allowance cut-off at the end of two years burdened the life of resettled families;
- No training program was provided for transition from the traditional society to modern society in terms of agricultural activities or plantation crops;
- Site investigation for water supply and the future of agricultural activities were completely inadequate;
- Provision of water supply system failed;
- Toilet and washing facilities were not designed to maintain privacy;
- While the reservoir was considerably large for stocking freshwater fish, no fishery development program was considered; and
- Uniformity of the house provided for each family failed to consider the standard

of living of individual families.

(3) Analysis of the Actions/Solutions Taken After the Resettlement

There have been a number of actions taken to rectify the mistakes of the resettlement program. The following broad generalizations are noted from past reports on the Project, the findings of the PRA meeting and statistical household survey, and the field survey.

a) Compensation

There have been a number of appeals by the resettled families for compensation not paid to date for their houses and the courtyard in the inundated area. Those who made the complaints that their farming areas look like a part of the forest are under examination. This has been the major point of dissatisfaction among the resettled families to date. On the other hand, it appears that the more such claims are re-examined, the more they are likely to increase. It is also likely that the community-owned area is facing a similar problem. This hampers the effort to resolve compensation and efforts to implement an action plan as a whole. Thus the following recommendations are made to the Government of Indonesia:

- A hundred percent of compulsory compensation issues on inundated area and isolated areas should be resolved as a matter of urgency. This should have a higher priority than the action plan;
- The Government of Indonesia should clearly state that these compensation issues are final and completed if that is the case, or ensure completion before other cases are examined;
- It appears to be necessary to classify compensation issues for the inundated area and isolated areas in terms of the households compensated, uncompensated, and partly compensated. Other classifications would include those who refused to accept the government rate of compensation, community owned areas, and individually owned areas. The numbers of households in each category should be determined; and
- The above is applicable to compensation issues on plots in remote areas for which compensation is not compulsory under the prevailing laws and regulations of the Government of Indonesia, but are compelled to be compensated under the present circumstances and administrative practices.

b) Rubber/Oil Palm Plantation

The replanting program conducted by the Riau Provincial Government, which began in 1999, might have contributed to ease the anxiety among the resettled families in recent years. With the present replanting program, the issue will gradually fade away from the list of issues. On the other hand, there is a budget shortage for the replanting program in West Sumatra. It is necessary to complete it successfully since rubber plantation is the major source of income of the resettled families. Details of the present conditions of each plantation plot are subject to further study.

In the case of the villages with oil palm plantation, economic conditions are relatively stable. However, feelings of dissatisfaction remain since the oil palm plantation was on credit. On the other hand, the rubber plantation was provided free of charge to the families resettled in the area around Kotapanjang reservoir. This created a feeling of inequality among the families resettled in the oil palm plantation area. Economically oil palm is relatively stable, while rubber is not. Therefore, it is necessary to create a situation whereby the sense of inequality is removed.

c) Water Supply

The local government has carried out a program of rectification of the water supply system in recent years. The scale of the rectification program is comparatively small. However, the villagers in Binamang are not overly dissatisfied with the conditions of their water supply system. On the other hand, the rectification program out in the 1995-1997 period was not effective. It required a very high standard of maintenance work that was beyond the knowledge and financial resources of the villagers. In general terms, a program for water supply alone, carried out within the action plan of the Project, would probably contribute to ease the present severe complaints on the failure of the resettlement program.

d) Electricity Supply

Exposure to electricity was considered a positive effect of the Project. There is much appreciation of it. However, there was no equal treatment on the issue as a couple of villages received electricity installation free of charge while many others did not. There is no other way to achieve equity but for PLN to supply electricity installation and the first year of consumption free of charge, as promised before the resettlement. The promise of rural electrification was made by PLN in 1992 as a part of additional measures to the resettling families. It was to supply:

- Diesel power plants;
- Electricity poles;
- Distribution lines; and
- Connections to individual houses.

The connection was to be provided free while the resettling families had to pay the cost of in-house installation and customer guarantee fee.

It appears to be a very plausible contention that the electricity generated has come at the cost of the life and environment of the society subject to resettlement. This was raised during a PRA meeting. Thus, electricity charge should favour the resettled families and villages as a whole. It is suggested, therefore, that in the future projects that involve resettlement of local populations should “directly” benefit out of the turnover of the project and that the cost of overall compensation should be born by the benefit of project.

e) Housing Conditions and Bathing, Washing and Latrine Place (MCK)

As explained in the Section 3.2.4 (1), the resettlement program failed to carry out in-depth analysis of the traditional society’s concepts of social cohesion and the privacy of individuals. The uniformly constructed houses following the standard of the national transmigration program, was reluctantly accepted by the resettled families. Since they are exposed to modern equipment, facilities and living style, it is natural for them to demand an individual water source, bathing and latrine facility within an individual family’s house. In the process of modernizing the society, it is a very reasonable demand. Thus, in order to rectify the situation:

- The Government of Indonesia may have to allocate for improvement of the worst housing conditions i.e., unrenovated since resettlement; or
- Carry out various programs that would help improve the income of individual households so as to be able to improve their house by their own effort.

f) Infrastructure

The main road linking all resettlement villages is considered a positive effect of the Project. Currently, the road linking to Pekanbaru-Padang road from Tanjung is under rehabilitation. This may have been reflected in the survey result that the condition of main road is generally good.

Electricity and telephone have also been considered positive effects of the Project. A large number of the resettled families have been exposed to such modern facilities and

appreciate them. However, the way they are used is a matter for concern. As their income level is improved, they should be able to afford more telephone lines.

g) Livelihood Program

Other than the demands for rubber plantation rehabilitation, there have been a number of suggestions for enhancing the economic conditions of the resettlement village. Since the resettlement area's natural conditions are not very favorable to annual crops, in-depth study of tree crops on ex-forest land, fishery, poultry, and livestock rearing as well as cottage industry or processing of local products may have to be considered. These have been carried out on a trial basis in recent years. On the trial and error basis, individuals have also begun exploiting the possibilities of various income generation programs. However, none of these have been carried out as collective action for general economic development of the resettlement villages as a whole. Among them, fish farming has been an alternative to the failed rubber plantations in terms of raising income. In some villages, like Koto Mesjid, individual families have been successfully fish farming to raise their level of income. Thus, a thorough study on fish farming for implementation of the most aspired project component for the action plan is suggested.

h) Meetings, Workshops and Information Gathering Activities

The villages affected by the Project have been a center of focus in recent years. There have been a number of groups visiting the project area during the past 12 months. These are:

- International and local NGOs advocating the legal aspects on the human rights of the resettled families;
- Local NGOs for implementation of agricultural development;
- JBIC's ex-post evaluation mission team; and
- SAPS Study Team for reviewing the action plan.

Particular attention should be paid to the visit of the JBIC ex-post study team, which visited the project area in January and February in 2002. This was followed by the SAPS Team in March 2002. Within the SAPS Team there was a socio-economic survey team consisting of local university staff and students and a group of local consultants, international and local engineering/agricultural research personnel, and a group of national NGOs of Indonesia for village assessment. During the impact survey period of the SAPS Team, members of the JBIC ex-post study team made a third visit to the site attending two PRA meetings. This included local university staff and one researcher from Gajamada University.

The effect on the psychology of the resettled families and disturbance to them during the three-month period between January–March 2002 should not be exaggerated. But is likely that their expectations would have been greatly raised that something would be done to rectify the situation they have been facing for years. As a result, a mixture of anxiety and expectations among the resettled families appears to have been amplified by the above series of activities. In turn, it appears that the feeling derived from a series of incidences has been reflected in and affected the results of the PRA meetings held in each village in March 2002 within the framework of SAPS Study.

(4) Socio-economic Characteristics of the Resettled Families

Socio-economic characteristics of the resettled families are very well exemplified in Table 3.8 and Figure 3.9–11. Despite the hardships since resettlement, resettled families have been struggling to survive in the resettlement villages looking for ways to find income sources. Those who stated that the overall living standard has been worsening since the resettlement are less than 1,500. This is one-third of the total respondents. Considering that no major means to make a living has been provided since resettlement, two-third of the respondents have been making great advances in order to cope with the situation. It was quite fortunate that the families resettled around the reservoir could make use of the reservoir for fishing, thanks to the efforts of the local government fishery department. Moreover, the forest around the resettlement areas was left intact for the exploitation of trees, wildlife and other natural resources.

According to the survey responses and observable achievements, it appears that many of resettled families are better-off. This may lead to the conclusion that no further assistance is necessary. It may be the right conclusion from the viewpoint of pure economic achievement, but not when the socio-economic achievement of the society as a whole is examined.

In view of the implementation of an action plan being scrutinized at present, the following would have to be very closely examined:

- Relatively successful socio-economic achievement of Koto Mesjid and Pulau Gadang should be examined;
- Villages that are not better off should learn from the lessons achieved by the above two villages;
- What is lacking from the less developed villages but present in the successful villages should be the focal point of key issues when an action plan is elaborated. Thereby these successful villages could be further economically uplifted from their categorization as poor rural villages of Indonesia;

- The government's unfulfilled responsibilities should be integrated within the action plan to raise the living standards of all resettled families.

3.2.5 Classification of the Villages Affected by the Project

(1) Attitude of the Resettled Families

The comparison between the rubber plantation, which the resettled families presently maintain as the primary income source, and the willingness to participate in the replanting program is shown in Table 3.17 (a). These data are compared further with reference to the answers for the fairness of the compensation scheme.

As Table 3.17 (a) exemplifies, there is a common trend among Batu Bersurat, Binamang, Koto Tuo, Tanjung Balik and Tanjung Pauh. A substantial number of households were against participation in the replanting program in Binamang, Batu Bersurat, and Muara Mahat Baru followed by Koto Tuo, Lubuk Agung, and Muara Takus in Riau Province. This generally corresponds to the negative answers made to the question on the fairness of the compensation scheme, i.e., those who answered "No" to participate in the replanting program also generally answered that the compensation scheme was unfair. Ranah Sungkai is probably the exception. Here, 81.9 % answered that they were happy with the results of the resettlement, while 85.8 % answered that current living conditions are "Worse than before". These results appear to be contradictory. Muara Mahat Baru is an oil palm plantation village where a replanting program is not considered necessary. Thus the answers appear to be related to issues that cannot be clarified by the questionnaire.

During the PRA meeting, resettled families in Binamang and Batu Bersurat expressed negative attitudes on government intervention. There were some resettled families in these villages that diversified their rubber plantation land to other purposes. It could be considered as indicative that these people no longer consider it viable to continue to rely on government actions.

In West Sumatra, there are a large number of resettled families both in Tanjung Balik and Tanjung Pauh stating that they do not want to participate in the government programs. This is a clear statement that government intervention is disliked. Table 3.17 (f) shows the classification of the attitude of resettlement villages.

(2) Diversification of Income Sources

There have been a number of income sources developed since resettlement. Table 3.17 (b) shows selected sources of income of the resettled families. It appears that they tried to diversify the source of income in order to cope with the environment in the resettlement villages over time. Villages that have not diversified are Pongkai Baru followed also by Pulau Gadang, Mayang Pongkai and Muara Mahat Baru. The mono-cultural trend of these villages may have to be rectified as diversification of income sources, especially cropping patterns, would have to be considered as insurance to the changeable nature of economic conditions. In the case of Mayang Pongkai, only 16 % of the respondents are not dependent on oil palm production.

Among the diversified income sources, fishery is the most popular source of income at present. Batu Bersurat, Binamang, Pongkai Istiqomah, Muara Takus and Koto Tuo are more geographically advantaged for fishing or fish farming in the reservoir. Although there is no answer to fishery by the respondents of Pulau Gadang, fish farming appears to be popular in this village as well as in Koto Mesjid.

Pongkai Istiaqomah village chose to take the option of monetary compensation. It appears that they were interested in tree crop farming in the first place while a large number of the villagers engage fishing at present

While there is a gambir processing factory in Batu Bersurat, it is interesting to note that gambir is not very popular among the resettlement villages in Riau Province. It is popular in Tanung Balik and Tanjung Pauh.

Animal husbandry is most popular in Koto Mesjid, followed by Ranah Sungakai, Batu Bersurat and Koto Tuo. However, the level of diversification in livestock rearing is still at a primitive, or trial –and error basis.

Wage labor is generally the quickest way of supplementing the deficit in income in rural areas. Ranah Sungakai has the largest number engaged in wage labor followed by Batu Bersurat, Pongkai Baru, Tanjung Alai, Koto Tuo, Gunug Bungsu, Tajung Pauh and Tanjung Balik. This implies that these villages are:

- Unfortunate in terms of the availability of natural resources for agriculture;
- They could not make better use of available agricultural resources;
- Knowledge and skill on agriculture may be less than in other villages; and
- Organizing the village as whole may have been unsuccessful in terms of agricultural activities.

There are a series of graphs showing per cent changes of the primary source of income of the resettled families of each village in Figure 3.14. These are based on Table 3.17 (c). Percentage change is the difference between before resettlement and after resettlement divided by the total number of respondents. Answers such as the increase of unemployment/nothing in income source, were considered as negative. Increase and decrease of other items are treated as such. The total value of the percentage of the increase and decrease is obtained from simple addition and subtraction.

Diversification of the source of income from one village to the other is well presented in these graphs. Based on the graphs, classification of villages according to diversification of the source of income after resettlement is summarized in Table.3.17(f). In general, the trend of the economic conditions in the resettlement villages is of mono-cultural development after resettlement and income generation activities are relatively limited.

Based on the figures in Figure 3.14, Figure 3.15 shows the overall changes in the primary source of income by village. The values show the total percentage change obtained from the increase and decrease of each income source. The decrease in the sources of income in Toto Tuo is noteworthy. Although values are relatively small, all other villages also show a decrease in the overall number of income sources.

(3) Ownership of Capital Goods

Table 3.17(d) shows the changes of the ownership of capital goods of the resettled families including those villages selected for comparison purposes. The percentage to the right of the number indicates the rate of changes of ownership of the total number of respondents. Each value for percentage increase and decrease is added together in order to obtain an indicative value for each village. Because of the eleven items to analyze, the highest value could be 1,100 provided each item is given 100 as the indicative value. Thus the total indicative value is obtained. Figure 3.12 shows the result.

As is shown, Lubuk Agung, Koto Mesjid, and Pulau Gadang, in this order, are the top three villages that are better off than before in terms of the ownership of capital goods. Batu Bersurat, Binamang, Pongkai Baru, Pongkai Istiqomah in Riau Province and Tanjung Pauh and Tanjung Balik in West Sumatra are not better off than before. Villages selected for the comparison purposes are clustered on the better off side.

(4) Changes of the Housing Conditions

Table 3.17(e) shows the percentage change in housing conditions of each resettlement village. Based on the table, Figure 3.13 has been elaborated. As is shown, there are significant differences from one village to the other in terms of the number of houses constructed after resettlement. This is compared to the ownership of capital goods. While Ranah Sungkai has achieved a significant increase in the ownership of capital goods, the number of houses that has been reconstructed is small. No other resettlement villages show this trend while two villages selected for comparison purposes of the impact survey do so.

Table 3.1 Surveyed Number of Households

Village	Present Total No. of Population in the Survey Area	Present Total No. of Household in the Survey Area	Total No. of Resettled Households	Target No. of Households Subject to Survey	Total No. of Respondents of Household Survey	Percentage (%) of Respondents of Household Survey	P.R.A Meeting Attendance	Percentage (%) of PRA Meeting Attendance (1)
I Riau Province								
1) Kampar/Tigabelas Koto Kampar								
1) Pulau Gadang	1,163	333	333	333	237	71.2	67	20.1
2) Koto Mesjid	1,235	259	259	259	259	100.0	42	16.2
3) Ranah Sungkai	1,354	337	337	337	331	98.2	195	57.9
4) Lubuk Agung	947	200	200	200	200	100.0	90	45.0
5) Batu Bersurat	2,434	522	522	522	505	96.7	46	8.8
6) Binamang	903	178	178	178	176	98.9	83	46.6
7) Pongkai Baru	384	200	200	200	79	39.5	84	42.0
8) Mayang Pongkai #	818	259	259	259	165	63.7	35	13.5
9) Pongkai Istiqomah	939	187	187	187	187	100.0	98	52.4
10) Tanjung Alai	1,583	313	313	313	312	99.7	54	17.3
11) Muara Takus	1,056	244	244	244	221	90.6	58	23.8
12) Koto Tuo	2,785	599	599	599	592	98.8	51	8.5
13) Muara Mahata Baru ##	2,335	477	477	477	457	95.8	54	11.3
14) Gunung Bungsu	1,171	241	241	241	232	96.3	90	37.3
Subtotal	-	-	4,349	4,349	3,953	-	1,047	24.1
15) Tanjung*	3,112	677	-	100	144 ##	-	53	36.8
16) Karya Bakit **	3,483	757	-	100	100	-	28	28.0
17) Gunung Malero***	2,776	603	-	-	100	-	44	44.0
Subtotal	9,371	2,037	45	200	344	-	125	36.3
Total	28,478	6,386	4,394	4,549	4,297	-	1,172	26.7
II West Sumatera Province								
1) Rimapuluh Kota/Pangkalan Kota Baru								
18) Tanjung Pauh	1,620	450	450	450	264	58.7	55	12.2
19) Tanjung Balit	1,347	350	350	350	281	80.3	33	9.4
Total/Average	2,967	800	800	800	545	-	88	11.0
Grand Total/Average	31,445	7,186	5,194	5,349	4,842	-	1,260	26.0

Note: * : Additional to the impact survey - the village believed to be not affected by the Project.

However, 45 households claimed directly affected by the Project while they were not listed officially as directly affected households.

** : Additional to the impact survey of the village created by the national trans-migration scheme.

*** : Additional to the impact survey - the village not affected by the Project.

: At present it is in Sub-district Tapung of Kampar Regency.

: At present, Sub-district Kampar Kiri Hilir of Kampar Regency.

: 99 households not affected and 45 households affected by the Project were surveyed with questionnaire.

(1) : Attendance compared to the number of surveyed households i.e. assumption was made that one person per household is attended.

Data Source: Questionnaire Survey / PRA Meeting

Table 3.2 (1/3) Result of Ranking Exercise - No. of Polling

(Unit:No.)

Village	Priority	Issues										Living Allowance	Total
		Compensation	Rubber Plantation	Water Supply	Electricity	Housing Conditions	MCK	Road Conditions	Livelihood Program	New Families	Boundary Dispute		
1) Riau Province 1) Kampar/Tigabelas Koto Kampar 1) Pulau Gadang	1	42	29	4	0	2	0	3	17	2	2	4	105
	2	1	32	34	9	2	2	10	10	0	0	4	104
	3	3	11	15	2	2	4	5	48	0	0	0	90
	Total	46	72	53	11	6	6	18	75	2	2	8	299
2) Koto Mesjid	1	2	5	2	0	0	4	17	3	-	-	-	30
	2	1	12	4	0	2	5	3	3	-	-	-	27
	3	0	5	0	1	4	9	4	4	-	-	-	24
	Total	3	22	6	1	6	1	18	24	0	0	0	81
3) Ranah Sungkai	1	96	3	3	0	70	1	1	22	4	4	-	200
	2	7	5	1	2	31	3	7	105	30	30	-	191
	3	1	0	4	0	26	10	8	25	115	115	-	189
	Total	104	8	8	2	127	14	16	157	149	149	0	580
4) Lubuk Agung	1	112	0	0	0	0	-	-	9	0	1	1	122
	2	4	9	0	1	3	-	-	112	66	4	4	199
	3	6	2	1	0	3	-	-	5	7	21	5	45
	Total	122	11	1	1	6	0	0	126	73	0	26	366
5) Batu Bersurat	1	0	32	4	0	3	0	6	8	0	0	4	57
	2	24	8	5	0	6	0	2	4	0	12	61	122
	3	0	0	36	0	4	0	0	3	0	0	8	51
	Total	24	40	45	0	13	0	8	15	0	0	0	169
6) Binamang	1	7	7	1	3	0	1	1	1	-	-	5	25
	2	1	3	1	1	5	-	0	1	1	1	5	17
	3	0	3	2	6	0	1	1	0	-	-	0	12
	Total	8	13	4	10	5	0	2	2	2	0	10	54
7) Pongkai Baru	1	54	20	16	0	1	2	1	7	-	-	-	101
	2	3	7	24	8	14	9	0	10	-	-	-	75
	3	5	6	13	6	19	10	1	34	-	-	-	94
	Total	62	33	53	14	34	21	2	51	0	0	0	270
8) Mayang Pongkai #	1	9	5	3	1	3	1	6	4	0	-	-	32
	2	0	3	4	4	5	5	5	1	1	1	1	28
	3	0	2	2	4	5	1	2	2	2	1	1	19
	Total	9	10	9	9	13	7	13	7	0	0	0	79
9) Pongkai Istiqomah	1	18	54	3	1	34	-	0	11	-	-	-	121
	2	1	20	1	0	46	-	1	35	-	-	-	104
	3	7	27	1	1	20	-	1	60	-	-	-	117
	Total	26	101	5	2	100	0	2	106	0	0	0	342

Source: PRA Meeting

Table 3.2 (2/3) Result of Ranking Exercise

(Unit: No.)

Village	Priority	Issues											Living Allowance	Total	
		Compensation	Rubber Plantation	Water Supply	Electricity	Housing Conditions	MCK	Road Conditions	Livelihood Program	New Families	Boundary Dispute				
10) Tanjung Alai	1	46	2	0	0	0	-	0	8	-	-	1	-	-	49
	2	0	1	0	2	2	-	8	-	-	-	28	-	-	41
	3	1	1	17	4	3	-	23	-	-	-	9	-	-	58
	Total	47	4	17	6	5	0	31	38	0	0	0	0	0	148
11) Muara Takus	1	40	9	0	0	13	-	0	-	-	-	-	-	-	62
	2	8	32	1	0	8	-	5	-	-	-	-	-	-	54
	3	7	9	5	3	23	-	8	-	-	-	-	-	-	55
	Total	55	50	6	3	44	0	13	0	0	0	0	0	0	171
12) Koto Tuo	1	6	32	0	0	0	-	0	0	-	-	3	-	-	42
	2	1	6	1	16	4	-	9	4	-	-	7	-	-	44
	3	1	1	2	3	0	-	5	0	-	-	26	-	-	38
	Total	8	39	3	19	4	0	15	36	0	0	0	0	0	124
13) Muara Mahata Baru ##	1	15	0	1	1	3	-	1	0	-	-	1	0	-	22
	2	7	9	0	1	2	-	2	0	-	-	1	0	-	22
	3	1	32	1	6	15	-	1	1	-	-	1	1	-	58
	Total	23	41	2	8	20	0	4	3	0	0	1	0	0	102
14) Gunung Bungsu	1	29	3	0	1	0	-	1	0	-	-	6	44	0	84
	2	5	3	1	2	2	-	0	0	-	-	12	33	26	84
	3	6	5	1	3	2	-	6	1	-	-	7	11	31	72
	Total	40	11	2	6	4	0	7	25	0	0	0	88	57	240
15) Tanjung*	1	71	2	0	0	0	0	0	0	0	0	6	-	-	79
	2	4	30	9	1	7	2	3	7	2	2	5	-	-	61
	3	1	10	3	5	6	0	6	27	0	0	27	-	-	58
	Total	76	42	12	6	13	2	9	38	0	0	0	0	0	198
16) Karya Bakti **	1	-	1	0	18	0	0	4	0	0	0	1	-	-	24
	2	-	0	0	5	0	0	18	0	0	0	0	-	-	24
	3	-	5	13	0	1	0	2	2	0	0	2	-	-	23
	Total	0	6	13	23	1	1	24	3	0	0	0	0	0	71
17) Gunung Malero***	1	0	12	23	0	0	0	1	0	0	0	5	-	-	41
	2	0	10	8	0	0	0	6	0	0	0	16	-	-	41
	3	4	9	3	2	1	4	7	1	1	7	9	-	-	39
	Total	4	31	34	2	1	5	14	30	0	0	0	0	0	121

Source: PRA Meeting

Table 3.2 (3/3) Result of Ranking Exercise

(Unit:No.)

Village	Priority	Issues											Total			
		Compensation	Rubber Plantation	Water Supply	Electricity	Housing Conditions	MCK	Road Conditions	Livelihood Program	New Families	Boundary Dispute	Jadup				
II West Sumatera Province																
1 Rimapuluh Kota/Pangkalan Kota Baru	-	25	25	20	0	2	1									80
18) Tanjung Pauh																
19) Tanjung Balit	-	33	37	26	5	3	1	3	12							120

Source: PRA Meeting

Note: * Additional to the impact survey - the village believed to be not affected by the Project. However, 45 households claimed directly affected by the Project while they were not listed officially as directly affected households.

** Additional to the impact survey - the village created by the national trans-migration scheme.

*** Additional to the impact survey - the village not affected by the Project.

At present it is in Sub-district Tapung of Kampar Regency.

At present, Sub-district Kampar Kiri Hilir of Kampar Regency.

0 Overall area of Concentration

Table 3.3(1/3) Result of Ranking Exercise - Percentage

a. Percentage

Village	Priority	Issues											Total
		Compensation	Rubber Plantation	Water Supply	Electricity	Housing Conditions	MCK	Road Conditions	Livelihood Program	New Families	Boundary Dispute	Living Allowance	
I Riau Province													
1 Kampar/Tigabelas Koto Kampar													
1) Pulau Gadang	1(No.)	42	29	4	0	2	0	3	17	2	2	4	105
	(%)	40.0	27.6	3.8	0.0	1.9	0.0	2.9	16.2	1.9	1.9	3.8	100.0
	2(No.)	1	32	34	9	2	2	10	0	0	0	4	104
	(%)	1.0	30.8	32.7	8.7	1.9	1.9	9.6	0.0	0.0	0.0	3.8	100.0
	3(No.)	3	11	15	2	2	4	5	48	0	0	0	90
(%)	3.3	12.2	16.7	2.2	2.2	4.4	5.6	53.3	0.0	0.0	0.0	100.0	
Total	(%)	46	72	53	11	6	6	18	75	2	2	8	299
	(%)	15.4	24.1	17.7	3.7	2.0	2.0	6.0	25.1	0.7	0.7	2.7	100.0
2) Koto Mesjid	1(No.)	2	5	2	0	0	0	4	17	-	-	-	30
	(%)	6.7	16.7	6.7	0.0	0.0	0.0	13.3	56.7	0.0	0.0	0.0	100.0
	2(No.)	1	12	4	0	2	0	5	3	-	-	-	27
	(%)	3.7	44.4	14.8	0.0	7.4	0.0	18.5	11.1	0.0	0.0	0.0	100.0
	3(No.)	0	5	0	1	4	1	9	4	-	-	-	24
(%)	0.0	20.8	0.0	4.2	16.7	4.2	37.5	16.7	0.0	0.0	0.0	100.0	
Total	(%)	3	22	6	1	6	1	18	24	0	0	0	81
	(%)	3.7	27.2	7.4	1.2	7.4	1.2	22.2	29.6	0.0	0.0	0.0	100.0
3) Ranah Sungkai	1(No.)	96	3	3	0	70	1	1	22	-	4	-	200
	(%)	48.0	1.5	1.5	0.0	35.0	0.5	0.5	11.0	0.0	2.0	0.0	100.0
	2(No.)	7	5	1	2	31	3	7	105	-	30	-	191
	(%)	3.7	2.6	0.5	1.0	16.2	1.6	3.7	55.0	0.0	15.7	0.0	100.0
	3(No.)	1	0	4	0	26	10	8	25	-	115	-	189
(%)	0.5	0.0	2.1	0.0	13.8	5.3	4.2	13.2	0.0	60.8	0.0	100.0	
Total	(%)	104	8	8	2	127	14	16	152	0	149	0	580
	(%)	17.9	1.4	1.4	0.3	21.9	2.4	2.8	26.2	0.0	25.7	0.0	100.0
4) Lubuk Agung	1(No.)	112	0	0	0	0	-	-	9	0	-	1	122
	(%)	91.8	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.8	100.0
	2(No.)	4	9	0	1	3	-	-	112	66	-	4	199
	(%)	2.0	4.5	0.0	0.5	1.5	0.0	0.0	56.3	33.2	0.0	2.0	100.0
	3(No.)	6	2	1	0	3	-	-	5	7	-	21	45
(%)	13.3	4.4	2.2	0.0	6.7	0.0	0.0	11.1	15.6	0.0	46.7	100.0	
Total	(%)	122	11	1	1	6	0	0	126	73	0	26	366
	(%)	33.3	3.0	0.3	0.3	1.6	0.0	0.0	34.4	19.9	0.0	7.1	100.0
5) Batu Bersurat	1(No.)	0	32	4	0	3	0	6	8	0	0	4	57
	(%)	0.0	56.1	7.0	0.0	5.3	0.0	10.5	14.0	0.0	0.0	7.0	100.0
	2(No.)	24	8	5	0	6	0	2	4	0	0	12	61
	(%)	39.3	13.1	8.2	0.0	9.8	0.0	3.3	6.6	0.0	0.0	19.7	100.0
	3(No.)	0	0	36	0	4	0	0	3	0	0	8	51
(%)	0.0	0.0	70.6	0.0	7.8	0.0	0.0	5.9	0.0	0.0	15.7	100.0	
Total	(%)	24	40	45	0	13	0	8	15	0	0	24	169
	(%)	14.2	23.7	26.6	0.0	7.7	0.0	4.7	8.9	0.0	0.0	14.2	100.0
6) Binamang	1(No.)	7	7	1	3	0	-	1	1	-	-	5	25
	(%)	28.0	28.0	4.0	12.0	0.0	0.0	4.0	4.0	0.0	0.0	20.0	100.0
	2(No.)	1	3	1	1	5	-	0	1	-	-	5	17
	(%)	5.9	17.6	5.9	5.9	29.4	0.0	0.0	5.9	0.0	0.0	29.4	100.0
	3(No.)	0	3	2	6	0	-	1	0	-	-	0	12
(%)	0.0	25.0	16.7	50.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	100.0	
Total	(%)	8	13	4	10	5	0	2	2	0	0	10	54
	(%)	14.8	24.1	7.4	18.5	9.3	0.0	3.7	3.7	0.0	0.0	18.5	100.0
7) Pongkai Baru	1(No.)	54	20	16	0	1	2	1	7	-	-	-	101
	(%)	53.5	19.8	15.8	0.0	1.0	2.0	1.0	6.9	0.0	0.0	0.0	100.0
	2(No.)	3	7	24	8	14	9	0	10	-	-	-	75
	(%)	4.0	9.3	32.0	10.7	18.7	12.0	0.0	13.3	0.0	0.0	0.0	100.0
	3(No.)	5	6	13	6	19	10	1	34	-	-	-	94
(%)	5.3	6.4	13.8	6.4	20.2	10.6	1.1	36.2	0.0	0.0	0.0	100.0	
Total	(%)	62	33	53	14	34	21	2	51	0	0	0	270
	(%)	23.0	12.2	19.6	5.2	12.6	7.8	0.7	18.9	0.0	0.0	0.0	100.0
8) Mayang Pongkai #	1(No.)	9	5	3	1	3	1	6	4	0	-	-	32
	(%)	28.1	15.6	9.4	3.1	9.4	3.1	18.8	12.5	0.0	0.0	0.0	100.0
	2(No.)	0	3	4	4	5	5	5	1	1	-	-	28
	(%)	0.0	10.7	14.3	14.3	17.9	17.9	17.9	3.6	3.6	0.0	0.0	100.0
	3(No.)	0	2	2	4	5	1	2	2	1	-	-	19
(%)	0.0	10.5	10.5	21.1	26.3	5.3	10.5	10.5	5.3	0.0	0.0	100.0	
Total	(%)	9	10	9	9	13	7	13	7	2	0	0	79
	(%)	11.4	12.7	11.4	11.4	16.5	8.9	16.5	8.9	2.5	0.0	0.0	100.0
9) Pongkai Istiqomah	1(No.)	18	54	3	1	34	-	0	11	-	-	-	121
	(%)	14.9	44.6	2.5	0.8	28.1	0.0	0.0	9.1	0.0	0.0	0.0	100.0
	2(No.)	1	20	1	0	46	-	1	35	-	-	-	104
	(%)	1.0	19.2	1.0	0.0	44.2	0.0	1.0	33.7	0.0	0.0	0.0	100.0
	3(No.)	7	27	1	1	20	-	1	60	-	-	-	117
(%)	6.0	23.1	0.9	0.9	17.1	0.0	0.9	51.3	0.0	0.0	0.0	100.0	
Total	(%)	26	101	5	2	100	0	2	106	0	0	0	342
	(%)	7.6	29.5	1.5	0.6	29.2	0.0	0.6	31.0	0.0	0.0	0.0	100.0
10) Tanjung Alai	1(No.)	46	2	0	0	0	-	0	1	-	-	-	49
	(%)	93.9	4.1	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	100.0
	2(No.)	0	1	0	2	2	-	8	28	-	-	-	41
	(%)	0.0	2.4	0.0	4.9	4.9	0.0	19.5	68.3	0.0	0.0	0.0	100.0
	3(No.)	1	1	17	4	3	-	23	9	-	-	-	58
(%)	1.7	1.7	29.3	6.9	5.2	0.0	39.7	15.5	0.0	0.0	0.0	100.0	
Total	(%)	47	4	17	6	5	0	31	38	0	0	0	148
	(%)	31.8	2.7	11.5	4.1	3.4	0.0	20.9	25.7	0.0	0.0	0.0	100.0

Data Source: PRA Meeting

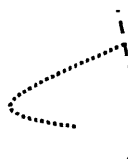



Table 3.3(2/3) Result of Ranking Exercise - Percentage

Village	Priority	Issues											Total
		Compensatio n	Rubber Plantation	Water Supply	Electricity	Housing Conditions	MCK	Road Conditions	Livelihood Program	New Families	Boundary Dispute	Living Allowance	
11) Muara Takus	1(No.)	40	9	0	0	13	-	0	-	-	-	-	62
	(%)	64.5	14.5	0.0	0.0	21.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
	2(No.)	8	32	1	0	8	-	5	-	-	-	-	54
	(%)	14.8	59.3	1.9	0.0	14.8	0.0	9.3	0.0	0.0	0.0	0.0	100.0
	3(No.)	7	9	5	3	23	-	8	-	-	-	-	55
(%)	12.7	16.4	9.1	5.5	41.8	0.0	14.5	0.0	0.0	0.0	0.0	100.0	
Total	(%)	55	50	6	3	44	0	13	0	0	0	0	171
(%)	32.2	29.2	3.5	1.8	25.7	0.0	7.6	0.0	0.0	0.0	0.0	0.0	100.0
12) Koto Tuo	1(No.)	6	32	0	0	0	-	1	3	-	-	-	42
	(%)	14.3	76.2	0.0	0.0	0.0	0.0	2.4	7.1	0.0	0.0	0.0	100.0
	2(No.)	1	6	1	16	4	-	9	7	-	-	-	44
	(%)	2.3	13.6	2.3	36.4	9.1	0.0	20.5	15.9	0.0	0.0	0.0	100.0
	3(No.)	1	1	2	3	0	-	5	26	-	-	-	38
(%)	2.6	2.6	5.3	7.9	0.0	0.0	13.2	68.4	0.0	0.0	0.0	100.0	
Total	(%)	8	39	3	19	4	0	15	36	0	0	0	124
(%)	6.5	31.5	2.4	15.3	3.2	0.0	12.1	29.0	0.0	0.0	0.0	0.0	100.0
13) Muara Mahata Baru ##	1(No.)	15	0	1	1	3	-	1	1	-	0	-	22
	(%)	68.2	0.0	4.5	4.5	13.6	0.0	4.5	4.5	0.0	0.0	0.0	100.0
	2(No.)	7	9	0	1	2	-	2	1	-	0	-	22
	(%)	31.8	40.9	0.0	4.5	9.1	0.0	9.1	4.5	0.0	0.0	0.0	100.0
	3(No.)	1	32	1	6	15	-	1	1	-	1	-	58
(%)	1.7	55.2	1.7	10.3	25.9	0.0	1.7	1.7	0.0	1.7	0.0	100.0	
Total	(%)	23	41	2	8	20	0	4	3	0	1	0	102
(%)	22.5	40.2	2.0	7.8	19.6	0.0	3.9	2.9	0.0	1.0	0.0	0.0	100.0
14) Gunung Bungsu	1(No.)	29	3	0	1	0	-	1	6	-	44	0	84
	(%)	34.5	3.6	0.0	1.2	0.0	0.0	1.2	7.1	0.0	52.4	0.0	100.0
	2(No.)	5	3	1	2	2	-	0	12	-	33	26	84
	(%)	6.0	3.6	1.2	2.4	2.4	0.0	0.0	14.3	0.0	39.3	31.0	100.0
	3(No.)	6	5	1	3	2	-	6	7	-	11	31	72
(%)	8.3	6.9	1.4	4.2	2.8	0.0	8.3	9.7	0.0	15.3	43.1	100.0	
Total	(%)	40	11	2	6	4	0	7	25	0	88	57	240
(%)	16.7	4.6	0.8	2.5	1.7	0.0	2.9	10.4	0.0	36.7	23.8	100.0	
15) Tanjung**	1(No.)	71	2	0	0	0	0	0	6	-	-	-	79
	(%)	89.9	2.5	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0	100.0
	2(No.)	4	30	9	1	7	2	3	5	-	-	-	61
	(%)	6.6	49.2	14.8	1.6	11.5	3.3	4.9	8.2	0.0	0.0	0.0	100.0
	3(No.)	1	10	3	5	6	0	6	27	-	-	-	58
(%)	1.7	17.2	5.2	8.6	10.3	0.0	10.3	46.6	0.0	0.0	0.0	100.0	
Total	(%)	76	42	12	6	13	2	9	38	0	0	0	198
(%)	38.4	21.2	6.1	3.0	6.6	1.0	4.5	19.2	0.0	0.0	0.0	0.0	100.0
16) Karya Bakti ***	1(No.)	0	1	0	18	0	0	4	1	-	-	-	24
	(%)	0.0	4.2	0.0	75.0	0.0	0.0	16.7	4.2	0.0	0.0	0.0	100.0
	2(No.)	0	0	0	5	0	1	18	0	-	-	-	24
	(%)	0.0	0.0	0.0	20.8	0.0	4.2	75.0	0.0	0.0	0.0	0.0	100.0
	3(No.)	0	5	13	0	1	0	2	2	-	-	-	23
(%)	0.0	21.7	56.5	0.0	4.3	0.0	8.7	8.7	0.0	0.0	0.0	100.0	
Total	(%)	0	6	13	23	1	24	3	0	0	0	0	71
(%)	0.0	8.5	18.3	32.4	1.4	1.4	33.8	4.2	0.0	0.0	0.0	0.0	100.0
17) Gunung Malero****	1(No.)	0	12	23	0	0	0	1	5	0	-	-	41
	(%)	0.0	29.3	56.1	0.0	0.0	0.0	2.4	12.2	0.0	0.0	0.0	100.0
	2(No.)	0	10	8	0	0	1	6	16	0	-	-	41
	(%)	0.0	24.4	19.5	0.0	0.0	2.4	14.6	39.0	0.0	0.0	0.0	100.0
	3(No.)	4	9	3	2	1	4	7	9	0	-	-	39
(%)	10.3	23.1	7.7	5.1	2.6	10.3	17.9	23.1	0.0	0.0	0.0	100.0	
Total	(%)	4	31	34	2	1	5	14	30	0	0	0	121
(%)	3.3	25.6	28.1	1.7	0.8	4.1	11.6	24.8	0.0	0.0	0.0	0.0	100.0
II West Sumatera Province													
1 Rimapuluh Kota/Pangkalan Kota Baru	(No.)	25	25	20	0	2	1	1	6	-	-	-	80
18) Tanjung Pauh	(%)	31.3	31.3	25.0	0.0	2.5	1.3	1.3	7.5	0.0	0.0	0.0	100.0
19) Tanjung Balit	(No.)	33	37	26	5	3	1	3	12	-	-	-	120
(%)	27.5	30.8	21.7	4.2	2.5	0.8	2.5	10.0	0.0	0.0	0.0	0.0	100.0

Data Source: PRA Meeting

Table 3.3 (3/3) Result of Ranking Exercise

b. Matrix of the Result of Ranking Exercise - Analysis of the Coherence of the Opinion of Village

Item	Coherence of the Opinion of Village			
	Low	Relatively Low	Relatively High	High
1. Rate of PRA Meeting Attendance*	< 10 %	10-30%	30-50%	50 %<
2. Patterns of Coherence **	Different patterns between overall polling and individual priority ranking	Patterns are not similar between overall polling and individual priority ranking	Relatively similar patterns between overall polling and individual priority ranking	Clearly the same patterns between overall polling and individual priority ranking
3. Sample Patterns				
4. Village:				
1) Riau	Binamang Mayang Pongkai Koto Tuo Gunugn Bungsu Gunung Matelo	Batu Bersurat	Plau Gadang Lubuk Agung Muara Mahat Baru Karya Bakti	Koto Mesjid Ranah Sungkai Pongkai Baru Pongkai Istiqomah Tanjung Alai Muara Takus Tanjung *** Tanjung Balik
2) West Sumatera			Tanjung Pauh	

Note: * - See Figure 3.2.2

** - See Figure 3.2.3

*** - Including those resettled and not resettled.

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
<p>1) Pulau Gadang</p> <p>Data Collection:</p> <p>Resettlement Program:</p> <p>Living Conditions:</p> <p>Infrastructure:</p> <p>Income Sources:</p> <p>Water Resources and MCK:</p> <p>Compensation:</p> <p>Electricity:</p> <p>Housing Conditions:</p> <p>Rubber Plantation:</p>	<p>There have been a number of groups visited the village for information and data gathering. This should be the last one that lead to improvement of the real economic changes of the village.</p> <p>"Tanah Adat" or traditional land in the form of community land ("Tanah Ulayat") is no longer available, hence farming and plantation lands for future generations are no longer available.</p> <p>Life in general before resettlement has been primitive but better without adverse conditions as we had rubber, coconut and coffee for sale, rice grown for family consumption. Upon resettlement, we scratched the ground to improve our life. We are now maintaining fish pond for fish farming, which is the major source of income. Change in the quantity and quality of the fields when compared with the Provision of electricity supply to the village was positive effect. Access to main road was also a The community had difficulties in making a living, however the PAF of Pulau Gadang did not want to give up. They were willing to accept any type of work, such as hiring themselves elsewhere as hard laborers and construction workers. Fish farming and orange growing is catching up.</p> <p>After moving to the new settlement the community did not find any of the promised facilities. Villagers repaired the governmentally constructed wells. However, the results were unsatisfactory, thus the villagers use river water for their water needs. The river is 1-m wide and 0.5 m deep. Although wells were provided when they first moved to the new site, the wells were not yielding water but it was filled with water by the contractor. MCK facilities are not constructed in the village. Only 1 m deep pit was dug for toilet. This was over-filled during the rainy season.</p> <p>There are as many as 14 plots that are now submerged but not received compensation. Ex-agriculture fields were valued at Rp 30/m², court yards at Rp.70/m². This is considered lower than a clove cigarette. For coconut trees, which were valued at Rp 7800/tree, whereas a coconut fruit alone at that time cost Rp. 500 a piece. Reassessment of compensation should be made.</p> <p>The electricity that the government pledged prior to the community's relocation was kept 2 weeks after the Pulau Gadang community moved to the new settlement. PLN electricity was available in all houses, the community only had to pay the bills on electric consumption.</p> <p>What we received was 6m x 6m wooden house with 3 cm thick of cemented floor. Those who was not able to improve their houses, because of no income from rubber plantation, should be compensated properly. The government should construct houses that conform to the promises they made prior to the community's relocation to the new site.</p> <p>Upon moving in to the new village the villagers did not find any plantations. Moreover, aid to develop a plantation was only given in 1999 after the community demonstrated to the Governor in Pekanbaru. Ten years after moving to the new settlement the government finally fulfilled their promises to develop a plantation, however the plantation has not yet begun to produce.</p>

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Plau Gadang (continued)	There has been no NGO or other parties trying to help the village.
2) Koto Mesjid	<p>Activities of NGOs: SAPS Study Team's result should bring follow-up actions.</p> <p>Data Collection: Government promise was not kept as they suggested. Current fish farming was not a part of the Resettlement Program. This is our own endeavor after the resettlement government's resettlement program. For further improvement of the life in village, villagers hope that SAPS Study Team's result brings positive actions. The villagers who do not cultivate patin fish feel that their income is inadequate. Other forms of livelihood is not available. Previously they possessed rice fields that could guarantee food supply during the year.</p> <p>Living Conditions: Children educational level improved with the availability of Elementary School, Junior High and Senior High School in the new village. The new village is closer to the main road, making Infrastructure: Fish farming provides significant contribution to the household economy. However, it not as diverse as it used to be.</p> <p>Income Sources: The government provided water pump with diesel engine. However, as the storage tank was located far from the houses not all villagers could utilize the facility. After two years the machine ceased operations because the government stopped the funding and the community could not afford to pay the operational cost. Toilet should be built at each house.</p> <p>Water Resources and MCK: In general the land compensation is completed and many of the PAFs claim to be satisfied. However, 390 parcels in the remote forestland is not considered subject to compensation. Grave yard should be compensated Rp. 75,000/yard.</p> <p>Compensation: Availability of electricity for the community is the positive effect. Upon resettlement, for 3 years, the community used diesel generated provided by the government. Electricity installation in each house was provided free of charge, including installation of electricity gauge. The community only pays for consumption. In general, the community is satisfied with the provision of electricity.</p> <p>Electricity: The new housing were wooden houses with cement plastered flooring and inappropriate for living.</p> <p>Housing Conditions: The promised rubber plantation were not planted or didn't have any rubber trees. The location of the Rubber Plantation: rubber plantation, which was allocated in 1999, is far from their village and access to the plantation is difficult due to the inappropriate road conditions.</p> <p>Activities of NGOs: There have been some NGOs assisted the village. However, the impact to improve economy was not effective to date.</p>
3) Ranah Sungkai	<p>Data Collection: SAPS Study Team's result should bring follow-up actions.</p> <p>Resettlement Program: Resettlement program before the resettlement looked attractive and it would be attractive if it were carried out as planned. It has to be carried out urgently as was planned.</p> <p>Infrastructure: No comments</p>

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Ranah Sungkai (continued)	<p>Living Conditions: After the resettlement, plantation, rice cultivation, fish cultivation and water supply are adequate. However, there were paddy fields in our area before that could be harvested twice a year. Even during time of scarcity we could still survive. It is not the case in the resettlement area.</p> <p>Income Sources: Several villagers catch fish from the dam. The number of fish increased due to expansion of water area while it is decreased due to over fishing. Other alternatives are gambir trees which they planted before resettlement but in limited amount. Others work as plantation worker, porter, etc.</p> <p>Water Resources and MCK: We have difficulties in obtaining water. Most of the villagers obtain water by digging the well deeper or store rain water in the well. Others attempted by gaining water from river. To date approximately 50% of the PAFs do not possess latrine.</p> <p>Compensation: House yard was compensated Rp.700/m² and farming area Rp.30/m², rubber tree Rp.2.500/tree, that are all too low. Durian used to harvest was Rp.6.000/tree while its fruit is sold at Rp.3.000/fruit. Assessment should be too low to accept.</p> <p>Electricity: The community had to wait for two years and they were charged Rp.150,000 per house for installation and charged for monthly consumption. The community feels that to date the government's effort to improve electricity problems in their village is very insufficient.</p> <p>Housing Conditions: The houses were made from wooden planks. It is not what promised as semi-permanent type. The roofing was made from asbestos, which was strongly rejected. The cement plaster flooring was in very poor condition.</p> <p>Rubber Plantation: We found the promised rubber plantation were not planted or didn't have any rubber trees. The rubber plantations promised to be ready for harvest were planted in 1999.</p> <p>Activities of NGOs: No NGOs has been helping the village. U. of Riau should be involved in action plan.</p>
4) Lubuk Agung	<p>Data Collection: SAPS Study Team's result should bring follow-up actions.</p> <p>Resettlement Program: Compensation, land topography, water quality, housing quality at the new village were all below expectations that what government promised.</p> <p>Living Conditions: Resettlement area is undulating and steep slope whereas previous village was located on relatively flat land. It is difficult to till and farm the current land. The PAFs stated that their lives are now very deplorable if compared with life in the old village, where the land could be used to grow crops and rice. In order to survive we worked as laborers or engaged trading in other villages or even outside the settlement and housing layout at the village should be improved to facilitate economic activities.</p> <p>Infrastructure: Efforts undertaken by ourselves to increase income includes working in the fields of neighboring villages, seeking works elsewhere, as well as catching fish in the Kotapanjang reservoir although it is located far from the village and the catch is not enough to support a family.</p>

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Lubuk Agung(continued)	<p>Water Resources and MCK: When the PAFs arrived at the new village they found 1 well for every 3-4 houses and the well's bottom was lined with cement and water was filled, which after a week it dried up.</p> <p>Compensation: We believe that the sum paid out represents only 10 % of the compensation set up by Japanese. We consider that the amount of the compensation is inappropriate. We received rice paddy Rp.500/m², Other farming area Rp.30/m² and courtyard Rp.500/m².</p> <p>Electricity: At the time of resettlement, we used kerosene lamps whereas the old village already had electricity. Electricity was finally supplied 4 years after the PAFs moved to the new village. We paid for installation and connection. Cost of connection and installation of 3 outlets were between Rp.450.000</p> <p>Housing Conditions: The conditions of the housing was below standards, therefore the PAFs were compelled to do some renovation. Renovation of the below standard housing was done with the compensation money, which should have been used as capital for new ventures.</p> <p>Rubber Plantation: Three years after the resettlement, the government finally provided to each household 2 ha of land, seedling, fertilizer, chemicals and maintenance cost of Rp. 1.060.000/ha. We request payment equivalent to the harvest of 2 ha of rubber for the period that they had no rubber plantation from 1995 - No NGOs has been helping the village. U. of Riau should be involved in action plan.</p>
5) Batu Bersurat	<p>Activities of NGOs: There have been a number of local and international NGOs as well as the professors of various universities especially from Japan. They took data from us and there was no follow-up action to date.</p> <p>Data Collection: This meeting should bring about solution to the present problems.</p> <p>Resettlement Program: None of the promises on resettlement program made by the government have been fulfilled. The community no longer trusts the government.</p> <p>Living Conditions: Life after resettlement is much difficult. In order to fulfill daily needs some of us are compelled to return to the old village for tapping old rubber trees. Some are compelled to accept any available work, such as hard labor in Bangkinang, or farming labour to neighboring villages in West Sumatra</p> <p>Infrastructure: Road, telephone and electricity have been the positive effect and it is important since Batu Bersurat is the capital of sub-district.</p> <p>Income Sources: The community's source of income prior to moving to the new village were rubber plantation, palm oil (2 x 1 year), fruit trees such as orange and raising animals.</p> <p>Water Resources and MCK: Two years after resettlement, the government constructed clean water facilities. The source was groundwater from a drilled well and distributed through pipes to the houses. This was never used as the water produced by the well was unsuitable. The houses in resettlement area were not equipped with bath and washing room. It is a common sense it is built with the house.</p>

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Batu Bersurat (continued)	<p>The sum established for compensation was too low, but the PAFs were not allowed to negotiate. Some of the people to date have not received any compensation. Court yard was Rp.700/m², garden at Rp 30/m², rubber tree at Rp 2500/ tree. The entire community considers these figures as abnormal.</p> <p>The community had to wait 2 years for electricity installation and even then the community had to pay a fee of Rp 150.000 per house for the installation. We pay for monthly consumption. This is not right.</p> <p>Electricity should be free to all resettled families since it is generated at the cost of our environment</p> <p>The government pledged to provide "Type 36" semi-permanent houses, i.e. lower half from cement and upper half from appropriate quality wooden planks. It should be done as promised.</p> <p>Initial funds for developing the rubber plantation were available, but the project managed by the government experienced a total failure. Currently, rubber trees are 1-2 years old. This is relatively successful as it is managed by the community without participation from the regional government with the exception of provision of funds.</p>
6) Binamang	<p>Activities of NGOs: No NGOs nor any government agencies taken any action.</p> <p>Data Collection: There have been a number of local and international NGOs as well as the professors of various universities especially from Japan. They took data from us and there was no follow-up action to date. Villagers will never release any action any more if there was no action taken in the immediate future.</p> <p>Resettlement Program: Resettlement program before the resettlement looked attractive and it would be attractive if it were carried out as planned. It has to be carried out urgently as was planned.</p> <p>Living Conditions: Life in general before resettlement has been primitive but better without adverse conditions as we had rubber, coconut and coffee for sale, rice grown for family consumption. Without proper agricultural activities carried out to date, 99% of the villagers engage in fishing in the reservoir.</p> <p>Infrastructure: Road, telephone and electricity have been the positive aspect of the resettlement program comparing to which they did not possess in the past.</p> <p>Income Sources: Fishing has never been the way to sustain our life before. At present, it is not enough to send our children to school. With rubber plantation rehabilitation, we hope to be able to increase our income</p> <p>Water Resources and MCK: We were living near the river before while we live on the hill at present without water supply. Water supply is important to our life. Location of MCK is inconvenient and 20 % of them are used at present. A lot of them should be rebuilt.</p> <p>Compensation: Coconut tree at Rp.4,800/piece, Durian tree at Rp.6,000/piece, and rice field at Rp.500/m² are all considered underestimated. Compensation should be reassessed based on the market value. In some cases, land compensation was not made to date.</p> <p>Electricity: Villagers had to pay installation cost and the following one year of consumption. This is contrary to what was promised. Approximately 20% of villagers can not afford to pay electricity.</p>

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Binamang (continued)	<p>Housing Conditions: What we received was 6m x 6m wooden house. For collecting rainwater, zinc sheet roof should be the option.</p> <p>Rubber Plantation: Rubber plantation with 3 year old trees were not provided. Plot from the village is 7-10 km away. It is divided in two locations and it takes 1.5 hours from one place to the other i.e. total of 6 hours of walking makes our life very difficult. In 2000, there was replanting and Rp.1.06 million on 3 installment was paid for maintenance works. This should be increased by 3 - 4 times as part of living There has been no NGO or other parties trying to help the village.</p> <p>Activities of NGOs:</p> <p>Data Collection: The community described that on numerous occasions various organizations and NGOs have come to the village in principle with the wish to help the community to achieve justice. However, such efforts have not borne fruitful outcomes leaving the community with the feeling of being mere objects.</p> <p>Resettlement Program: The community felt that the promises the government made before resettlement would be good enough to bring about improvements in our life. Thus it should be carried out as promised.</p> <p>Living Conditions: We feel that lives were better before resettlement because we had steady and routine occupations such as rice farming, rubber tapping, coconut cultivation and fishing. It is now 90% of the livelihood is from hired laborer and wood gathering.</p> <p>Infrastructure: Access to main road, electricity and telephone have been the positive effect of the village.</p> <p>Income Sources: Change in the main source of income has been hampering our life. At present 75% of villagers are</p> <p>Water Resources and MCK: Access to clean water supply is very difficult unlike before the relocation. Our own initiative, dug wells to a depth of about 15 m. However the water quality remains low. c. The government provided clean water supply system and it was damaged before the residents could use it. For MCK facility, construct semi-permanent MCK facilities at every house.</p> <p>Compensation: Land compensation value is far below prevalent market price. For example, a coconut tree was at Rp 4000/tree whereas the price for a bunch of coconut was Rp 9000, Irrigated rice field at Rp.500/m². To date, 80% of the residents have not been compensated.</p> <p>Electricity: Electricity was installed 4 years after resettlement. We had to pay installation charges of Rp 165,000 in 1995 but 40% of the residents are still without electricity. Electricity is generated at the cost of our life and environment. It should be supplied at free of charge.</p> <p>Housing Conditions: Prior to the relocation the government promised to provide "Type 36" semi permanent house with corrugated metal roof and cement flooring. However, 5 x 6 m wooden house with very thin cement flooring and asbesto roofing was provided.</p> <p>Rubber Plantation: Provision of Rp 1,060,000/family on installment and felling trees at Rp 250,000/family, and planting at Rp 150,000/ha now available.</p>
7) Pongkai Baru	

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Pongkai Baru (continued)	should there be development assistance program in the future, it should be the Japanese and involve local residents.
8) Mayang Ponkai #	<p>Activities of NGOs: -</p> <p>Data Collection: -</p> <p>Resettlement Program: The community felt that the promises the government made before resettlement would be good enough to bring about improvements in our life. Thus it should be carried out as promised.</p> <p>Living Conditions: In the old village, we made a living from rubber tree, rice farming, and fishing. However, at the new village sole means of livelihood is palm oil cultivation. At present, percelling out of land for children's economic activity has become a major problem.</p> <p>Infrastructure: -</p> <p>Income Sources: At the old village we had enough to feed and send children to school. However, in the new village we make a living from the palm oil plantations, which generate less income than in the old village. Moreover, the inhabitants worry that when the palm trees turn old, the PAFs would have no other</p> <p>Compensation: There are 161 plots have not been paid.</p> <p>Electricity: We had to pay for installation and connection of electricity as well as consumption. This is not what the government promised.</p> <p>Water Resources and MCK: The government provided clean water facilities of 2-meter deep well for every 2 houses. In the dry season the wells contain no water. We have tried to deepen wells. Some excavated their own wells. A large number of villagers use the river near the village as a source of clean water supply. For MCK facility, some constructed permanent WC in their houses. However, some 70% of the villagers use the</p> <p>Housing Conditions: The government pledged to provide semi-permanent houses. But we obtained houses entirely made from wood, with thin layer cement flooring. Many of the inhabitants even reported that their houses had no flooring and were full of mud. It is still as we moved in.</p> <p>Oil Palm Plantation: To date the palm trees are 8 years old, and 75 % of us have reimbursed "plasma" loan. We demand that it should be free like in the other villages who received free rubber plantations and maintenance.</p> <p>Activities of NGOs: There have been some NGOs visiting the village. No actions from them nor the government was taken to date.</p> <p>Data Collection: The community's aspiration is that the current visit of SAPS Study Team would bring about real benefits for the improvement of our lives.</p> <p>Resettlement Program: The community felt that the promises the government made prior to resettlement would bring improvements to their lives. However, most of the promises were not fulfilled leaving many villagers in misery, in particular with respect to the rubber plantation.</p>
9) Pongkai Istiqornah	

Note: # - At present it is in Sub-district Tapung of Kampar Regency.

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Pongkai Istiqomah (continued)	<p>Prior to the development, the community earned enough to support themselves from tapping rubber, farming, fishing and chopping wood in the forest. However under the current situation, the community can only rely on fishing in the lake where the fish population has decreased to date.</p> <p>Electricity, elementary school and road construction have been positive effect to the village.</p> <p>Under the current situation, the community can only rely on fishing in the lake for their income.</p> <p>When the community moved in to the new place, clean water facilities were not existing. Thus we excavated wells. A well to each house should be provided. 2.3.1 The government had promised assistance to provide MCK for each house but to date such promises have not been fulfilled.</p> <p>Pongkai Istiqomah community moved to the new area on our own resolution without being asked by the government. However, we ask that the compensation be reviewed since the standard set by the Government was too low. In addition they were coerced to accept coconut tree at Rp 4000/tree while a coconut was Rp 1200/fruit. Thus, the compensation only allowed the purchase of 3 pieces. Productive rubber tree was at Rp 4800/tree, the land was at Rp 30/m², the rice field harvesting twice a year was at Rp 4800/tree, the land was at Rp 30/m², the rice field harvesting twice a year was at Rp 4800/tree. We had to pay installation charge. We had to pay for electricity for the first year, which had originally been promised to be free.</p> <p>The government promised to provide "Type 36" semi-permanent houses with corrugated metal roof and cement flooring. Instead the community received makeshift woodern houses with asbestos roofing and thin brittle cement flooring.</p> <p>When we moved in to the new village, there were no rubber plantation nor rubber trees. In 2000, the government made efforts to provided Rp 1.060,000/year for maintenance cost distributed in three</p> <p>Activities of NGOs: An NGO's activity in agroforestry is in progress.</p>
10) Tanjung Alai	<p>Data Collection: -</p> <p>Resettlement Program: The promises of the government made prior to resettlement appeared to be promising and would improve the welfare of the community. However, in reality most of the pledges remained unfulfilled.</p> <p>Living Conditions: In the old village we grew rubber, rice and caught fish. Our main livelihood is currently catching fish in the reservoir only and we have to purchase rice while our income is very small.</p> <p>Infrastructure: Road and electricity have been the positive effect of the Project.</p> <p>Income Sources: In the old village we earned from rubber, growing rice, selling coconut and looking for wood in the forest. At present, our main source of income is catching fish in the reservoir but the stock is dwindling.</p> <p>Water Resources and MCK: We found in the new village 3-meter deep wells. Each 10 houses were provided with 1 well. So we constructed individual wells. The government pledged to provide each house with MCK facilities. However, the promises were never fulfilled.</p>

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Tnajung Alai (continued)	<p>Compensation: We basically dissatisfied. Some examples of the compensation amount are coconut at Rp 4500/tree, rubber tree at Rp 2500/tree, the land of rubber plantation at Rp 30/m², rice fields 2 harvests a year was Rp 600/m². Electricity: We had to pay for installation and connection. Instead of free use of electricity for an entire 1st year, we paid the consumption. Housing Conditions: The government pledged to provide each PAF with "Type 36" semi-permanent house, complete with water and MCK facilities. However, the community received wooden walled houses with thin cement flooring. Cash payment for improving the house should be made. Rubber Plantation: In 2000 the government finally implemented rubber replantations, with the PAFs participating in its maintenance. There was Rp.1.060.000/per ha of maintenance cost paid in three installment. Activities of NGOs: No NGO is active in the village.</p>
11) Muara Takus	<p>Data Collection: The community's aspiration is that the current visit of SAPS Study Team would bring about real benefits for the improvement of our lives. Resettlement Program: The government should carry out what they promised. Living Conditions: The livelihood of us in the old village was mainly farming. We grew rubber trees, coffee, oranges, and rice as well as raising water buffalo. The only source of livelihood at present is catching fish in the Good road and electricity for lighting have been the positive effect of the Project. Infrastructure: At present, only fishing in the reservoir is a means to support ourselves. Income Sources: The water supply provided by the government was unsuitable for use. We constructed individual wells. Water Resources and MCK: However, not everybody had the means to do so. Some have no wells and use the river as source for washing, bathing and toilets. Compensation: We feel that the compensation is extremely below normal and that they were forced to accept the price. Courtyard was valued at Rp.550/m², Plantations located nearby was valued at Rp.35/m² and distant plantations were valued at Rp.30/m² while durian tree was Rp.9000/tree. Electricity: The government promised that each house would be connected with electricity free of charge, including installation, meters and free consumption for a whole year. However, we had to pay an installation fee of Rp.160,000. Housing Conditions: The government pledged to provide each PAF with "Type 36" semi-permanent house, complete with water and MCK facilities. However, the community received wooden walled houses with thin cement Rubber Plantation: Each household received 1 ha contained only 2 - 10 trees, hence we considered the plots was empty. In 1999 the government of Riau Province provided 3 year assistance in the form of seedlings and maintenance cost to improve the rubber plantations but it failed. Activities of NGOs: There is a mixed feeling on the NGO's support given to the village.</p>

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
12) Koto Tuo	<p>Data Collection: On many occasions various organizations and NGOs have come to obtain data and information on conditions without resulting in any outcomes. Thus, we hope that the current visit of SPAS Study Team would bring about benefits for the betterment of the village.</p> <p>Resettlement Program: The drastic degradation in current living standards is attributed to the soil of the new village, which is infertile, whereas the soil of the old village was fertile. Selection of the new village has to be a part of good resettlement program.</p> <p>Living Conditions: Presently, the main occupation of most of us is fishing from the lake where output has begun to decrease. We feel that life in the old village was better than in the new village with much diversified</p> <p>Infrastructure: Availability of electricity and road has been the positive effect of the resettlement.</p> <p>Income Sources: Our efforts to improve income is chopping wood and fishing in the lake at present. We can not afford sending children to schools.</p> <p>Water Resources and MCK: The government promised piped water with 1 (one) HU/tank per 4 households. However, the community could not use the constructed water facilities as the main pipe was too small and the water flow was therefore too low.</p> <p>Compensation: We feel that the compensation was forced to accept and the price of assessment was far below than expectations. Garden was at Rp 600/m², nearby farmland was at Rp 600/m² while distant farmland was at Rp 30/m².</p> <p>Electricity: We had to pay an installation charge of Rp 160,000, which is too expensive for some households. To date, about 50% of the households are without electricity.</p> <p>Housing Conditions: The government promised before the resettlement that "Type 36" semi permanent houses complete with water and MCK facilities would be built. Instead a 4 x 6 meter wooden plank houses with thin cement flooring was provided.</p> <p>Rubber Plantation: Riau provincial government provided 3-year assistance in 1999 to rehabilitate the failed rubber plantation by providing maintenance cost. At present, the rubber plantation is 2 years old.</p> <p>Activities of NGOs: Whether NGO activities are aimed to improve our socio-economic welfare is not known.</p> <p>Data Collection: On many occasions various organizations and NGOs have come to obtain data and information on conditions without resulting in any outcomes. Thus, we hope that the current visit of SPAS Study Team would bring about benefits for the betterment of the village.</p> <p>Resettlement Program: The community felt that the promises the government made before resettlement would be good enough to bring about improvements in our life. Thus it should be carried out as promised.</p> <p>Living Conditions: A majority of us are quite satisfied with the current living conditions. An impact that is considered significantly disturbing is flooding, which affects half of the village when rains last for a full day.</p>
13) Muara Mahat Baru ##	

Note: ## - At present, Sub-district Kampar Kiri Hilir of Kampar Regency.

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Muara Mahat Baru (continued)	<p>Infrastructure: Road condition is a positive effect of resettlement.</p> <p>Income Sources: Before relocation, sources of income were from rubber and coconut cultivation, wood gathering, fishing and rock mining. are relatively satisfied with the income from the oil palm.</p> <p>Water Resources and MCK: Physically, water supply is no problem as river is relatively close. However access to clean water is an issue since the government failed to provide the facilities as promised. In 1997, the government supplied piped water but it failed as maintenance was not possible by ourselves.</p> <p>Compensation: Almost all PAFs present at the meeting agreed that they have received land compensation. However, they feel that the compensation awarded was inadequate such as cultivated land at Rp 750/m², plantation land at Rp 30/m², rubber tree at Rp 2500/tree, coconut tree at Rp 2600/tree etc.</p> <p>Electricity: Two years after the relocation the village was supplied with electricity. We had to pay installation charges of Rp 150,000 for 5 electrical outlets.</p> <p>Housing Conditions: The government promised to provide "Type 36" semi-permanent house complete with water supply and MCK facilities.</p> <p>Oil Palm Plantation: The plantation was developed through the nucleus plantation credit system. We feel that we have been unfairly treated because the PAFs of the other villages received rubber plantation free of charge.</p> <p>Activities of NGOs: There is a mixed feeling on the NGO's support given to the village.</p>
14) Gunung Bungsu	<p>Data Collection: Visitors from NGOs as well as universities had already visited the community on numerous occasions to query them on the same issues but to date, there has neither been any follow-up nor any</p> <p>Resettlement Program: None of the government's pledges were realized and consequently we have lost faith in the government. Unfortunately, nothing was written down but other villages uniformly reported the same failure of government promises. The government should fulfil their promises.</p> <p>Living Conditions: One of the most important issues currently confronting the community is related to border conflicts between the villages of Gunung Bungsu and Tanjung. The reason being that trees belonging to the Gunung Bungsu were felled by Tanjung village's people.</p> <p>Infrastructure:</p> <p>Income Sources: Fishing is the major source of income but overfishing is the problem at present. An alternative source of income is gambir cultivation but that too is limited. Others seek employment as farm labor, coolie</p> <p>Water Resources and MCK: We do not have clean water supply because the wells provided by the government are only 2 to 3 meters in depth, whereas a depth of at least 10 meters is needed to access groundwater. For MCK facility, presently 50% of the households do not own a latrine and either use the river or other grounds</p> <p>Compensation: Some of us have not been fully paid. The compensation was undervalued</p> <p>Electricity: We had to wait for 2 years and paid installation charges of Rp 150,000 plus monthly bills. Electricity generation is made for the rest of Sumatera Island at the cost of our homes and environment.</p>

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Gunung Bungsu (continued)	<p>Housing Conditions: We were given wooden plank house with thin cement flooring. Many residents abandoned the houses and chose to build houses nearer the main street.</p> <p>Rubber Plantation: There was no plantations or rubber trees. In fact we had to wait 5 years before the trees were planted. Presently the trees are 2 years old and will require another 3 years before they are ready for tapping.</p> <p>Activities of NGOs: Some have negative perceptions of the NGOs, because of its unrealistic promises that have caused conflicts in the community. We feel that to improve the living conditions in the village, other parties in Riau should also be engaged such as UNRI.</p>
15) Tanjung*	<p>Data Collection: Many teams have already come to visit the village for the same purposes without any results.</p> <p>Resettlement Program: -</p> <p>Living Conditions: A majority of the community stated that their lives from economic and educational standpoints have remained the same as before the existence of the Kotapanjang HEPP.</p> <p>Infrastructure: Road, electricity and reservoir for catching fishes are the positive effect of the Project.</p> <p>Income Sources: The main source of income for the people of Tanjung is from agriculture, notably from rubber and gambir trees. However, with the development of Kotapanjang Project some of the people now catch</p> <p>Water Resources and MCK: The river was previously the source of clean water supply but it is now because a part of reservoir. The main source of Tanjung's clean water supply is dug and drilled wells using pumps. For MCK facility, 40 % of villagers have MCK facilities in their houses, whereas 60% use the river.</p> <p>Compensation: There were 45 households directly affected by the Project. Our voluntary resettlement was not properly compensated. Only their house and court yard was compensated. These 45 households were a part of Gunung Bungsu village's compensation scheme but it was deleted without our knowledge.</p> <p>Electricity: The Kotapanjang HEPP has allowed the Tanjung inhabitants to enjoy electricity for house lighting as well as other domestic activities such as cooking rice.</p> <p>Housing Conditions: In general the people's houses in Tanjung Village are constructed from concrete and neatly arranged mainly of private effort.</p> <p>Plantation: There are 45 households entitled for rubber plantation but none was provided.</p> <p>Activities of NGOs: The community reported that to date no NGOs have assisted them improve community welfare.</p>
16) Karya Bakti **	<p>Data Collection: -</p> <p>Resettlement Program: The main concern of the community is quality of the village facilities such as electricity, bridge, road, housing, water, etc., which are a far cry from what they expected and what the government promised.</p>

Note: * - Additional to the impact survey - the village believed to be not affected by the Project.
 However, 45 households claimed directly affected by the Project while they were not listed officially as directly affected households.

** - Additional to the impact survey of the village created by the national trans-migration scheme.

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Karya Bakti (continued)	<p>The Koto Panjang HEPP dam development has had no impact on their livelihoods, which consists of farming, cultivating plantations, housing, irrigation, clean water resource, forestry, growing rice and other economic activities.</p> <p>Availability of electricity and road has been the positive effect of the resettlement.</p> <p>The community's source of income at the new village consists of working for wages or collecting wood in the forest. However, after their lands were turned into rubber and palm oil plantations, their source of income improved.</p> <p>Before moving to Karya Bakti in Sumatra, the community utilized ground water as their clean water supply for drinking and daily activities. In the new settlement, the government provided wells for clean water facilities. However, the wells did not conform to design and were unsuitable. Accordingly, the community was compelled to use rain and swamp water for drinking, bathing, washing etc.</p> <p>We still use diesel engine for generating electricity. The common issue confronted by the community of Karya Bakti Village is our request for electricity, which to date has not been granted.</p> <p>When the community of Karya Bakti first arrived at the new village, the villagers were disappointed to discover that the government provided houses were hard to procure and not as expected. Hence, some of the community went back to Java or sold their houses and moved elsewhere.</p> <p>The government has undertaken no efforts to ameliorate the plantations, except in facilitating loans for villagers intending to own a garden through a foster parent company.</p>
17) Gunung Malero***	<p>Gunung Malelo Village is flooded it requires at least 4-5 days before the water subsides. Before the event of the Kotapanjang HEPP Dam, floodwater would subside after only 2-3 hours.</p> <p>Road, bridges and electricity are the positive effect of the Project.</p> <p>In this village, 50% of the inhabitants earn their money from catching fish. Due to the river became a part of reservoir, stream fishes have decline. Many expensive fishes were found in the river, such as Sikam and Kelang, however such fishes have now become scarce.</p> <p>The quality of the Kampar River, which is the community's main source of clean water has declined since the Kotapanjang Dam. The water flow has less swift and mosses as well as plants grow more profusely. To date, not many of the Gunung Malelo inhabitants use wells as is must be dug out to a</p>

Note: *** - Additional to the impact survey - the village not affected by the Project.

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Gunung Malero (continued)	<p>Availability of PLN electricity, which beforehand was provided by diesel-powered generators from 18:00 to 23:00 only. It is now round the clock supply.</p> <p>People in Gunung Malelo cultivate rubber trees inherited from parents. The trees are now quite old and need to be rejuvenated. In general, each household owns 1-2 Hectare of rubber plantation. We also cultivate gambir trees around 2-3 hectare per household.</p>
18) Tanjung Pauh	<p>The meeting identified that the residents are bored with such data collection activities and meetings because they have done so numerous times in the past but nothing has realized. Thus they fervently hope that the current meeting will result in real outcomes</p> <p>Data Collection: The lay-out of new village is better than the old village as the settlement is well planned.</p> <p>Resettlement Program: On the whole, the residents suffered as a result of the relocation. Although some experienced improvements in their livelihood, the majority suffered living in the new village. In the past, parents were able to send their children to higher education but presently, to complete junior high school is Electricity supply has been positive effect to the village.</p> <p>Living Conditions: There has been a change in occupation for some residents after relocation. Some have switched jobs from being a farmer to stone collector along the Payakumbuh-Pakan Baru Highway.</p> <p>Infrastructure: Upon relocation, they were provided with shallow wells, which produced colored and poor odor water</p> <p>Income Sources: quality; and during the dry season, the wells dry up. The government has built 13 units of MCK at the cost of Rp 130 million, but such facilities do not include latrines. Such facilities are useless in the dry season due to poor water source.</p> <p>Water Resources and MCK: The compensation is not complete. There are many residents whose lands and asset listed in the compensation have not been compensated. Many land parcels made isolated have not been</p> <p>Compensation: Before relocation, they were promised free installed electricity in their houses and charge waivers for the first year of use. We had to pay installation charges. We were billed for the first year of use. To date about 40% of the houses do not have installed electricity because they cannot afford to pay the cost at Rp 520,000 for installation.</p> <p>Electricity: The relocation has provided land and house to newly-married who did not have such facility in the previous village.</p> <p>Housing Conditions: The plantation provided by the government failed. As a consequence, we had to rely on the rubber and gambier plantation in the old village that are not inundated. It is at least 8-15 km away. Some have to use public transport, then transfer to a boat and later go on foot.</p> <p>Rubber Plantation:</p>

Source: PRA Meeting

Table 3.4 Summary of PRA Meeting

Village	Remarks on the Issues of Kotapanjang Project
Tanjung Pauh (continued)	<p>Activities of NGOs: Since 2000, the BKDP has been active in helping the residents to fight for their rights. It is affiliated with NGO Taratak headquartered in Bukittinggi.</p>
19) Tanjung Balit	<p>Data Collection: The PAF participants are bored by the data collection meeting and demanded that the present event will result in real actions. The arrival of UNAND team has been long awaited as it is expected to help improve future living condition in the village. To facilitate its work, cooperation from the community is required by providing the team with the necessary information</p> <p>Resettlement Program: On the whole, we suffered as a result of the relocation. Although some residents experienced improvements in their livelihood, about 70% suffered living in the new village. We feel negative impacts since the pledge to provide rubber plantation, clean water, house and free electricity did not</p> <p>Living Conditions: Some of us have switched occupation from farming to stone collector because they have lost their</p> <p>Infrastructure: Road, electricity and clinic are the positive effect of the Project.</p> <p>Income Sources: The residents have undertaken various efforts to improve their income. Such efforts are not directed towards cultivating land in their new village but to returning to their old village or areas outside the new village. In fact many village youths migrate to other areas in search of employment.</p> <p>Water Resources and MCK: A well is to be provided for every 2 houses. Upon relocation, they discovered the wells were shallow (3-4 meters with concrete base) and water quality is low (colored and poor odor); in the dry season, the wells dry up.</p> <p>Compensation: About 50% of the lands have not been compensated. The compensation values were deemed unjust. It was agreed that land along the road will be compensated at Rp 750/m but in reality the value was less than the amount.</p> <p>Electricity: Before relocation, they were promised free installed electricity in their houses and charge waivers for the first year of use. We had to pay installation charges. We were billed for the first year of use. To date about 40% of the houses do not have installed electricity because they cannot afford to pay the cost at Rp 520,000 for installation.</p> <p>Housing Conditions: Before relocation, they were promised semi permanent type house but in reality, they received non permanent house. The houses were built of wood and corrugated metal roof. Poor quality flooring (thinly cemented wooden floor).</p> <p>Rubber Plantation: The plantation provided by the government fell short of their expectation and other sources of income are not available. As a consequence, they had to rely on their rubber and gambier plantations in the old village which have not been inundated, that are at least 10 km away.</p> <p>Activities of NGOs: We are aware of NGOs but to date none has assisted us. The government made improvements to the houses by adding 2 rows of hollow bricks from the base.</p>

Source: PRA Meeting

Table 3.5 Matrix on the Issues and Suggestions for Solution Raised During PRA Meeting

a. Compensation		Issues	Assessment of compensation is very low	Compensation should be reassessed based on market value	Japanese consultant's estimate and Indonesian Government's assessment was different	Claims made to PEMDA was not replied to date/not successful.	If repayment is carried out, the PAFs demand that it is paid out without the intervention of middlemen.	Relocation of grave yard at Rp.75,000/yard should be compensated	Sufferage and expenses to date should also be compensated	There are remote areas subject to compensation
Village										
I Riau Province										
I Kampar/Tigabelas Koto Kampar										
	1) Pulau Gadang	○	○	n/r	○	n/r	n/r	n/r	n/r	n/r
	2) Koto Mesjid	n/r	n/r	n/r	○	n/r	n/r	n/r	n/r	○
	3) Ranah Sungkai	○	○	○	○	n/r	○	n/r	n/r	n/r
	4) Lubuk Agung	○	○	○	○	n/r	n/r	n/r	n/r	n/r
	5) Batu Bersurat	○	○	○	○	○	n/r	n/r	n/r	n/r
	6) Binamang	○	○	○	○	○	n/r	○	n/r	n/r
	7) Pongkai Baru	○	○	○	n/r	n/r	n/r	n/r	n/r	n/r
	8) Mayang Ponkai #	n/r	○	○	n/r	n/r	n/r	n/r	n/r	n/r
	9) Pongkai Istiqomah	○	○	○	○	n/r	n/r	n/r	n/r	n/r
	10) Tanjung Alai	○	○	○	○	n/r	n/r	n/r	n/r	n/r
	11) Muara Takus	○	○	○	n/r	○	n/r	n/r	○	n/r
	12) Koto Tuo	○	○	○	n/r	n/r	n/r	n/r	n/r	n/r
	13) Muara Mahata Baru ##	○	○	○	n/r	n/r	n/r	○	n/r	○
	14) Gunung Bungsu	○	○	○	n/r	○	n/r	n/r	n/r	n/r
	15) Tanjung*	n/r	○	○	n/r	n/r	○	n/r	n/r	n/r
	16) Karya Bakti **	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	17) Gunung Malero***	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
II West Sumatera Province										
I Rimapuluh Kota/Pangkalan Kota Baru										
	18) Tanjung Pauh	n/r	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	19) Tanjung Balit	n/r	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r

Note: * Additional to the impact survey - the village believed to be not affected by the Project. However, 45 households claimed directly affected by the Project while they were not listed officially as directly affected households.
 ** Additional to the impact survey of the village created by the national trans-migration scheme.
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 # At present it is in Sub-district Tapung of Kampar Regency.
 ## At present, Sub-district Kampar Kiri Hilir of Kampar Regency.

Source: PRA Meeting

Table 3.5 Matrix on the Issues and Suggestions for Solution Raised During PRA Meeting

Issues	Construction of better road to plantation is necessary	Until rubber yield, "maintenance fee com-living allowance" should be paid	Foster the system such as PJR system/Rubber business	Plantation's maintenance works should be continued until yield	Reimburse what the villagers spent for improvement	Plantation in the swamp area should be relocated	Provide training to increase the quality of rubber	Compensation equivalent to the harvest of 2 ha of rubber that we had no rubber plantation from 1995 - 1998 should be paid	Maintenance works should be carried out by the villagers employed for it	Oil palm plantation should be given free of charge like rubber plantation
b. Rubber/Oil Palm Plantation										
I Riau Province										
1 Kampar/Tigabelas Koto Kampar										
1) Pulau Gadang	○	n/r	n/r	○	n/r	n/r	n/r	n/r	n/r	n/r
2) Koto Mesjid	○	○	n/r	○	○	n/r	n/r	n/r	n/r	n/r
3) Ranah Sungkai	○	○	n/r	n/r	n/r	n/r	n/r	○	n/r	n/r
4) Lubuk Agung	n/r	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
5) Batu Bersurat	n/r	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
6) Binamang	○	○	○	n/r	n/r	n/r	○	n/r	n/r	n/r
7) Pongkai Baru	n/r	○	n/r	○	n/r	n/r	n/r	n/r	n/r	○
8) Mayang Ponkai #	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
9) Pongkai Istiqomah	○	○	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
10) Tanjung Alai	○	○	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
11) Muara Takus	n/r	○	n/r	○	n/r	○	n/r	n/r	n/r	n/r
12) Koto Tuo	n/r	n/r	n/r	○	n/r	n/r	n/r	n/r	n/r	○
13) Muara Mahata Baru ##	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
14) Gunung Bungsu	n/r	○	n/r	○	n/r	n/r	n/r	n/r	n/r	n/r
15) Tanjung*	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
16) Karya Bakti **	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
17) Gunung Malero***	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
II West Sumatera Province										
1 Rimapuluh Kota/Pangkalan Kota Baru										
18) Tanjung Pauh	n/r	n/r	n/r	○	n/r	n/r	n/r	n/r	○	n/r
19) Tanjung Balit	n/r	n/r	n/r	○	n/r	n/r	○	n/r	n/r	n/r

Note: * Additional to the impact survey - the village believed to be not affected by the Proj
 However, 45 households claimed directly affected by the Project while they were not listed officially as directly affected households.
 ** Additional to the impact survey - the village created by the national trans-migration scheme.
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 ## At present, Sub-district Kampar Kiri Hilir of Kampar Regency.

Legend: ○ - Issues raised during PRA meeting
 n/r - Issues not raised during PRA meeting
 n/a - Not applicable

Source: PRA Meeting

Table 3.5 Matrix on the Issues and Suggestions for Solution Raised During PRA Meeting

Village	Issues	Water Supply										MCK facility	
		No permanent clean water supply system was provided	Well should be constructed at each house	Repair the existing wells/water supply system	Construct a number of boreholes for the village water supply	One borehole per two houses should be considered	Piped water supply system to each house	Small reservoir in the near-by stream should be constructed	MCK facility should be constructed each house	Rehabilitation of all public MCK facility should be considered	Build toilet for individual house and bathing place for communal.		
I Riau Province													
1 Kampar/Tigabelas Koto Kampar													
	1) Pulau Gadang	○	n/r	○	○	n/r	○	n/r	○	n/r	○	n/r	n/r
	2) Koto Mesjid	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	○	n/r	n/r	n/r
	3) Ranah Sungkai	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	4) Lubuk Agung	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	○
	5) Batu Bersurat	○	n/r	○	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	6) Binamang	○	n/r	n/r	○	n/r	n/r	n/r	n/r	n/r	○	n/r	n/r
	7) Pongkai Baru	○	n/r	n/r	○	n/r	n/r	n/r	n/r	n/r	○	n/r	n/r
	8) Mayang Pongkai #	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	9) Pongkai Istiqomah	○	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	10) Tanjung Alai	○	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	11) Muara Takus	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	12) Koto Tuo	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	13) Muara Mahata Baru ##	n/r	n/r	n/r	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	14) Gunung Bungsu	○	n/r	n/r	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	15) Tanjung*	○	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	16) Karya Bakti **	○	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	17) Gunung Malero***	○	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
II West Sumatera Province													
1 Rimapuluh Kota/Pangkalan Kota Baru													
	18) Tanjung Pauh	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/a
	19) Tanjung Balit	n/r	n/r	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r

Note: * Additional to the impact survey - the village believed to be not affected by the Project
 However, 45 households claimed directly affected by the Project while they were not listed officially as directly affected households.
 Legend: ○ - Issues raised during PRA meeting
 n/r - Issues not raised during PRA meeting
 n/a - Not applicable

** Additional to the impact survey of the village created by the national trans-migration scheme.
 *** Additional to the impact survey - the village not affected by the Project.

At present it is in Sub-district Tapung of Kampar Regency.

At present, Sub-district Kampar Kiri Hilir of Kampar Regency.

Source: PRA Meeting

Table 3.5 Matrix on the Issues and Suggestions for Solution Raised During PRA Meeting

Issues	Provision of electricity has become positive effect to village	Cost of installation and one year consumption should be reimbursed	Electricity is generated at the cost of our homes and environment. PLN should provide free/reduced price of electricity	Installation of electricity was free of charge	Street lighting should be installed and villagers will pay for it	PLN should provide free electricity until rubber becomes productive	No electricity from PLN is installed
d. Electricity							
Village							
I Riau Province							
1 Kampar/Tigabelas Koto Kampar							
1) Pulau Gadang	○	n/r	n/r	○	○	n/r	n/r
2) Koto Mesjid	○	n/r	n/r	○	○	n/r	n/r
3) Ranah Sungkai	○	n/r	n/r	n/r	n/r	n/r	n/r
4) Lubuk Agung	○	n/r	n/r	n/r	○	n/r	n/r
5) Batu Bersurat	n/r	○	○	n/r	n/r	n/r	n/r
6) Binamang	○	○	○	n/r	n/r	n/r	n/r
7) Pongkai Baru	○	○	○	n/r	n/r	n/r	n/r
8) Mayang Ponkai #	n/r	○	n/r	n/r	n/r	n/r	n/r
9) Pongkai Istiqomah	n/r	○	○	n/r	n/r	n/r	n/r
10) Tanjung Alai	n/r	○	n/r	n/r	n/r	n/r	n/r
11) Muara Takus	n/r	○	n/r	n/r	n/r	○	n/r
12) Koto Tuo	n/r	○	○	n/r	n/r	n/r	n/r
13) Muara Mahata Baru ##	n/r	○	○	n/r	n/r	n/r	n/r
14) Gunung Bungsu	○	n/r	○	n/r	n/r	n/r	n/r
15) Tanjung*	○	n/r	n/r	n/r	n/r	n/r	n/r
16) Karya Bakti **	n/a	n/a	n/a	n/a	n/a	n/a	○
17) Gunung Malero***	○	n/a	n/a	n/a	n/a	n/a	n/r
II West Sumatera Province							
1 Rimapuluh Kota/Pangkalan Kota Baru							
18) Tanjung Pauh	n/r	○	○	n/r	n/r	n/r	n/r
19) Tanjung Balit	n/r	n/r	○	n/r	n/r	n/r	n/r

Note: * Additional to the impact survey - the village believed to be not affected by the Project. However, 45 households claimed directly affected by the Project while they were not listed officially as directly affected households.

** Additional to the impact survey of the village created by the national trans-migration scheme.

*** Additional to the impact survey - the village not affected by the Project.

At present it is in Sub-district Tapung of Kampar Regency.

At present, Sub-district Kampar Kiri Hilir of Kampar Regency.

Source: PRA Meeting

Legend: ○ - Issues raised during PRA meeting
n/r - Issues not raised during PRA meeting
n/a - Not applicable

Table 3.5 Matrix on the Issues and Suggestions for Solution Raised During PRA Meeting

e. Housing and Road Conditions		Housing Conditions				Road Conditions		
Issues	Semi-permanent "Type 36" house should be built as promised	Cost of improving the house should be paid or reimbursed	Compensate for those who built their house with their own money	Renovation of the wooden house should be considered.	Housing loan should be made available for new families.	Move houses to appropriate locations, near water/road.	Accessibility to main road has been the positive impact	Road to reservoir for fishing should be improved
I Riau Province								
1 Kampar/Tigabelas Koto Kampar								
	n/r	○	○	n/r	v/r	n/r	○	n/r
1) Pulau Gadang	n/r	n/r	n/r	○	○	n/r	○	n/r
2) Koto Mesjid	○	○	○	n/r	n/r	n/r	n/r	n/r
3) Ranah Sungkai	n/r	n/r	n/r	n/r	n/r	○	○	○
4) Lubuk Agung	○	n/r	n/r	n/r	n/r	n/r	○	n/r
5) Batu Bersurat	○	○	○	n/r	n/r	n/r	○	n/r
6) Binamang	○	n/r	n/r	n/r	n/r	n/r	○	n/r
7) Pongkai Baru	○	○	n/r	n/r	n/r	n/r	n/r	n/r
8) Mayang Pongkai #	○	○	n/r	n/r	n/r	n/r	n/r	n/r
9) Pongkai Istiqomah	n/r	○	n/r	n/r	n/r	n/r	n/r	n/r
10) Tanjung Alai	○	n/r	n/r	n/r	○	n/r	○	n/r
11) Muara Takus	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
12) Koto Tuo	○	n/r	n/r	○	n/r	n/r	n/r	n/r
13) Muara Mahata Baru ##	○	n/r	n/r	○	n/r	n/r	n/r	n/r
14) Gunung Bungsu	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
15) Tanjung*	n/a	n/a	n/a	n/a	n/a	n/a	○	n/a
16) Karya Bakti **	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
17) Gunung Malero***	n/a	n/a	n/a	n/a	n/a	n/a	○	n/a
II West Sumatera Province								
1 Rimapuluh Kota/Pangkalan Kota Baru								
	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
18) Tanjung Pauh	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
19) Tanjung Balit								

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 *** Additional to the impact survey - the village not affected by the Project.
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 ## At present, Sub-district Kampar Kiri Hilir of Kampar Regency.

Source: PRA Meeting

Table 3.5 Matrix on the Issues and Suggestions for Solution Raised During PRA Meeting

Issues	Alternative livelihood program (not specified) and its loan should be considered	Loan/training for fish farming with floating cages	Loan/training in animal husbandry and other farming such as gogo paddy and gambier	Alternative agricultural activity should be considered in place of rubber	Loan/training for other agricultural activities such as poultry	Government should take initiative for alleviation of poverty	Changes in agricultural patterns without training was the difficult task
f. Livelihood Program							
I Riau Province							
1 Kampar/Tigabelas Koto Kampar							
1) Pulau Gadang	n/r	n/r	n/r	n/r	n/r	n/r	n/r
2) Koto Mesjid	n/r	○	n/r	○	n/r	n/r	n/r
3) Ranah Sungkai	○	n/r	n/r	n/r	n/r	n/r	○
4) Lubuk Agung	n/r	○	n/r	n/r	n/r	n/r	n/r
5) Batu Bersurat	n/r	○	n/r	n/r	n/r	n/r	n/r
6) Binamang	n/r	○	n/r	n/r	n/r	n/r	n/r
7) Pongkai Baru	n/r	n/r	○	n/r	n/r	n/r	n/r
8) Mayang Pongkai #	n/r	n/r	n/r	n/r	n/r	n/r	n/r
9) Pongkai Istiqomah	n/r	○	○	n/r	n/r	n/r	n/r
10) Tanjung Alai	○	○	○	n/r	n/r	n/r	n/r
11) Muara Takus	n/r	n/r	n/r	n/r	n/r	n/r	n/r
12) Koto Tuo	n/r	n/r	n/r	n/r	n/r	n/r	n/r
13) Muara Mahata Baru ##	n/r	n/r	n/r	n/r	n/r	n/r	n/r
14) Gunung Bungsu	○	○	n/r	○	n/r	n/r	n/r
15) Tanjung*	n/a	n/a	n/a	n/a	n/a	n/a	n/a
16) Karya Bakti **	n/a	n/a	n/a	n/a	n/a	n/a	n/a
17) Gunung Malero***	n/a	n/a	n/a	n/a	n/a	n/a	n/a
II West Sumatera Province							
1 Rimapuluh Kota/Pangkalan Kota Baru							
18) Tanjung Pauh	○	n/r	n/r	n/a	n/r	n/r	n/r
19) Tanjung Balit	n/r	n/r	n/r	n/r	n/r	○	n/r

Note: * Additional to the impact survey - the village believed to be not affected by the Project. However, 45 households claimed directly affected by the Project while they were not listed officially as directly affected households.
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 ## At present, Sub-district Kampar Kiri Hilir of Kampar Regency.

Source: PRA Meeting

Table 3.5 Matrix on the Issues and Suggestions for Solution Raised During PRA Meeting

g. Provision of Living Allowance and Others	Issues	Provide 1-2 years of living allowance until rubber yields	Assistance/new house for newly married couples	Access to telephone line has become positive effect to village	All facilities should be re-examined by the University for improvement	Junior high school is very far i.e. education became costly	There is a boundary dispute with neighboring village	Facility for such as market place should be separated from other village	Drainage system to alleviate flood events should be constructed
Village									
I Riau Province									
1 Kampar/Tigabelas Koto Kampar									
	1) Pulau Gadang	n/r	n/r	n/r	○	n/r	n/r	n/r	n/r
	2) Koto Mesjid	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	3) Ranah Sungkai	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	4) Lubuk Agung	○	n/r	○	n/r	n/r	n/r	n/r	n/r
	5) Batu Bersurat	○	n/r	○	n/r	n/r	n/r	n/r	n/r
	6) Binamang	○	n/r	n/r	n/r	○	n/r	n/r	n/r
	7) Pongkai Baru	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	8) Mayang Pongkai #	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	9) Pongkai Istiqomah	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	10) Tanjung Alai	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	11) Muara Takus	○	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	12) Koto Tuo	n/r	○	n/r	n/r	n/r	n/r	n/r	○
	13) Muara Mahata Baru ##	n/r	n/r	n/r	n/r	n/r	○	n/r	n/r
	14) Gunung Bungsu	n/r	○	n/r	n/r	n/r	n/a	n/a	n/a
	15) Tanjung*	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	16) Karya Bakti **	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	17) Gunung Malero***	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
II West Sumatera Province									
1 Rimapuluh Kota/Pangkalan Kota Baru									
	18) Tanjung Pauh	n/r	n/r	n/r	n/r	n/r	n/r	○	n/r
	19) Tanjung Balit	n/r	n/r	n/r	n/r	n/r	n/r	○	n/r

Note: * Additional to the impact survey - the village believed to be not affected by the Project. However, 45 households claimed directly affected by the Project while they were not listed officially as directly affected households.

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At present, Sub-district Kampar Kiri Hilir of Kampar Regency.

Source: PRA Meeting

Legend: ○ - Issues raised during PRA meeting
n/r - Issues not raised during PRA meeting
n/a - Not applicable

Table 3.6 Demographic Characteristics of PAFs

Item	Village	Pulau Gadang	Koto Masjid	Ramah Sunjikai	Lubuk Agung	Batu Bersurat	Binuang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah	Tanjung Alai	Muara Takus	Koto Thio	Muara Mahat Baru	Gunung Bungsu	Tanjung	Tanjung	Karya Bakti	Gunung Malero	Tanjung Bait	Tanjung Pauh	Total
1 Distribution of Respondents	1) No. of Respondents answering the Questionnaire	237	259	331	200	505	176	79	165	187	312	221	592	457	232	99	45	100	100	281	264	4,842
	2) No. of Respondents not answering the Questionnaire	0	0	0	0	0	0	0	1	0	1	0	7	0	0	0	0	0	0	4	7	20
	3) Respondents Moved to Old Village	96	0	6	0	17	2	2	121	93	0	0	23	0	20	9	1	0	0	165	79	112
	4) No. of Absent Villagers	333	259	337	200	522	178	200	259	259	187	313	244	599	477	241	100	45	100	450	350	632
	Total No. of Resettled Families Subject to Survey																					
2 No. of the Status of Respondent	1) Head of Household	169	247	263	182	366	153	59	119	138	155	207	511	350	196	35	36	87	81	210	159	3,723
	2) Spouse	62	2	60	14	131	20	18	43	47	144	13	76	101	34	54	9	12	18	67	103	1,028
	3) Son	6	8	8	3	8	3	2	3	2	13	1	5	6	2	10	0	0	0	4	2	78
	4) Not Identified	0	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	13
	Total	237	259	331	200	505	176	79	165	187	312	221	592	457	232	99	45	100	100	281	264	4,842
3 Distribution of Age of the Respondents	1) < 20 tahun (Year)	3	0	2	4	5	3	3	0	1	3	0	4	4	2	8	0	1	0	5	0	48
	2) 21 - 30 tahun (Year)	17	15	30	42	55	28	17	11	34	48	21	115	59	17	29	13	9	13	13	41	627
	3) 31 - 40 tahun (Year)	69	86	96	56	141	55	40	42	54	98	79	195	112	65	17	16	31	41	76	76	1,445
	4) 41 - 50 tahun (Year)	75	82	87	38	140	43	14	58	39	83	57	126	135	77	22	7	25	20	87	80	1,295
	5) 51 - 60 tahun (Year)	31	40	49	22	57	19	5	22	42	46	29	89	88	40	12	3	20	11	45	35	705
	6) 61 - 70 tahun (Year)	24	23	27	24	63	21	0	17	10	23	6	33	30	20	9	5	13	11	34	21	414
	7) > 70 tahun (Year)	11	10	34	12	26	5	0	7	7	7	11	6	21	8	5	0	0	3	12	4	183
	8) Unidentified	7	3	6	2	18	2	0	0	8	0	0	23	9	21	6	2	1	1	9	7	125
Total	237	259	331	200	505	176	79	165	187	312	221	592	457	232	99	45	100	100	281	264	4,842	
4 Changes of Family Members	1) a) Male: 10 years ago	586	540	709	403	1,102	412	227	393	553	836	384	1,381	1,280	576	344	115	233	213	989	730	12,006
	b) Male: Present	580	607	720	471	1,222	427	176	426	484	776	513	1,389	1,168	585	290	120	239	285	786	687	11,951
	Difference	-6	67	11	68	120	15	-51	33	-69	-60	129	8	-112	9	-54	5	6	72	-203	-43	-55
	2) a) Female: 10 years ago	582	574	666	378	1,045	427	218	426	456	843	378	1,371	1,310	549	312	115	239	241	999	793	11,922
	b) Female: Present	583	628	634	476	1,212	476	208	392	455	807	543	1,396	1,167	586	288	116	234	281	834	660	11,976
Difference	1	54	-32	98	167	49	-10	-34	-1	-36	165	25	-143	37	-24	1	-5	40	-165	-133	54	
5 Year of Resettlement ³⁾	1992	1992	1994-1995	1995	1995-1996	1995-1996	1995-1996	1996	1995	1994	1993-1994	1994	1993	1993-1994	1993	-	1995-1996	-	-	1991-1996	1993	-

Source: Questionnaire Survey

- Note: 1) Not affected by the Project
 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
 3) Transmigration Village surveyed for comparison purposes
 4) Not affected by the Project
 5) Even single year is shown, some contain a few resettled families in the year after/before the indicated year.

Table 3.7 (1/3) Socio-economic Characteristics of Resettled Families

Item	Village		Plau Gadang		Koto Mesjid		Ramah Sungkai		Luhuk Agung		Batu Besurat		Binamang		Pongkai Baru	
	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)
1 Possession of Capital Goods (Answer: "Yes")																
1) Color TV	13	132	10	183	6	293	8	31	70	111	33	38	11	19	6	6
2) B&W TV	58	51	36	44	46	311	27	33	94	33	16	36	24	24	44	44
3) Radio	99	137	146	207	220	179	90	76	343	199	121	104	66	66	30	30
4) Bicycle	103	95	43	72	224	212	94	57	347	137	100	66	10	22	11	11
5) Motorbike	25	71	19	89	48	296	20	16	119	75	32	10	4	3	6	6
6) Refrigerator	3	32	2	52	1	325	2	4	29	47	5	4	3	4	3	3
7) Kerosene Stove	40	157	80	206	189	172	54	54	224	198	84	67	29	29	23	23
8) Bath Room	8	60	96	158	2	329	7	4	20	28	7	18	3	3	7	7
9) Carabao	15	2	1	15	127	316	66	14	208	2	53	0	24	6	6	6
10) Goat	14	15	7	17	140	319	80	34	243	21	52	2	41	12	12	12
11) Poultry	161	159	181	194	283	118	147	125	434	337	151	116	71	61	61	61
2 Living Conditions (Answer: "Better than before")																
1) Overall Living Standard	32	14	8	3.2	136	41.1	8	4.0	450	92.0	124	70.5	73	59	59	59
2) Water Supply	64	27	24	9.6	110	33.2	8	4.0	464	94.9	108	61.4	63	85	85	85
3) Electricity	57	24	73	29.3	115	34.7	182	91.5	106	21.7	28	15.9	1	1	1	1
4) Road	52	22	0	0.0	137	41.4	192	96.5	51	10.4	18	10.2	40	54	54	54
5) Health Services	59	25	5	2.0	182	55.0	187	94.0	124	25.4	26	14.8	68	92	92	92
6) School	59	25	13	5.2	218	65.9	174	87.4	36	7.4	122	69.3	70	95	95	95
7) Mosque	59	25	41	16.5	188	56.8	160	80.4	32	6.5	50	28.4	70	95	95	95
8) Housing	77	32	11	4.4	145	43.8	31	15.6	257	52.6	130	73.9	76	103	103	103
9) Village Location	58	24	20	8.0	221	66.8	12	6.0	250	51.1	155	88.1	75	101	101	101
3 Effect of Resettlement (Answer: "Yes")																
1) Family was separated	1	0	0	0.0	15	4.5	1	0.5	152	31.1	113	64.2	61	82	82	82
2) Activities hampered	2	1	0	0.0	1	0.3	0	0.0	20	4.1	0	0.0	2	3	3	3
3) Difficult neighbors	0	0	0	0.0	0	0.0	0	0.0	15	3.1	0	0.0	9	12	12	12
4) Disconnected to social activities	2	1	0	0.0	16	4.8	0	0.0	16	3.3	21	11.9	4	5	5	5
4 Result of Resettlement (Answer: "Yes")																
Happy	206	87	105	42.2	271	81.9	192	96.5	346	70.8	11	6.3	55	74	74	74
5 Reason to accept the resettlement program																
1) Economical benefit	43	18	13	5.2	65	19.6	0	0.0	25	5.1	13	7.4	0	0	0	0
2) Community influence	174	73	9	3.6	9	2.7	23	11.6	336	68.7	138	78.4	3	4	4	4
3) External pressure	15	6	2	0.8	284	85.8	48	24.1	125	25.6	22	12.5	5	7	7	7
4) Compensation	3	1	152	61.0	0	0.0	60	30.2	35	7.2	3	1.7	5	7	7	7
5) Others	3	1	85	34.1	21	6.3	69	34.7	8	1.6	0	0.0	67	91	91	91
6 Current Living Conditions																
1) Better than before	120	50.6	183	70.7	13	3.9	9	4.5	13	2.6	10	5.7	0	0.0	0.0	0.0
2) No change	92	38.8	69	26.6	34	10.3	13	6.5	31	6.3	6	3.4	5	6.3	6.3	6.3
3) Worse than before	25	10.5	7	2.7	284	85.8	178	89.0	461	91.3	160	90.9	74	93.7	93.7	93.7
Total	237	100.0	259	100.0	331	100.0	200	100.0	505	100.0	176	100.0	79	100.0	100.0	100.0

Source: Questionnaire Survey

Table 3.7 (2/3) Socio-economic Characteristics of PAFs

Item	Village	Mayang Ponkai		Pongka Istiqomah		Tanjung Alai		Muara Takus		Koto Tuo		Muara Mahat Baru		Gunung Bungsu	
		Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)
1	Possession of Capital Goods (Answer: "Yes")														
1)	Color TV	34	112	10	38	46	105	13	83	16	261	120	368	7	45
2)	B&W TV	32	25	35	29	65	37	23	18	58	39	119	22	17	14
3)	Radio	119	124	118	110	156	134	119	136	267	224	307	364	111	160
4)	Bicycle	116	124	109	52	123	68	193	188	133	342	360	98	82	82
5)	Motorbike	34	86	20	24	49	51	34	74	67	182	105	175	9	19
6)	Refrigerator	2	11	0	3	8	17	6	24	3	30	24	148	1	10
7)	Kerosene Stove	42	102	52	96	77	118	65	165	50	96	376	430	30	97
8)	Bath Room	132	107	5	13	22	27	81	135	11	34	142	339	15	158
9)	Carabao	9	97	21	0	87	7	88	36	52	1	38	10	68	10
10)	Goat	23	3	28	2	58	6	94	43	38	5	45	4	62	7
11)	Poultry	59	6	140	102	19	172	140	108	424	384	363	320	15	108
2	Living Conditions (Answer: "Better than before")														
1)	Overall Living Standard	23	13.9	6	3.2	278	89.1	60	27.3	495	83.6	204	44.7	183	79.9
2)	Water Supply	70	42.4	85	45.5	287	92.0	190	86.4	512	86.5	393	86.2	84	36.7
3)	Electricity	8	4.8	172	92.0	22	7.1	170	77.3	30	5.1	30	6.6	3	1.3
4)	Road	2	1.2	178	95.2	81	26.0	170	77.3	26	4.4	284	62.3	1	0.4
5)	Health Services	8	4.8	118	63.1	78	25.0	170	77.3	31	5.2	34	7.5	1	0.4
6)	School	14	8.5	103	55.1	59	18.9	171	77.7	17	2.9	14	3.1	1	0.4
7)	Mosque	150	90.9	110	58.8	90	28.8	143	65.0	33	5.6	22	4.8	2	0.9
8)	Housing	27	16.4	97	51.9	253	81.1	88	40.0	60	10.1	196	43.0	144	62.9
9)	Village Location	55	33.3	101	54.0	283	90.7	141	64.1	51	8.6	235	51.5	171	74.7
3	Effect of Resettlement (Answer: "Yes")														
1)	Family was separated	2	1.2	122	65.2	113	36.2	6	2.7	13	2.2	7	1.5	15	6.6
2)	Activities hampered	0	0.0	0	0.0	47	15.1	4	1.8	0	0.0	1	0.2	0	0.0
3)	Difficult neighbors	38	23.0	0	0.0	44	14.1	5	2.3	1	0.2	4	0.9	4	1.7
4)	Disconnected to social activities	2	1.2	1	0.5	46	14.7	2	0.9	0	0.0	1	0.2	6	2.6
4	Result of Resettlement (Answer: "Yes")														
Happy		57	34.5	186	99.5	296	94.9	125	56.8	478	80.7	364	79.8	178	77.7
5	Reason to accept the resettlement program														
1)	Economical benefit	5	3.0	0	0.0	22	7.1	24	10.9	5	0.8	0	0.0	11	4.8
2)	Community influence	90	54.5	183	97.9	75	24.0	57	25.9	501	84.6	1	0.2	68	29.7
3)	External pressure	34	20.6	4	2.1	69	22.1	107	48.6	10	1.7	0	0.0	169	73.8
4)	Compensation	9	5.5	0	0.0	136	43.6	27	12.3	0	0.0	0	0.0	63	27.5
5)	Others	32	19.4	0	0.0	9	2.9	4	1.8	0	0.0	0	0.0	5	2.2
6	Current Living Conditions														
1)	Better than before	108	65.5	5	2.7	8	2.6	3	1.4	43	7.3	197	43.1	26	11.2
2)	No change	44	26.7	18	9.6	22	7.1	10	4.5	68	11.5	116	25.4	40	17.2
3)	Worse than before	13	7.9	164	87.7	282	90.4	208	94.1	481	81.3	144	31.5	166	71.6
	Total	165	100.0	187	100.0	312	100.0	221	100.0	592	100.0	457	100.0	232	100.0

Source: Questionnaire Survey

Table 3.7 (3/3) Socio-economic Characteristics of PAFs

Item	Village		Tanjung 1)		Tanjung 2)		Karya Bakti 3)		Gunung Malero 4)		Tanjung Balit		Tanjung Pauh	
	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)	Before(No.)	Present(No.)
1 Possession of Capital Goods (Answer: "Yes")	-	35	-	8	-	38	-	28	-	34	-	127	-	70
1) Color TV	-	3	-	0	-	41	-	7	-	32	-	19	-	60
2) B&W TV	-	50	-	16	-	58	-	46	-	222	-	195	-	140
3) Radio	-	49	-	14	-	94	-	39	-	175	-	89	-	95
4) Bicycle	-	36	-	0	-	55	-	18	-	89	-	68	-	39
5) Motorbike	-	14	-	0	-	6	-	10	-	22	-	43	-	17
6) Refrigerator	-	35	-	1	-	8	-	48	-	111	-	132	-	53
7) Kerosene Stove	-	86	-	12	-	89	-	14	-	57	-	68	-	24
8) Bed Room	-	26	-	12	-	10	-	30	-	21	-	4	-	17
9) Carabao	-	11	-	8	-	5	-	18	-	51	-	13	-	44
10) Goat	-	78	-	36	-	83	-	59	-	215	-	176	-	171
11) Poultry	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 Living Conditions (Answer: "Better than before")	Better(No.)	%	Better(No.)	%	Better(No.)	%	Better(No.)	%	Better(No.)	%	Better(No.)	%	Better(No.)	%
1) Overall Living Standard	-	23	0.5	-	-	-	-	-	-	36	12.7	49	18.4	
2) Water Supply	-	12	0.3	-	-	-	-	-	-	14	4.9	17	6.4	
3) Electricity	-	33	0.7	-	-	-	-	-	-	247	87.3	210	78.7	
4) Road	-	40	0.9	-	-	-	-	-	-	55	19.4	91	34.1	
5) Health Services	-	38	0.8	-	-	-	-	-	-	149	52.7	154	57.7	
6) School	-	34	0.8	-	-	-	-	-	-	113	39.9	114	42.7	
7) Mosque	-	33	0.7	-	-	-	-	-	-	115	40.6	96	36.0	
8) Housing	-	33	0.7	-	-	-	-	-	-	66	23.3	107	40.1	
9) Village location	-	37	0.8	-	-	-	-	-	-	40	14.1	107	40.1	
3 Effect of Resettlement (Answer: "Yes")	Yes(No.)	%	Yes(No.)	%	Yes(No.)	%	Yes(No.)	%	Yes(No.)	%	Yes(No.)	%	Yes(No.)	%
1) Family was separated	-	5	0.1	-	-	-	-	-	-	97	34.3	98	36.7	
2) Activities hampered	-	1	0.0	-	-	-	-	-	-	33	11.7	50	18.7	
3) Difficult neighbors	-	0	0.0	-	-	-	-	-	-	30	10.6	29	10.9	
4) Disconnected to social activities	-	12	0.3	-	-	-	-	-	-	22	7.8	32	12.0	
4 Result of Resettlement (Answer: "Yes")	Yes(No.)	%	Yes(No.)	%	Yes(No.)	%	Yes(No.)	%	Yes(No.)	%	Yes(No.)	%	Yes(No.)	%
Happy	-	29	0.6	-	-	-	-	-	-	125	44.2	86	32.2	
5 Reason to accept the resettlement program	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1) Economical benefit	-	0	0.0	-	-	-	-	-	-	21	7.4	47	17.6	
2) Community influence	-	39	0.9	-	-	-	-	-	-	186	65.7	146	54.7	
3) External pressure	-	12	0.3	-	-	-	-	-	-	60	21.2	59	22.1	
4) Compensation	-	0	0.0	-	-	-	-	-	-	6	2.1	110	41.2	
5) Others	-	0	0.0	-	-	-	-	-	-	8	2.8	80	30.0	
6 Current Living Conditions	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1) Better than before	-	9	20.0	-	-	-	-	-	-	29	10.3	49	18.6	
2) No change	-	4	8.9	-	-	-	-	-	-	65	23.1	26	9.8	
3) Worse than before	-	32	71.1	-	-	-	-	-	-	187	66.5	189	71.6	
Total	-	45	100.0	-	-	-	-	-	-	281	100.0	264	100.0	

Source: Questionnaire Survey

- Note: 1) Not affected by the Project
 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
 3) Transmigration Village surveyed for comparison purposes
 4) Not affected by the Project

Table 3.8 (1/2) Changes of Capital Goods and Family Members

(Unit: No.)

Item	Village	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat	Binamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah	Tanjung Alai
1 Capital Goods											
1) Color TV		119	173	287	23	41	5	8	78	28	59
2) B&W TV		-7	8	265	6	-61	20	-18	-7	-6	-28
3) Radio		38	61	-41	-14	-144	-17	-22	5	-8	-22
4) Bicycle		-8	29	-12	-37	-210	-34	-36	8	-57	-55
5) Motorbike		46	70	248	-4	-44	-22	-11	52	4	2
6) Refrigerator		29	50	324	2	18	-1	3	9	3	9
7) Kerosene Stove		117	126	-17	2	-26	-17	-6	60	44	41
8) Bed Room		52	62	327	-	8	-	-	-	-	-
9) Buffalo		-13	14	189	-52	-206	-53	-18	88	-21	-80
10) Goat		1	10	179	-46	-222	-50	-29	-20	-26	-52
11) Poultry		-2	13	-165	-22	-97	-35	-10	-53	-38	153
2 Family Members											
1) Male		-6	67	11	68	120	15	-51	33	-69	-60
2) Female		1	54	-32	98	167	49	-10	-34	-1	-36

Note: The above figures are calculated "Present" - "before" based on Table 3.2.7. Source: Questionnaire Survey

Table 3.8 (2/2) Changes of Capital Goods and Family Members

(Unit: No.)

Item	Village	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung ¹⁾	Tanjung ²⁾	³⁾ Karya Bakti	⁴⁾ Gunung Malero	Tanjung Balit	Tanjung Pauh
1	Capital Goods										
	1) Color TV	70	245	248	38	-20	8	33	23	93	46
	2) B&W TV	-5	-19	-97	-3	-2	4	30	-2	-13	-13
	3) Radio	17	-43	57	49	-1	7	13	11	-27	25
	4) Bicycle	-5	-65	18	-16	-10	8	15	2	-83	-52
	5) Motorbike	40	115	70	10	17	5	46	12	-21	1
	6) Refrigerator	18	27	124	9	11	6	5	6	21	24
	7) Kerosene Stove	100	46	54	67	33	7	72	21	21	32
	8) Bed Room	-	-	197	-	-4	-	-3	10	2	-2
	9) Buffalo	-52	-51	-28	-58	-11	-2	-3	4	-17	-9
	10) Goat	-51	-33	-41	-55	-4	-3	-2	6	-38	-34
	11) Poultry	-32	-40	-43	93	-2	0	30	-1	-39	-46
2	Family Member										
	1) Male	129	8	-112	9	-54	5	6	72	-203	-43
	2) Female	165	25	-143	37	-24	1	-5	40	-165	-133

Note: 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

The above figures are calculated "Present" - "Before" based on Table 3.2.7.

Source: Questionnaire Survey

Table 3.9 (1/3) Compensation

(Unit:No.)

Item	Village	Pulau Gadang		Koto Mesjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Binamang		Pongkai Baru	
		Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received
1	House	0	0	0	0	2	5	14	9	6	3	2	2	10	3
2	Land														
	1) Submerged Area	1	0	0	0	80	6	14	10	5	9	2	0	23	4
	2) Isolated Area	0	1	0	0	11	72	15	10	4	1	0	0	19	4
	3) Remote Area	0	1	0	0	11	71	14	10	1	4	0	0	17	10
3	Plants														
	1) Rubber: Matured	3	0	0	1	75	9	14	11	2	7	1	0	13	5
	2) Rubber: Immature	1	0	0	0	71	10	14	11	2	1	1	2	11	7
	3) Coconut	1	0	0	0	69	10	14	11	1	1	4	1	8	2
	4) Fruit Trees	1	0	0	0	69	11	13	12	0	1	3	0	8	1
	5) Others	0	0	0	0	0	0	0	7	0	0	2	0	2	0

(Unit:No.)

Item	Village	Pulau Gadang		Koto Mesjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Binamang		Pongkai Baru	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Made	19	8.0	18	7.2	10	3.0	47	23.6	127	26.0	40	22.7	60	81.1
2	Not made	118	49.8	233	93.6	271	81.9	76	38.2	251	51.3	92	52.3	6	8.1

(Unit:No.)

Item	Village	Pulau Gadang		Koto Mesjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Binamang		Pongkai Baru	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Good	9	3.8	36	14.0	1	0.3	0	0.0	2	0.4	1	0.6	0	0.0
2	Fai	86	36.3	132	53.0	2	0.6	0	0.0	18	3.7	0	0.0	4	5.4
3	Unfair	98	41.4	83	33.0	279	84.3	193	97.0	454	92.8	133	75.6	64	86.5

Note: Percentage of each village is based on the total number of answers. Total may not necessarily become exactly 100 if added together because of invalid/not0answered questions.
Source: Questionnaire Survey

Table 3.9 (2/3) Compensation

a. Complaints on Compensation (Unit:No.)

Item	Village	Mayang Ponkai		Pongkai Istiqomah		Tanjung Alai		Muara Takus		Koto Tuo		Muara Mahat Baru		Gunung Bungsu	
		Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received
1	House	5	11	0	1	52	1	61	4	1	2	35	1	4	
2	Land														
	1) Submerged Area	6	12	62	4	76	3	62	7	4	2	75	31	11	
	2) Isolated Area	2	2	8	9	6	2	8	0	0	0	72	49	0	
	3) Remote Area	2	3	1	11	0	1	8	0	0	0	64	63	0	
3	Plants														
	1) Rubber: Matured	4	6	13	4	52	2	64	18	2	4	94	22	7	
	2) Rubber: Immature	3	2	1	0	14	1	63	18	1	0	87	24	0	
	3) Coconut	4	2	4	4	7	1	63	19	0	0	85	5	1	
	4) Fruit Trees	4	5	7	3	7	2	63	18	0	0	82	6	0	
	5) Others	1	0	0	0	0	0	5	0	0	0	0	0	0	

b. Claims Made Against GOI (Unit:No.)

Item	Village	Mayang Ponkai		Pongkai Istiqomah		Tanjung Alai		Muara Takus		Koto Tuo		Muara Mahat Baru		Gunung Bungsu	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Made	11	6.7	3	1.6	31	9.9	95	43.2	17	2.9	10	2.2	126	55.0
2	Not made	64	38.8	74	39.6	35	11.2	78	35.5	20	3.4	433	95.0	47	20.5

c. Fairness of the Compensation Scheme (Unit:No.)

Item	Village	Mayang Ponkai		Pongkai Istiqomah		Tanjung Alai		Muara Takus		Koto Tuo		Muara Mahat Baru		Gunung Bungsu	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Good	56	33.9	1	0.5	0	0.0	4	1.8	8	1.4	8	1.8	0	0.0
2	Fair	50	30.3	20	10.7	3	1.0	22	10.0	36	6.1	126	27.6	5	2.2
3	Unfair	56	33.9	163	87.2	86	27.6	156	70.9	538	90.9	314	68.9	225	98.3

Note: Percentage of each village is based on the total number of answers. Total may not necessarily become exactly 100 if added together because of invalid/not answered questions.
Source: Questionnaire Survey

Table 3.9 (3/3) Compensation

(Unit:No.)

Item	Village	Tanjung 1)		Tanjung 2)		Karya Bakti 3)		Gunung Malero 4)		Tanjung Balit		Tanjung Pauh		Total	
		Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received	Partially Paid	Not Received
1	House	0	0	9	3	0	0	0	0	0	3	31	3	229	55
2	Land														
	1) Submerged Area	0	0	8	4	0	0	0	0	18	14	56	10	502	127
	2) Isolated Area	0	0	8	4	0	0	0	0	14	100	36	52	203	306
	3) Remote Area	0	0	8	4	0	0	0	0	3	85	27	58	156	321
3	Plants														
	1) Rubber: Matured	0	0	8	6	0	0	0	0	9	54	51	35	408	191
	2) Rubber: Immature	0	0	8	4	0	0	0	0	11	43	54	37	342	160
	3) Coconut	0	0	7	5	0	0	0	0	3	25	28	14	298	101
	4) Fruit Trees	0	0	6	5	0	0	0	0	6	45	31	18	301	127
	5) Others	0	0	0	0	0	0	0	0	0	0	0	0	10	7

(Unit:No.)

Item	Village	Tanjung 1)		Tanjung 2)		Karya Bakti 3)		Gunung Malero 4)		Tanjung Balit		Tanjung Pauh		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Made	0	0	3	6.7	0	0	0	0	22	7.8	111	41.6	750	17.5
2	Not made	0	0	39	86.7	0	0	0	0	169	59.7	73	27.3	2,079	39.6

(Unit:No.)

Item	Village	Tanjung 1)		Tanjung 2)		Karya Bakti 3)		Gunung Malero 4)		Tanjung Balit		Tanjung Pauh		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	Good	0	0	0	0.0	0	0	0	0	4	1.4	25	9.4	155	3.5
2	Fair	0	0	0	0.0	0	0	0	0	25	8.8	54	20.2	583	10.8
3	Unfair	0	0	44	97.8	0	0	0	0	179	63.3	168	62.9	3,233	60.6

Note: 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

Percentage of each village is based on the total number of answers. Total may not necessarily become exactly 100 if added together because of invalid/not answered questions.

Source: Questionnaire Survey

Table 3.10(1/4) Clean Water Supply

(Unit: No.)

a. (1/2) When you moved to the new location, did you have clean water supply facility provided by the Government?

Response	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat	Binamang	Pongkai Baru	Mayang Pongkai	* Pongkai Istiqomah	Tanjung Alai
1) Yes	1	2	3	4	5	6	7	8	9	10
2) No	222	11	211	2	45	104	74	164	2	229
Total	15	248	120	198	460	72	5	1	185	83
	237	259	331	200	505	176	79	165	187	312

(Unit: No.)

Response	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung - Relocation 1)	Tanjung - Non	Karya Bhakti 3)	Gunung Malelo 4)	Tanjung Pauth	Tanjung Balik
1) Yes	11	12	13	14	15	16	17	18	19	20
2) No	210	355	412	216	0	0	0	3	258	205
Total	11	237	45	16	45	99	100	97	6	76
	221	592	457	232	45	99	100	100	264	281

Note: 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.10 (2/4) Clean Water Supply

b. (1/2) What type of facility were you provided. Please indicate present condition of use.

Village	Shallow Well												Ground Water Well With Pump																								
	1) Currently Using				2) Currently using with some problem (No.)				3) Currently not using (No.)				1) Currently Using				2) Currently using with some problem (No.)				3) Currently not using (No.)																
	No.	%	No.	%	a.	b.	c.	d.	e.	f.	No.	%	a.	b.	c.	d.	e.	f.	No.	%	a.	b.	c.	d.	e.	f.	No.	%									
1 Pulau Gadang	122	51.5	21	17	13	6	0	1	1	37	24.1	30	61	53	34	0	0	0	178	75.1	0	0.0	0	0	0	0	6	2.3	1	1	3	0	0	0	0	11	4.6
2 Koto Mesjid	7	2.7	69	1	5	0	1	1	1	29.7	2	4	58	2	0	0	0	66	25.5	5	1.9	5	0	1	3	0	0	0	0	0	0	0	0	0	5	1.9	
3 Ranah Sungkat	11	3.3	55	3	4	0	0	8	70	21.1	3	4	1	5	0	0	0	14	4.2	0	0.0	0	0	0	0	1	0.3	0	0	0	0	0	0	0	1	0.3	
4 Lubuk Agung	2	1.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	
5 Batu Bersurat	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	
6 Binandang	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0.0	
7 Pongkai Baru	47	59.5	1	7	0	5	3	0	16	20.3	0	0	0	0	0	0	0	23	77	46.7	0	0.0	2	4	3	3	0	0	0	0	0	0	0	0	0	0	0.0
8 Mnyang Fongkai	24	14.5	53	58	52	62	5	2	232	140.6	24	7	11	12	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
9 Pongkai Istiqomah *	2	0.6	1	7	9	1	1	23	42	13.5	0	0	0	0	1	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
10 Tanjung Alai	101	45.7	102	18	0	5	3	0	128	57.9	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
11 Muzara Takus	3	0.5	1	13	0	1	0	0	15	2.5	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
12 Koto Tuo	152	33.3	3	188	0	2	0	0	193	42.2	0	8	2	2	1	0	0	0	13	28.9	6.3	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	
13 Muzara Mahal Baru	6	2.6	182	5	0	0	0	0	187	80.6	0	0	0	0	0	0	0	0	2	0.9	0.9	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	
14 Gunung Bungau	39	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
15 Tanjung - Relocation ⁵⁾	39	39.4	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0.0	50.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
16 Tanjung - Non Relocation ⁶⁾	5	5.0	55	53	53	54	4	0	219	219.0	18	1	2	2	0	0	0	0	3	53	53.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
17 Kayu Bhatki ⁷⁾	7	7.0	7	0	7	0	0	0	14	14.0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
18 Gunung Maléle ⁸⁾	5	1.9	66	59	8	11	1	4	149	56.4	33	68	2	38	1	5	147	55.7	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
19 Tanjung Pauh	2	0.7	70	51	2	2	0	0	123	44.3	44	52	4	7	1	13	121	45.1	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
20 Tanjung Balik	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	

b. (2/2) What type of water supply facility were you provided. Please indicate present condition of use.

Village	Shallow Well												Ground Water Well With Pump																								
	1) Currently Using				2) Currently using with some problem (No.)				3) Currently not using (No.)				1) Currently Using				2) Currently using with some problem (No.)				3) Currently not using (No.)																
	No.	%	No.	%	a.	b.	c.	d.	e.	f.	No.	%	a.	b.	c.	d.	e.	f.	No.	%	a.	b.	c.	d.	e.	f.	No.	%									
1 Pulau Gadang	3	1.3	3	0	0	0	0	0	3	1.3	0	0	0	0	0	0	0	0	15	6.3	0	0.0	0	0	0	0	2	0.8	0	0	0	0	0	0	0	0.0	
2 Koto Mesjid	3	1.2	0	1	0	4	0	1	2	1.9	0	0	0	0	0	0	0	0	2	0.8	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
3 Ranah Sungkat	0	0.0	0	0	0	3	0	1	4	1.2	2	3	0	215	0	15	255	71.0	0	0.0	0	0.0	0	0	0	0	1	0.3	2	3	0	215	0	15	235	71.0	
4 Lubuk Agung	0	0.0	0	0	0	0	0	0	1	0.3	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
5 Batu Bersurat	0	0.0	0	0	0	0	0	0	3	0.0	4	0	0	37	0	0	41	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
6 Binandang	77	43.8	0	0	14	27	0	0	41	0.0	0	0	2	50	0	0	52	0.0	1	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
7 Pongkai Baru	4	5.1	0	0	0	1	0	0	1	1.3	0	0	1	0	0	1	2	2.5	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
8 Mnyang Fongkai	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0.0		
9 Pongkai Istiqomah *	1	0.3	7	6	10	9	3	1	36	11.5	0	0	2	59	54	8	123	39.4	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
10 Tanjung Alai	43	19.5	1	104	4	5	1	0	115	52.0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
11 Muzara Takus	13	2.2	17	3	13	33	0	0	66	11.1	3	0	259	0	0	302	51.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
13 Muzara Mahal Baru	3	0.7	0	0	0	0	0	1	0	0.2	0	1	3	7	0	22	4.8	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
14 Gunung Bungau	0	0.0	2	0	0	0	0	0	2	0.9	0	1	2	0.9	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
15 Tanjung - Relocation ⁹⁾	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
16 Tanjung - Non Relocation ⁵⁾	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	10	10.1	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
17 Kayu Bhatki ⁷⁾	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
18 Gunung Maléle ⁸⁾	0	0.0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
19 Tanjung Pauh	1	0.4	0	0	0	0	0	0	1	0.4	0	0	0	0	0	1	1	0.4	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
20 Tanjung Balik	1	0.4	2	0	1	12	0	0	15	5.3	22	7	5	22	2	1	59	21.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	

Notes: 1) Code for the answers of "2) currently using with some problem" or "3) Currently not using":
a) water quantity is not enough, b) Water quality is not good, c) Location of facility is too far from my house,
d) The facility broke down, e) Poor maintenance due to high maintenance cost, f) Other.
2) Some PAFs answered more than one
3) * - Data is reference only since this village received monetary compensation.
4) Not affected by the Project.
5) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
6) Transmigration Village surveyed for comparison purposes
7) Not affected by the Project
Source: Questionnaire Survey

Table 3.10(3/4) Clean Water Supply

(Unit:No.)

Type	Pulau Gadang						Koto Mesjid						Ranah Sungkai						Lubuk Agung						Batu Bersurat					
	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15	
	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present
RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	
1) Shallow well	0	1	105	88	3	4	171	120	92	91	245	93	3	2	5	4	294	127	322	39	0	0	0	0	0	0	0	0	0	0
2) Ground water well with pump	0	0	10	10	0	1	33	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3) Municipal water system	0	0	0	0	0	0	1	2	0	0	2	2	0	1	1	0	3	1	0	2	0	0	0	0	0	0	0	0	0	0
4) River water	235	248	37	52	257	249	26	83	324	320	268	265	200	198	198	196	433	469	58	190	0	0	0	0	0	0	0	0	0	0
5) Reservoir water	0	0	12	4	26	1	65	9	4	10	224	7	1	0	0	0	97	21	331	81	0	0	0	0	0	0	0	0	0	0
6) Purchasing water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7) Spring	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8) From Neighbor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9) Japanese Assisted Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10) Others	0	0	73	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	235	249	237	237	286	255	296	241	420	421	739	367	205	201	203	200	827	618	716	504	0	0	0	0	0	0	0	0	0	0

(Unit:No.)

Type	Binamang						Pongkai Baru						Mayang Pongkai						Pongkai Istiqomah *						Tanjung Alai					
	6		7		8		9		10		11		12		13		14		15		16		17		18		19		20	
	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present	Before	Present
RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	RS	DS	
1) Shallow well	76	13	18	0	5	3	75	54	47	17	157	151	24	24	130	96	2	1	225	235	0	0	0	0	0	0	0	0	0	0
2) Ground water well with pump	0	0	0	0	0	0	0	0	0	1	8	6	0	0	1	1	0	0	1	11	10	0	0	0	0	0	0	0	0	0
3) Municipal water system	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4) River water	54	146	127	170	75	74	3	23	141	148	3	0	155	163	40	77	282	307	13	13	0	0	0	0	0	0	0	0	0	0
5) Reservoir water	25	1	31	0	2	1	2	2	3	5	0	0	10	2	16	0	28	3	34	17	0	0	0	0	0	0	0	0	0	0
6) Purchasing water	1	0	0	1	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7) Spring	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8) From Neighbor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9) Japanese Assisted Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10) Others	20	16	0	4	0	1	1	2	1	0	0	1	0	0	2	14	0	0	0	29	35	0	0	0	0	0	0	0	0	0
Total	176	176	176	176	83	80	82	83	192	171	168	158	189	189	189	188	312	312	312	312	312	312	312	312	312	312	312	312	312	312

Note: RS - Rainy Season

DS - Dry Season

Source: Questionnaire Survey

Table 3.10(4/4) Clean Water Supply

(Unit: No.)

Village Type	Muara Takus						Koto Tuo						Muara Mahat Baru						Gunung Bungsu						Tanjung Relokasi					
	11			12			13			14			15																	
	Before	Present	DS	Before	Present	DS	Before	Present	DS	Before	Present	DS	Before	Present	DS	Before	Present	DS	Before	Present	DS									
1) Shallow well	31	20	176	134	4	360	347	38	35	372	359	17	11	203	158	1	0	32	20	0	0									
2) Ground water well with pump	0	0	2	2	0	2	2	2	3	72	76	0	0	1	0	0	0	0	0	0	0									
3) Municipal water system	2	1	109	68	0	8	7	5	3	3	8	0	0	0	0	0	0	0	0	0	2									
4) River water	211	206	51	108	572	60	90	321	322	1	4	220	223	6	29	43	41	3	20	0	0									
5) Reservoir water	26	18	97	60	2	3	146	124	119	126	95	0	1	0	3	7	4	12	0	0	0									
6) Purchasing water	0	0	2	2	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0									
7) Spring	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
8) From Neighbor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
9) Japanese Assisted Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
10) Others	0	2	0	0	5	10	16	22	42	41	2	2	0	22	42	0	0	0	0	0	0									
Total	270	247	437	374	592	592	592	528	532	546	546	237	235	232	232	51	45	47	42	0	0									

(Unit: No.)

Village Type	Tanjung Non Relocation						Karya Bhakti						Gunung Malelo						Tanjung Pauh						Tanjung Balik					
	16			17			18			19			20																	
	Before	Present	DS	Before	Present	DS	Before	Present	DS	Before	Present	DS	Before	Present	DS	Before	Present	DS	Before	Present	DS									
1) Shallow well	0	0	39	39	0	0	100	100	0	0	13	3	16	7	71	12	41	34	112	20	0									
2) Ground water well with pump	0	0	50	49	0	0	0	0	0	0	0	0	5	2	2	0	1	1	1	0	0									
3) Municipal water system	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0									
4) River water	0	0	4	5	0	0	0	0	0	52	96	219	219	7	1	212	217	5	22	5	22									
5) Reservoir water	0	0	2	2	0	0	0	0	0	49	2	3	2	143	6	6	5	94	24	0	0									
6) Purchasing water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	65	0	0	7	88	0									
7) Spring	0	0	0	0	0	0	0	0	0	0	0	0	40	42	40	53	18	21	40	77	0									
8) From Neighbor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8	1	1	21	48	0									
9) Japanese Assisted Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	167	0	0	0	0	0									
10) Others	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2									
Total	0	0	99	99	0	0	100	100	0	114	101	283	272	402	312	281	281	281	281	281	281									

Note: RS - Rainy Season DS - Dry Season

- 1) Not affected by the Project
- 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
- 3) Transmigration Village surveyed for comparison purposes
- 4) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.11 Bathing, Washing and Latrine (MCK) Facility

(Unit: No.)

a. When you moved to the new location, did you find MCK facilities provided by the government?

Villages	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat	Binamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah *	Tanjung Alai
Response	1	2	3	4	5	6	7	8	9	10
1 Yes	227	165	227	4	362	164	75	35	1	229
Condition:										
1) Good	0	0	2	0	0	0	0	5	0	1
2) Fair	0	51	34	0	13	33	3	3	0	10
3) Bad	227	114	241	0	345	131	72	27	1	218
2 No	10	94	54	196	143	12	4	130	186	83
Total	237	259	281	200	505	176	79	165	187	312

Villages	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung - Relocation 1)	Tanjung - Non Relocation 2)	Karya Bhakti 3)	Gunung Malelo 4)	Tanjung Pauh	Tanjung Balik
Response	11	12	13	14	15	16	17	18	19	20
1 Yes	219	392	459	205	0	-	-	-	255	227
Condition:										
1) Good	7	0	14	3	0	-	-	-	1	6
2) Fair	79	11	12	50	0	-	-	-	21	17
3) Bad	133	355	433	152	0	-	-	-	233	204
2 No	2	200	4	27	45	-	-	-	9	54
Total	221	592	463	232	45	0	0	0	264	281

Note: 1) Not affected by the Project
 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.11 Bathing, Washing and Latrine (MCK) Facility

b. Do you use MCK facility ? (Unit: No.)

Villages	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat	Binamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah *	Tanjung Alai
Response	1	2	3	4	5	6	7	8	9	10
a. Yes	24	68	20	1	51	7	8	37	0	12
b. No	213	191	311	199	454	169	71	128	87	300
Because										
1. Location too far from my house	0	4	16	4	22	45	5	4	0	3
2. I already have MCK facilities at my home	5	102	2	0	10	13	2	25	0	0
3. The MCK cannot be used	199	77	191	187	422	111	64	99	87	297
4. Other	9	8	102	8	0	0	0	0	0	0
Total	237	259	331	200	505	176	79	165	87	312

Villages	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung - Relocation 1)	Tanjung - Non Relocation 2)	Karya Bhakti 3)	Gunung Malelo 4)	Tanjung Pauh	Tanjung Balik
Response	11	12	13	14	15	16	17	18	19	20
a. Yes	98	51	56	166	0	-	-	-	40	64
b. No	123	433	401	66	45	-	-	-	224	217
Because										
1. Location too far from my house	0	21	0	1	0	-	-	-	10	11
2. I already have MCK facilities at my home	30	7	7	15	0	-	-	-	1	11
3. The MCK cannot be used	93	294	394	42	0	-	-	-	213	186
4. Other	0	111	0	8	45	-	-	-	0	9
Total	221	484	457	232	45	0	0	0	264	281

Note: 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.12 Electricity Supply

(Unit.No.)

Item	Village	Pulau Gadang		Koto Mesjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Binamang		Pongkai Baru	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	Use of Electricity	0	173	1	259	1	324	0	190	99	446	44	168	0	62
	1) PLN Line	61	0	2	0	0	2	14	0	197	4	60	0	25	2
	2) Diesel Generator	6	0	0	0	0	0	9	0	2	2	0	0	0	1
	3) Others														
2	Reason of Not Using Electricity	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
	1) Charge is too expensive	0	64	0	0	0	5	0	5	65	47	57	8	1	10
	2) Facility is broken down	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3) PLN line did not exist	170	0	256	0	330	0	177	0	117	1	13	0	53	1
	4) Others	0	0	0	0	0	0	0	5	18	8	2	0	0	3
3	Electricity Charge	Free	Paid	Free	Paid	Free	Paid	Free	Paid	Free	Paid	Free	Paid	Free	Paid
	1) Cost of Installation	237	0	259	0	0	331	0	200	0	505	0	176	0	79
	2) Cost of Connection	237	0	0	259	0	331	0	200	0	505	0	0	0	0
	3) First Year Consumption	0	237	0	0	0	331	0	200	0	505	0	176	0	79

(Unit.No.)

Item	Village	Mayang Pongkai		Pongkai Istiqomah *		Tanjung Alai		Muara Takus		Koto Iuo		Muara Mahat Baru		Gunung Bungsu	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	Supply of Electricity	12	160	21	186	3	291	2	215	3	590	1	457	0	206
	1) PLN Line	18	0	13	0	171	2	10	0	33	0	215	0	52	0
	2) Diesel Generator	0	0	0	0	4	3	0	0	0	0	3	0	7	2
	3) Others														
2	Reason of Using/Not Using Electricity	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
	1) Charge is too expensive	0	0	6	1	26	9	0	6	0	2	0	0	6	16
	2) Facility is broken down	0	0	0	0	11	1	0	0	0	0	0	0	0	0
	3) PLN line did not exist	135	0	146	0	42	0	209	0	556	0	238	0	18	0
	4) Others	0	5	1	0	55	6	0	0	0	0	0	0	149	8
3	Electricity Charge	Free	Paid	Free	Paid	Free	Paid	Free	Paid	Free	Paid	Free	Paid	Free	Paid
	1) Cost of Installation	0	165	0	187	0	312	2	219	0	592	0	457	3	229
	2) Cost of Connection	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3) First Year Consumption	0	165	0	187	0	312	0	221	0	592	0	457	0	232

Source: Questionnaire Survey

Table 3.12 Electricity Supply

(Unit.No.)

Item	Village	Tanjung 1 ¹⁾		Tanjung 2 ²⁾		Karya Bakti 3 ³⁾		Gunung Malero 4 ⁴⁾		Tanjung Balik		Tanjung Pauh	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	Supply of Electricity												
	1) PLN Line	1	90	0	26	35	0	5	92	0	245	7	240
	2) Diesel Generator	3	0	0	0	0	88	1	0	123	3	113	1
	3) Others	0	0	0	0	0	0	0	0	2	6	2	2
2	Reason of Using/Not Using Electricity												
	1) Charge is too expensive	0	8	3	16	0	0	0	6	6	23	20	19
	2) Facility is broken down	0	0	0	0	5	1	0	0	7	0	0	0
	3) PLN line did not exist	95	0	42	3	56	11	94	2	142	3	110	0
	4) Others	0	1	0	0	4	0	0	0	1	1	12	2
3	Electricity Charge												
	1) Cost of Installation	0	99	0	45	0	100	0	100	5	259	3	278
	2) Cost of Connection	0	99	0	45	0	100	0	100	0	0	0	0
	3) First Year Consumption	0	99	0	45	0	100	0	100	3	261	3	278

Source: Questionnaire Survey

Note: 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Table 3.13 Road Conditions

(Unit:No.)

Item	Village	Pulau Gadang		Koto Masjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Binamang		Pongkai Baru	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	Type of Road														
	1) Asphalt	236	236	178	259	244	327	0	197	357	390	32	18	11	78
	2) Gravel	0	0	0	0	0	2	1	0	144	108	142	134	68	0
	3) Soil	2	1	81	0	87	2	199	3	4	7	2	24	0	1
2	Conditions														
	1) Good	232	230	178	259	181	266	119	195	37	20	3	1	47	48
	2) Fair	5	5	0	0	149	38	47	3	430	301	105	77	32	29
	3) Bad	0	2	81	0	1	27	34	2	38	184	68	98	0	2

(Unit:No.)

Item	Village	Mayang Ponkai		Pongkai Istiqomah *		Tanjung Alai		Muara Takus		Koto Tuo		Muara Mahat Baru		Gunung Bungsu	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	Type of Road														
	1) Asphalt	145	164	169	187	21	214	148	166	30	584	439	452	1	222
	2) Gravel	20	1	2	0	183	25	34	52	557	8	7	5	70	4
	3) Soil	0	0	16	0	108	73	39	3	5	0	11	0	161	6
2	Conditions														
	1) Good	26	165	169	185	167	190	29	68	103	582	443	451	1	7
	2) Fair	1	0	16	2	128	77	192	57	483	10	14	6	85	200
	3) Bad	138	0	2	0	17	45	0	96	6	0	0	0	146	25

(Unit:No.)

Item	Village	Tanjung 1)		Tanjung 2)		Karya Bakti 3)		Gunung Malero 4)		Tanjung Balit		Tanjung Pauh	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	Type of Road												
	1) Asphalt	0	79	0	1	55	1	60	100	274	276	189	232
	2) Gravel	3	20	27	44	13	59	35	0	7	4	16	6
	3) Soil	96	0	18	0	32	40	5	0	0	1	59	26
2	Conditions												
	1) Good	0	70	2	2	22	70	0	36	245	203	190	104
	2) Fair	4	29	41	41	28	29	91	51	36	52	58	116
	3) Bad	95	0	2	2	50	1	9	13	0	26	16	44

Source: Questionnaire Survey

- Note:
- 1) Not affected by the Project
 - 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
 - 3) Transmigration Village surveyed for comparison purposes
 - 4) Not affected by the Project
- * - Data is reference only since this village received monetary compensation.

Table 3.13 Road Conditions

b. Village Road (1/3) (Unit:No.)

Item	Village	Pulau Gadang		Koto Mesjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Binamang		Pongkai Baru	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	Type of Road														
	1) Asphalt	1	5	0	0	0	2	0	1	23	49	1	5	1	0
	2) Gravel	84	226	1	173	0	278	0	10	327	364	56	75	1	3
	3) Soil	152	6	258	86	331	51	200	189	155	92	119	96	77	76
2	Conditions														
	1) Good	11	13	21	22	0	16	93	98	33	26	1	1	37	2
	2) Fair	217	218	2	152	233	268	104	91	323	244	75	57	41	44
	3) Bad	9	6	236	85	98	47	3	11	147	235	100	118	1	33

b. Village Road (2/3) (Unit:No.)

Item	Village	Mayang Ponkai		Pongkai Istiqomah *		Tanjung Alai		Muara Takus		Koto Tuo		Muara Mahat Baru		Gunung Bungsu	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	Type of Road														
	1) Asphalt	0	0	4	185	5	44	11	4	2	15	226	61	0	3
	2) Gravel	9	161	123	2	147	69	134	212	519	575	105	241	17	146
	3) Soil	156	4	60	0	160	199	76	5	71	2	126	155	215	83
2	Conditions														
	1) Good	33	165	21	184	107	44	15	10	12	37	283	150	3	15
	2) Fair	117	0	160	3	173	161	204	200	542	554	164	285	58	104
	3) Bad	15	0	6	0	32	107	2	11	38	1	10	22	171	113

b. Village Road (3/3) (Unit:No.)

Item	Village	Tanjung 1)		Tanjung 2)		Karya Bakti 3)		Gunung Malero 4)		Tanjung Balit		Tanjung Pauh	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	Type of Road												
	1) Asphalt	0	25	0	0	15	0	6	52	46	11	37	22
	2) Gravel	0	39	3	17	30	2	53	26	105	120	44	52
	3) Soil	99	35	42	28	55	98	41	22	130	150	183	190
2	Conditions												
	1) Good	0	25	5	6	66	62	2	38	130	9	61	33
	2) Fair	1	32	34	37	28	36	72	52	139	80	133	87
	3) Bad	98	42	6	2	6	2	26	10	12	192	70	144

Source: Questionnaire Survey

- Note:
- 1) Not affected by the Project
 - 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
 - 3) Transmigration Village surveyed for comparison purposes
 - 4) Not affected by the Project
- * - Data is reference only since this village received monetary compensation.

Table 3.13 Road Conditions

c. Plantation Road (1/3)

Item	Village		Pulau Gadang		Koto Masjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Binamang		Pongkai Baru	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1 Type of Road																
1) Asphalt	0	0	0	0	0	0	0	0	0	0	1	2	1	3	0	1
2) Gravel	4	15	0	2	0	4	2	327	200	200	16	20	9	3	2	1
3) Soil	233	222	259	379	259	327	379	200	200	488	488	483	166	170	77	77
2 Conditions																
1) Good	1	5	0	29	0	11	11	5	39	19	3	3	2	2	14	2
2) Fair	127	206	15	236	11	167	167	135	28	203	52	52	22	1	58	29
3) Bad	109	26	244	66	248	153	66	60	133	283	450	450	152	173	7	48

c. Plantation Road (2/3)

Item	Village		Mayang Pongkai		Pongkai Istiqomah *		Tanjung Alai		Muara Takus		Koto Tuo		Muara Mahat Baru		Gunung Bungsu	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1 Type of Road																
1) Asphalt	0	0	0	1	0	1	1	5	2	1	0	17	30	9	0	0
2) Gravel	8	165	0	82	0	46	22	11	45	12	10	23	57	4	76	76
3) Soil	157	0	187	104	265	285	208	175	580	565	404	391	228	156	156	156
2 Conditions																
1) Good	5	165	4	6	98	11	25	10	3	20	98	95	1	3	3	3
2) Fair	136	0	118	148	156	73	187	188	423	500	298	296	11	91	11	91
3) Bad	24	0	65	33	58	228	9	23	166	72	61	66	220	138	220	138

c. Plantation Road (3/3)

Item	Village		Tanjung 1)		Tanjung 2)		Karya Bakti 3)		Gunung Malero 4)		Tanjung Balik		Tanjung Pauh	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1 Type of Road														
1) Asphalt	1	0	0	0	7	1	0	0	0	0	2	4	14	23
2) Gravel	1	0	0	8	3	23	4	4	3	4	7	1	5	12
3) Soil	97	99	43	37	90	76	96	97	272	276	245	229	245	229
2 Conditions														
1) Good	1	0	0	0	59	60	0	0	0	0	52	3	41	43
2) Fair	0	0	11	14	30	37	26	22	157	16	85	57	85	57
3) Bad	98	99	34	31	11	3	78	74	262	138	164	164	138	164

Note: 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.14 Conditions of Housing

(Unit:No.)

Type	Pulau Gadang		Koto Mesjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Binamang		Pongkai Baru		Mayang Pongkai		Pongkai Istiqomah *		Tanjung Alai	
	BR	P	BR	P	BR	P	BR	P	BR	P	BR	P	BR	P	BR	P	BR	P	BR	P
a. Tile	0	0	0	0	2	2	0	0	5	11	2	2	0	0	9	0	1	6	0	
b. Corrugated iron	223	236	253	259	293	53	168	193	483	486	171	171	78	1	162	101	185	302	0	
c. Asbestos	0	0	0	0	2	270	0	27	12	4	2	2	0	78	2	54	2	0	311	
d. Other	14	1	6	0	34	6	7	5	5	0	1	1	1	0	1	1	0	1	4	1
Total	237	237	259	259	331	331	200	200	505	501	176	176	79	79	165	165	187	187	312	312
a. Cement	99	183	91	228	114	75	48	115	139	134	46	54	40	0	45	83	52	154	178	11
b. Wood	127	53	166	31	178	247	138	77	334	361	127	122	37	3	120	82	134	32	125	298
c. Other	11	1	2	0	39	9	14	8	32	10	3	0	2	76	0	0	1	1	9	3
Total	237	237	259	259	331	331	200	200	505	505	176	176	79	79	165	165	187	187	312	312
a. Plaster	150	226	249	258	167	320	94	170	288	474	58	162	64	77	67	143	61	178	210	304
b. Wood	61	8	9	1	123	8	100	26	195	14	71	14	14	2	82	9	124	3	100	2
c. Soil	16	2	1	0	5	0	0	1	7	8	16	0	0	0	15	13	2	3	2	6
d. Other	10	1	0	0	36	3	6	3	15	9	31	0	1	0	1	0	0	3	0	0
Total	237	237	259	259	331	331	200	200	505	505	176	176	79	79	165	165	187	187	312	312

Note: BR - Before Relocation P - Present
Source: Questionnaire Survey

(Unit:No.)

Type	Muara Takus		Koto Tuo		Muara Mahat Baru		Gunung Bungsu		Tanjung - Relocation 1)		Tanjung - Non Relocation 2)		Karya Bhakti 3)		Gunung Malelo 4)		Tanjung Balik		Tanjung Pauh		
	BR	P	BR	P	BR	P	BR	P	BR	P	BR	P	BR	P	BR	P	BR	P	BR	P	
a. Tile	7	14	1	1	0	5	1	2	0	0	0	0	0	87	31	2	3	16	10	4	5
b. Corrugated iron	213	203	575	590	456	452	225	230	45	45	99	99	5	69	96	97	264	269	242	259	
c. Asbestos	0	4	0	1	0	0	0	0	0	0	0	0	0	6	0	0	0	0	1	1	0
d. Other	1	0	16	0	1	0	6	0	0	0	0	0	2	0	2	0	0	1	1	17	0
Total	221	221	592	592	457	457	232	232	45	45	99	99	100	100	100	100	281	281	264	264	
a. Cement	63	76	270	483	271	295	58	132	6	40	31	90	8	32	69	77	142	134	59	77	
b. Wood	153	142	313	108	183	160	174	100	39	5	68	9	38	68	28	19	95	78	167	158	
c. Other	5	3	9	1	3	2	0	0	0	0	0	0	54	0	3	4	44	69	38	29	
Total	221	221	592	592	457	457	232	232	45	45	99	99	100	100	100	100	281	281	264	264	
a. Plaster	134	189	521	588	396	404	101	224	12	43	44	97	15	52	81	89	208	256	114	237	
b. Wood	82	32	64	1	24	4	129	6	33	2	55	2	7	2	15	8	63	9	136	19	
c. Soil	5	0	7	2	1	2	2	2	0	0	0	0	75	46	3	1	4	7	5	4	
d. Other	0	0	0	1	36	47	0	0	0	0	0	0	3	0	1	2	6	9	5	4	
Total	221	221	592	592	457	457	232	232	45	45	99	99	100	100	100	100	281	281	264	264	

Note: BR - Before resettlement P - Present
Source: Questionnaire Survey

1) Not affected by the Project
 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
 3) Transmigration Village surveyed for comparison purposes
 4) Not affected by the Project
 * - Data is reference only since this village received monetary compensation.

Table 3.14 Conditions of Housing

b. How did you think your house when you moved to the new location? (Unit.No.)

No.	Criteria	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat	Binamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah *	Tanjung Alai
a.	Good	20	1	14	0	4	0	1	0	0	1
b.	Fair	176	136	12	4	76	13	6	6	1	21
c.	Bad	41	117	305	196	425	163	72	159	186	290
	Total	237	254	331	200	505	176	79	165	187	312

(Unit.No.)

No.	Criteria	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung - Relocation 1)	Tanjung - Non Relocation 2)	Karya Bhakti 3)	Gunung Malelo 4)	Tanjung Pauh	Tanjung Balik
a.	Good	11	12	13	14	15	16	17	18	19	20
b.	Fair	95	140	22	18	0	51	51	59	36	20
c.	Bad	125	435	434	211	45	10	3	14	219	249
	Total	221	592	457	232	45	99	100	100	264	281

Note: 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.14 Conditions of Housing

c. What is your present housing condition ?

No.	Criteria	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat	Binamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah *	Tanjung Alai
1	As constructed when moved in	40	23	226	23	168	54	65	5	3	138
2	Renovated	29	97	83	11	234	66	12	131	0	57
3	Re-constructed	168	139	13	30	99	56	2	29	184	109
4	Other	0	0	9	136	4	0	0	0	0	8
	Total	237	259	331	200	505	176	79	165	187	312

(Unit:No.)

(Unit:No.)

No.	Criteria	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung - Relocation	Tanjung - Non Relocation	Karya Bhakti **	Gunung Malelo *	Tanjung Pauh	Tanjung Balik
1	As constructed when moved in	11	12	13	14	15	16	17	18	19	20
2	Renovated	116	118	54	65	0	87	0	86	47	22
3	Re-constructed	100	333	216	91	0	8	98	3	149	133
4	Other	4	141	187	76	40	3	2	9	67	119
	Total	221	592	457	232	45	99	100	100	264	281

- Note: 1) Not affected by the Project
 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
 3) Transmigration Village surveyed for comparison purposes
 4) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.15 Source of Income

(Unit:No.)

Source of Income	Pulau Gadang 1						Koto Mesjid 2						Ranah Sungkai 3						Lubuk Agung 4						Batu Bersurat 5								
	Before Relocation			Present			Before Relocation			Present			Before Relocation			Present			Before Relocation			Present			Before Relocation			Present					
	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T			
a. Rice field	10	5	0	6	0	0	0	0	0	63	118	1	4	1	0	0	0	0	67	3	0	0	0	0	0	0	0	177	97	12	0	0	0
b. Non Rice food	4	10	0	4	19	2	3	77	2	9	4	4	0	4	0	0	7	4	35	2	0	0	0	1	0	1	0	7	61	8	2	4	2
c. Rubber plantation	158	1	0	149	0	0	187	7	1	229	17	2	73	7	0	69	6	6	14	12	1	126	3	0	0	3	0	197	82	11	26	8	0
d. Palm plantation	1	0	0	1	0	0	6	0	0	1	1	2	7	0	0	2	0	1	3	4	0	5	0	0	0	4	0	2	10	0	4	0	0
e. Fruit	0	1	0	1	1	0	0	0	0	3	18	68	11	8	4	1	1	1	7	63	0	1	4	2	0	2	2	15	105	29	2	2	2
f. Coffee	0	0	0	0	2	1	0	0	0	2	14	52	0	1	0	0	0	0	9	4	0	0	0	0	0	13	3	1	0	0			
g. Fishery	1	3	0	0	17	5	2	5	0	64	66	1	3	15	10	2	2	2	26	33	1	10	3	0	0	12	34	19	165	24			
h. Livestock	0	2	0	0	8	1	1	2	0	29	8	0	1	5	1	8	0	0	6	8	0	1	0	2	0	12	80	25	9	3			
i. Agro processing	0	0	0	0	0	0	22	13	0	5	8	0	3	0	0	8	0	0	1	2	1	10	3	0	2	2	2	5	3	1			
j. Transportation	3	0	0	1	0	0	6	3	0	1	3	1	5	1	0	4	0	0	0	0	0	0	0	0	0	2	2	0	5	3			
k. Collecting wood	1	0	0	3	0	0	8	15	2	0	4	0	1	0	2	2	0	0	3	23	0	13	5	0	5	2	4	5	2	4			
l. Forestry	0	1	0	1	0	0	0	1	0	0	2	1	0	8	3	0	0	0	12	34	1	15	8	0	1	6	3	1	6	3			
m. Carpenter	3	2	1	4	0	0	4	5	1	2	4	5	2	4	5	0	0	0	12	2	0	5	4	0	4	2	3	2	20	7			
n. Trade (kiosk/shop)	7	2	1	13	0	0	0	1	2	5	11	7	2	2	2	6	1	3	1	3	1	3	1	1	1	26	1	0	44	1			
o. Public servant	10	0	0	9	0	1	14	1	1	22	6	2	0	2	2	0	0	0	0	0	0	4	1	1	1	11	19	10	60	18			
p. Waged labor	4	2	0	1	1	0	2	4	0	2	2	4	0	2	4	0	0	0	0	0	0	1	0	0	0	1	2	29	2	4			
q. Remittance	0	0	0	1	0	0	0	0	2	1	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
r. Subsidy	0	0	0	4	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3			
s. Loan	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
t. Lainnya/Other	16	45	11	10	14	8	4	21	21	0	10	11	3	3	27	11	5	8	4	6	1	3	11	2	7	31	53	37	25	5			
u. Gambir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
v. Nothing	16	163	224	25	175	218	0	102	227	0	58	199	0	119	53	24	274	303	2	194	5	156	190	1	0	316	20	387	478	0			
Total	237	237	237	273	237	237	259	259	259	259	259	259	331	331	331	331	331	331	200	200	200	200	200	200	505	558	505	505	505	505			

Note:

P = Primary, S = Secondary, T = Tertiary

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.15 Source of Income

(Unit:No.)

Livelihood	Binamang						Pongkai Baru						Mayang Pongkai						Pongkai Istiqomah *						Tanjung Alai								
	Before Relocation			Present			Before Relocation			Present			Before Relocation			Present			Before Relocation			Present			Before Relocation			Present					
	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T			
a. Rice field	48	8	0	1	0	0	0	0	0	0	0	0	57	23	1	0	0	0	7	100	44	1	2	0	0	9	0	21	1	0	1	0	1
b. Non Rice food	2	20	2	0	0	0	4	12	1	6	0	0	4	13	9	2	11	12	0	1	3	1	0	0	5	5	5	50	8	1	4	4	4
c. Rubber plantation	81	17	0	3	5	0	0	4	8	8	0	0	77	10	0	3	3	1	166	7	0	3	1	0	131	3	23	78	1	5	5	5	5
d. Palm plantation	2	0	0	0	0	0	0	1	0	0	0	0	1	0	0	138	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0
e. Fruit	1	11	6	0	1	0	1	10	11	0	1	0	6	32	47	0	7	2	0	52	80	1	0	3	10	15	93	0	0	0	0	0	13
f. Coffee	1	0	1	0	0	1	1	10	21	0	0	0	2	21	18	1	0	0	0	0	0	0	0	0	2	10	22	2	0	0	0	0	0
g. Fishery	5	14	10	128	5	1	0	6	12	0	0	0	1	7	33	0	0	2	3	7	6	142	3	0	3	17	60	6	3	14	3	14	10
h. Livestock	1	7	0	1	0	0	1	7	4	0	0	0	1	7	20	0	1	4	0	3	1	1	0	0	5	8	39	2	0	10	10	10	10
i. Agro processing	3	3	0	3	2	0	0	0	0	1	0	0	0	2	4	0	14	1	0	0	6	1	0	0	52	4	70	42	1	14	4	4	4
j. Transportation	2	0	0	0	0	0	3	1	1	3	0	1	2	2	1	1	3	2	1	0	0	0	0	0	6	0	7	59	15	3	9	9	9
k. Collecting wood	0	2	1	1	2	0	1	1	3	2	1	0	0	2	0	0	0	0	4	1	0	0	0	0	7	7	59	15	3	9	9	9	9
l. Forestry	1	1	1	0	0	0	0	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7	39	2	2	10	10	10	10
m. Carpenter	0	1	0	2	0	0	0	0	0	1	0	1	1	2	1	1	2	0	0	0	0	1	1	1	0	0	7	5	27	17	1	9	9
n. Trade (kiosk/shop)	4	9	2	8	18	0	2	1	2	4	0	1	1	3	1	1	3	7	0	4	0	1	0	0	4	2	4	10	0	3	3	4	4
o. Public servant	7	3	3	1	0	1	2	1	0	4	0	1	9	1	0	12	0	0	4	0	0	5	0	0	15	1	2	21	3	4	4	4	4
p. Waged labor	19	2	1	6	3	0	3	9	8	52	0	0	2	5	2	7	6	3	1	1	0	3	1	0	33	5	17	52	2	7	7	7	7
q. Remittance	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
r. Subsidy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
s. Loan	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
t. Other	0	1	15	2	2	1	6	1	1	5	1	1	0	7	2	0	3	1	0	4	22	6	8	2	16	1	12	33	1	3	3	3	3
u. Gambir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v. Nothing	0	77	133	4	136	169	1	0	0	1	58	72	0	28	21	0	112	129	2	9	17	9	171	182	1	222	0	14	294	199	199	199	199
Total	176	176	176	176	176	176	176	176	176	176	176	176	165	165	165	165	165	165	187	187	187	187	187	187	312	312	312	544	312	312	312	312	312

Note:

P = Primary; S = Secondary; T = Tertiary

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.15 Source of Income

(Unit:No.)

Livelihood	Muara Takus						Koto Tuo						Muara Mahat Baru						Gunung Bungsu						Tanjung - Relocation 1)								
	Before Relocation			Present			Before Relocation			Present			Before Relocation			Present			Before Relocation			Present			Before Relocation			Present					
	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T			
	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
a. Rice field	19	2	0	0	0	0	41	62	0	5	0	0	9	22	2	2	4	0	0	0	0	137	1	1	0	0	0	5	24	2	0	1	0
b. Non Rice food	9	2	0	4	1	0	3	5	0	8	1	1	14	27	8	4	5	1	5	3	0	5	17	7	1	5	3	0	5	6	3	7	14
c. Rubber plantation	159	7	0	46	4	0	430	16	0	12	1	0	142	65	5	8	3	0	43	64	3	122	8	5	8	35	1	0	20	6	1	1	1
d. Palm plantation	0	0	0	0	0	0	1	0	0	2	0	0	9	4	1	282	51	2	0	3	2	0	3	2	0	0	1	0	2	0	1	1	1
e. Fruit	0	23	4	4	2	0	20	31	55	6	7	0	4	19	15	0	9	1	21	84	89	4	7	16	0	1	14	0	0	16			
f. Coffee	4	5	3	0	1	0	1	0	0	1	1	0	0	8	4	0	4	1	8	18	47	1	0	2	0	0	0	0	0	0	0	0	0
g. Fishery	10	75	10	140	29	0	3	24	19	130	6	13	14	104	18	4	13	4	1	4	19	17	13	9	0	0	5	0	0	2			
h. Livestock	0	3	0	0	4	0	1	3	1	4	3	0	6	34	16	0	11	3	2	3	16	1	2	4	0	0	6	1	0	4			
i. Agro processing	0	0	0	2	0	0	29	13	87	53	18	4	33	8	12	11	5	9	2	1	14	12	5	6	1	3	8	0	2	7			
j. Transportation	0	0	0	0	1	0	9	0	0	15	4	1	65	8	4	41	7	3	2	1	0	5	0	1	0	0	0	0	0	0			
k. Collecting wood	4	2	0	7	0	0	8	1	0	44	10	0	3	31	5	2	1	1	0	0	0	1	0	0	0	0	0	0	0	0			
l. Forestry	0	1	1	0	0	1	7	4	0	16	14	1	3	16	10	1	1	0	1	1	0	0	1	1	1	0	0	0	0	1			
m. Carpenter	1	2	0	2	2	0	8	1	1	30	8	3	2	7	2	2	6	1	0	0	0	0	0	0	0	1	2	0	2	0			
n. Trade (kiosk/shop)	0	0	0	2	0	2	3	4	5	15	3	0	29	14	8	16	11	5	1	4	2	4	7	5	0	0	0	2	0	0			
o. Public servant	7	0	0	9	0	0	20	0	0	23	0	1	56	0	2	50	1	0	1	0	0	1	0	3	4	1	0	0	0	1			
p. Waged labor	3	0	0	5	0	0	8	1	1	67	5	14	29	14	12	14	12	4	7	2	3	3	51	14	6	3	8	1	13	15			
q. Remittance	1	0	0	2	0	0	0	0	0	2	1	9	0	1	1	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0			
r. Subsidy	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0			
s. Loan	0	0	0	0	0	0	0	0	0	1	2	0	1	8	5	1	38	42	0	0	1	1	1	0	7	0	0	1	3	1			
t. Other	1	1	0	0	1	0	0	5	8	0	15	14	32	31	35	8	11	5	2	0	7	6	9	61	0	0	0	1	0	0			
u. Gambir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
v. Nothing	0	97	203	2	174	220	0	421	413	157	495	530	5	36	292	9	256	371	0	30	20	1	154	102	0	0	0	0	0	6			
Total	221	221	221	221	221	221	592	592	592	592	592	592	457	457	457	457	457	457	232	232	232	232	232	232	45	45	45	45	45	45			

Note:

P = Primary, S = Secondary, T = Tertiary

1) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.15 Source of Income

Livelihood	Tanjung Non Relocation 2)												Karya Bhakti 3)												Gunung Malelo 4)												Tanjung Pauh												Tanjung Balik											
	Before Relocation						Present						Before Relocation						Present						Before Relocation						Present						Before Relocation						Present																	
	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T	P	S	T																		
	16						17						18						19						20																																			
a. Rice field	26	0	0	3	0	0	35	0	0	0	0	0	10	23	5	3	6	4	8	22	2	2	2	1	0	16	20	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
b. Non Rice food	1	1	0	4	1	0	4	19	0	7	22	0	2	6	20	5	9	22	22	27	9	7	4	2	7	12	4	1	2	1	2	7	12	4	1	2	4	1	2	1	2	1																		
c. Rubber plantation	22	0	0	8	0	0	0	0	0	33	2	0	43	6	3	42	9	3	139	36	4	41	15	2	95	63	5	18	15	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
d. Palm plantation	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	4	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
e. Fruit	0	0	1	1	0	0	1	0	0	1	0	0	3	7	40	1	5	41	1	27	41	0	6	2	18	45	61	3	28	14	2	11	12	1	2	1	2	11	12	1	2	1	2	11	12	1	2	1												
f. Coffee	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	2	0	2	5	0	0	0	2	9	22	31	11	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
g. Fishery	0	0	0	1	1	2	0	1	1	0	0	0	0	0	1	1	0	1	1	6	19	16	9	5	2	1	21	59	5	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
h. Livestock	1	0	1	1	1	0	1	0	0	0	0	0	1	0	2	0	0	3	0	13	7	0	4	0	1	3	2	2	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
i. Agro processing	3	0	0	2	0	0	0	0	0	0	0	0	8	1	3	17	3	2	0	8	2	0	8	4	0	15	5	1	25	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
j. Transportation	1	0	0	1	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	1	4	10	4	0	3	13	10	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
k. Collecting wood	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	2	8	3	1	0	0	2	14	15	5	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
l. Forestry	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9	2	10	10	2	7	4	2	11	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
m. Carpenter	4	0	0	5	0	0	4	0	0	4	0	0	6	0	0	7	0	0	0	0	0	0	0	0	0	25	14	3	23	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
n. Trade (kiosk/shop)	12	0	0	18	1	1	1	1	0	1	2	2	3	4	3	3	6	2	14	15	4	27	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
o. Public servant	4	0	0	3	0	0	1	0	0	1	0	0	9	0	0	9	1	0	5	0	0	0	0	1	0	2	3	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
p. Waged labor	13	0	1	14	0	0	51	5	0	0	12	4	7	8	14	3	8	14	27	21	1	56	26	2	43	8	9	77	24	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
q. Remittance	1	0	0	5	1	6	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	3	1	8	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
r. Subsidy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
s. Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
t. Other	9	2	1	27	1	2	0	1	2	11	4	1	3	1	4	2	0	6	12	11	5	37	15	6	0	10	3	30	10	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
u. Gambir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
v. Nothing	1	97	94	2	95	88	0	73	96	1	49	91	0	40	2	1	47	0	0	33	154	0	137	241	0	29	6	1	47	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	264	264	264	264	264	264	281	281	281	281	281	281	281	281	281	281	281	281																			

Note:

- P = Primary; S = Secondary; T = Tertiary
- 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
- 3) Transmigration Village surveyed for comparison purposes
- 4) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.16 Provision of Plantation

(Unit:No.)

Type	Pulau Gadang			Koto Mesjid			Ranah Sungkai			Lubuk Agung			Batu Bersurat			
	1			2			3			4			5			
	UR	PP	N	UR	PP	N	UR	PP	N	UR	PP	N	UR	PP	N	Total
a. Original	235	0	2	237	259	0	0	331	331	0	0	200	260	5	240	505
b. Present (If revised)	235	0	2	237	259	0	0	331	331	0	0	200	136	0	369	505

(Unit:No.)

Type	Binamang			Pongkai Baru			Mayang Pongkai			Pongkai Istiqomah			Tanjung Alai			
	6			7			8			9			10			
	UR	PP	N	UR	PP	N	UR	PP	N	UR	PP	N	UR	PP	N	Total
a. Original	144	31	1	176	75	1	3	79	0	165	0	165	n/a	n/a	1	312
b. Present	12	113	51	176	0	0	79	79	0	165	0	165	n/a	n/a	0	312

(Unit:No.)

Type	Muara Takus			Koto Tuo			Muara Mahat Baru			Gunung Bungsu			Tanjung - Relocation ¹⁾			
	11			12			13			14			15			
	UR	PP	N	UR	PP	N	UR	PP	N	UR	PP	N	UR	PP	N	Total
a. Original	192	3	26	221	98	0	494	592	0	457	0	457	230	0	2	232
b. Present	181	0	40	221	592	0	0	592	0	457	0	457	231	0	1	232

(Unit:No.)

Type	Tanjung - Non Relocation ²⁾			Karya Bakti ³⁾			Gunung Malelo ⁴⁾			Tanjung Pauh			Tanjungn Baik			
	16			17			18			19			20			
	UR	PP	N	UR	PP	N	UR	PP	N	UR	PP	N	UR	PP	N	Total
a. Original	-	-	-	-	-	-	-	-	-	-	-	-	264	0	0	264
b. Present	-	-	-	-	-	-	-	-	-	-	-	-	0	2	262	264

Note : UR = UPP Rubber ; PP = PIR Palm; N = No Idea

- 1) Not affected by the Project
 - 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
 - 3) Transmigration Village surveyed for comparison purposes
 - 4) Not affected by the Project
- n/a - Question not applicable. Pongkai Istiqomah chose to carry out their own endeavor with compensation money.

Source: Questionnaire Survey

Table 3.16 Provision of Plantation

b. Did you receive plantation area at the time of resettlement ? (Unit:No.)

Responses	Villages	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat
		1	2	3	4	5
1 Yes		237	258	5	153	349
2 No		0	1	326	47	156
Total		237	259	331	200	505

(Unit:No.)

Responses	Villages	Binamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah	Tanjung Alai
		6	7	8	9	10
1 Yes		156	77	162	n/a	308
2 No		20	2	3	n/a	4
Total		176	79	165	n/a	312

(Unit:No.)

Responses	Villages	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung - Relocation ¹⁾
		11	12	13	14	15
1 Yes		210	117	456	209	-
2 No		11	475	1	23	-
Total		221	592	457	232	-

(Unit:No.)

Responses	Villages	Tanjung - Non Relocation ²⁾	Karya Bakti ³⁾	Gunung Malelo ⁴⁾	Tanjung Pauh	Tanjungn Balik
		16	17	18	19	20
1 Yes		-	-	-	263	277
2 No		-	-	-	1	4
Total		-	-	-	264	281

Note : 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

n/a - Question not applicable. Pongkai Istiqomah chose to carry out their own endeavor with compensation money.

Source: Questionnaire Survey

Table 3.16 Provision of Plantation

c. Is there any plantation area planted at present ?

Villages Response	(Unit:No.)										
	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat	Binamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah	Tanjung Alai	
1 Planted	1	2	3	4	5	6	7	8	9	10	
2 Not Planted	30	2	87	3	184	82	3	162	n/a	19	
Total	207	257	224	197	321	94	76	3	n/a	293	
	237	259	311	200	505	176	79	165	n/a	312	

Villages Response	(Unit:No.)										
	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung - Relocation 1)	Tanjung - Non Relocation 2)	Karya Bhakti 3)	Gunung Malelo 4)	Tanjung Pauh	Tanjung Balik	
1 Planted	11	12	13	14	15	16	17	18	19	20	
2 Not Planted	136	42	446	48	-	-	-	-	230	270	
Total	85	550	11	184	-	-	-	-	34	11	
	221	592	457	232	-	-	-	-	264	281	

Note : 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

n/a - Question not applicable. Pongkai Istiqomah chose to carry out their own endeavor with compensation money.

Source: Questionnaire Survey

Table 3.16 Provision of Plantation

d. Do you know the reasons not planting rubber/oil palm trees ? (Unit:No.)

Villages	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat	Binamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah	Tanjung Alai
Reasons	1	2	3	4	5	6	7	8	9	10
1 Poor soil fertility	0	0	1	1	4	1	0	0	n/a	0
2 Lack of water	0	7	0	0	0	0	0	0	n/a	0
3 Lack of drainage	17	1	0	1	1	0	0	0	n/a	0
4 Lack of seedling	1	1	0	0	72	10	2	0	n/a	0
5 Lack of manpower for maintenance	2	88	75	1	39	1	0	1	n/a	2
6 Trees on disease	18	1	0	0	59	74	15	0	n/a	15
7 Other	12	61	11	0	128	32	1	3	n/a	2
Total	50	159	87	3	303	118	18	4	n/a	19

(Unit:No.)

Villages	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung - Relocation ¹⁾	Tanjung - Non Relocation ²⁾	Karya Bakti ³⁾	Gunung Malelo ⁴⁾	Tanjung Pauh	Tanjung Balik
Reasons	11	12	13	14	15	16	17	18	19	20
1 Poor soil fertility	17	2	2	6	-	-	-	0	33	69
2 Lack of water	4	0	0	0	-	-	-	0	10	6
3 Lack of drainage	4	0	0	0	-	-	-	0	0	0
4 Lack of seedling	19	1	0	2	-	-	-	0	81	48
5 Lack of manpower for maintenance	3	0	1	8	-	-	-	0	22	67
6 Trees on disease	95	1	0	4	-	-	-	4	28	99
7 Other	9	38	8	28	-	-	-	0	148	214
Total	151	42	11	48	-	-	-	4	322 *	503 *

Note: This is not the question compulsory to answer. Thus, number of responses are not necessarily the same as the number of respondents.

- 1) Not affected by the Project
- 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
- 3) Transmigration Village surveyed for comparison purposes
- 4) Not affected by the Project

* Respondents answered more than one.
n/a - Question not applicable. Pongkai Istiqomah chose to carry out their own endeavor with compensation money.

Source: Questionnaire Survey

Table 3.16 Provision of Plantation

e. Do you participate the replantation program ?

(Unit:No.)

Village	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat	Binamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah	Tanjung Alai
Responses										
1 Yes	1	2	3	4	5	6	7	8	9	10
2 No	223	257	328	170	389	93	77	162	n/a	306
Total	14	2	3	30	116	83	2	3	n/a	6
	237	259	331	200	505	176	79	165	n/a	312

(Unit:No.)

Village	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung - Relocation ¹⁾	Tanjung - Non Relocation ²⁾	Karya Bakti ³⁾	Gunung Malelo ⁴⁾	Tanjung Pauh	Tanjung Balik
Responses										
1 Yes	11	12	13	14	15	16	17	18	19	20
2 No	186	518	282	226	-	-	-	-	196	131
Total	35	74	175	6	-	-	-	-	68	150
	221	592	457	232	-	-	-	-	264	281

Note : 1) Not affected by the Project
 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
 3) Transmigration Village surveyed for comparison purposes
 4) Not affected by the Project
 n/a - Question not applicable. Pongkai Istiqomah chose to carry out their own endeavor with compensation money.

Source: Questionnaire Survey

Table 3.16 Provision of Plantation

f. Do you receive any subsidy from the government for plantation program ?

Village	Pulau Gadang	Koto Mesjid	Ramah Sungkai	Lubuk Agung	Batu Bersurat	Binamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqomah	Tanjung Alai
Responses										
1 Yes	1	2	3	4	5	6	7	8	9	10
2 No	236	257	331	168	456	125	79	53	n/a	304
Total	237	259	331	200	505	176	79	165	n/a	312

(Unit:No.)

Village	Muara Takus	Koto Tuo	Muara Mahat Baru	Gunung Bungsu	Tanjung - Relocation ¹⁾	Tanjung - Non Relocation ²⁾	Karya Bakti ³⁾	Gunung Malelo ⁴⁾	Tanjung Pauh	Tanjung Balik
Responses										
1 Yes	11	12	13	14	15	16	17	18	19	20
2 No	213	580	116	224	-	-	-	-	225	264
Total	221	592	457	232	-	-	-	-	264	281

(Unit:No.)

Note : 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

n/a - Question not applicable. Pongkai Istiqomah chose to carry out their own endeavor with compensation money.

Source: Questionnaire Survey

Table 3.17 (1/10) Classification of Villages

a. Attitude of the Resettled Families (1/2)

Village	Pulau Gadang		Koto Mesjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Binamang		Pongkai Baru		Mayang Pongkai		Pongkai Istiqomah 5)		Tanjung Alai	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Responses	1		2		3		4		5		6		7		8		9		10	
1 No. of Respondents	237		259		331		200		505		176		79		165		-		312	
2 Do you participate to replaing program of rubber plantation?																				
1) Yes	223		257		328		170		389		93		77		162		-		306	
2) No	14		2		3		30		116		83		2		3		-		6	
3 Rubber plantation as primary source of income at present.																				
Rubber plantation	149		126		73		126		26		3		4		3		-		78	
4 Fairness of compensation scheme																				
1) Good	9	3.8	36	14.0	1	0.3	0	0.0	2	0.4	1	0.6	0	0.0	56	33.9	-	-	0	0.0
2) Fair	86	36.3	132	53.0	2	0.6	0	0.0	18	3.7	0	0.0	4	5.4	50	30.3	-	-	3	1.0
3) Unfair	98	41.4	83	33.0	279	84.3	193	97.0	454	92.8	133	75.6	64	86.5	56	33.9	-	-	86	27.6

a. Attitude of the Resettled Families (2/2)

Village	Muara Takus		Koto Tuo		Muara Mahat Baru		Gunung Bungsu		Tanjung - Relocation 1)		Tanjung - Non Relocation 2)		Karya Bakti 3)		Gunung Malelo 4)		Tanjung Pauh		Tanjungn Balik	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Responses	11		12		13		14		15		16		17		18		19		20	
1 No. of Respondents	221		592		457		232		-		-		-		-		264		281	
2 Do you participate to replaing program?																				
1) Yes	186		518		282		226		-		-		-		-		196		131	
2) No	35		74		175		6		-		-		-		-		68		150	
3 Rubber plantation as primary source of income at present.																				
Rubber plantation	149		126		73		126		-		-		-		-		3		78	
4 Fairness of compensation scheme																				
1) Good	4	1.8	8	1.4	8	1.8	0	0.0	-	-	-	-	-	-	-	-	4	1.4	25	9.4
2) Fair	22	10.0	36	6.1	126	27.6	5	2.2	-	-	-	-	-	-	-	-	25	8.8	54	20.2
3) Unfair	156	70.9	538	90.9	314	68.9	225	98.3	-	-	-	-	-	-	-	-	179	63.3	168	62.9

Note : 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

5) This village chose to take an option of monetary compensation.

Source: Questionnaire Survey

Table 3.17 (2/10) Classification of Villages

(Unit: No.)

Village	b. Present diversification of the primary source of income (1/2)											Tanjung Alai
	Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersuait	Binauang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqqah ²⁾			
Responses	1	2	3	4	5	6	7	8	9			10
1 No. of Respondents	237	259	331	200	505	176	79	165	187			312
2 Agriculture	149	126	73	126	26	3	4	3	3			78
1) Rubber plantation	4	0	0	0	2	0	1	2	1			8
2) Non-rice growing	1	1	7	5	4	0	0	138	0			0
3) Oil palm	1	1	11	1	2	0	0	1	1			0
4) Fruits	0	0	0	0	1	0	0	0	0			2
5) Coffee	0	0	0	0	0	0	0	0	0			0
6) Gambir	0	64	15	10	165	128	0	0	142			6
7) Fishery	0	29	4	1	9	1	0	0	1			2
8) Livestock	0	5	3	10	2	3	1	0	1			42
3 Employment/Non-farming economic activities	1	1	5	0	5	0	3	1	1			5
1) Agro-processing	4	2	7	5	20	2	1	1	1			17
2) Transportation	13	5	8	0	29	8	4	1	1			10
3) Carpentry	9	22	22	4	44	1	4	12	5			21
4) Trade/Local Store	1	2	108	3	60	6	52	7	3			52
5) Public Servant												
6) Wage Labor												

(Unit: No.)

Village	b. Present diversification of the primary source of income (2/2)											Tanjung Balik
	Muara Takus	Koto Tuo	Muara Mait Baru	Guntung Bungsu	Tanjung - Relocation ¹⁾	Tanjung - Non Relocation ²⁾	Karya Bahit ³⁾	Guntung Malelo ⁴⁾	Tanjung Pauh			
Responses	11	12	13	14	15	16	17	18	19			20
1 No. of Respondents	221	592	457	232	45	99	100	100	264			281
2 Agriculture	46	12	8	122	0	3	0	3	41			18
1) Rubber plantation	4	8	4	1	3	4	7	5	7			1
2) Non-rice growing	0	2	282	0	20	8	33	42	2			0
3) Oil palm	4	6	0	4	0	0	13	3	0			3
4) Fruits	0	1	0	1	0	1	1	1	0			1
5) Coffee	0	0	0	0	0	0	0	0	30			47
6) Gambir	140	130	4	17	0	1	0	0	9			11
7) Fishery	0	4	0	1	1	1	0	0	0			5
8) Livestock												
3 Employment/Non-farming economic activities	2	53	11	12	0	2	0	17	1			4
1) Agro-processing	0	15	41	5	0	2	1	0	8			25
2) Transportation	2	30	2	0	2	5	4	7	10			11
3) Carpentry	0	15	16	4	2	18	3	3	27			23
4) Trade/Local Store	9	23	50	3	0	3	23	9	0			3
5) Public Servant	5	67	14	51	13	14	0	3	56			77
6) Wage Labor												

Note : 1) Not affected by the Project

2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

5) This village chose to take an option of monetary compensation - data for reference only.

Source: Questionnaire Survey

Table 3.17 (3/10) Classification of Villages

Source of Income	Pauk Gadang												Koto Mejid												Ramb Senghal												Lubuk Agung												Batu Berman											
	Before Redaction				Present				Before Redaction				Present				Before Redaction				Present				Before Redaction				Present				Before Redaction				Present																							
	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%																												
a. Rice field	10	5	0	6	-1.9	0	-2.1	0	0.0	0	0.0	0	-1.2	7	-27.0	4	0.8	9	4	4	-17.8	1	-55.3	0	-4.3	67	3	0	0	-17.6	1	-4.3	0	0.0	177	97	13	0	-33.1	0	-19.2	0	-2.4																	
b. Non Rice field	4	10	0	4	-0.9	19	3.8	2	0.8	3	77	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
c. Rubber plantation	138	1	0	149	-4.1	0	-0.4	0	0.0	187	7	1	126	-23.5	69	23.9	6	1.9	239	17	2	7	-47.1	7	-3.0	14	12	1	126	-56.0	3	-4.5	0	0.0	197	82	11	26	-33.9	8	-14.7	0	-2.2																	
d. Palm plantation	1	0	0	1	-0.0	0	0.0	0	0.0	0	0	0	1	-1.9	2	0.8	0	0.0	1	2	7	18.1	8	-3.0	4	-19.3	3	0	5	1.2	0	-2.0	0	0.0	2	1.0	13	105	29	2	-4.5	0	-2.0	0	0.0															
e. Cattle	0	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
f. Ponds	0	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
g. Fishery	1	3	0	0	-0.6	17	3.9	5	2.1	2	5	0	64	-23.9	66	23.8	0	0.4	2	14	41	15	2.6	10	-1.2	14	26	33	1	10	-2.9	3	-15.0	12	34	19	165	303	24	-2.0	0	-3.4																		
h. Livestock	0	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
i. Agriculture	0	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
j. Transportation	3	0	0	3	-0.8	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
k. Collecting wood	1	0	0	1	-0.3	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
l. Forestry	0	1	0	1	0.3	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
m. Carpenter	0	1	0	1	0.3	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
n. Trade (bank/shop)	0	1	0	1	0.3	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
o. Public servant	0	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
p. Wage labor	16	45	11	10	-2.5	14	-13.1	8	-1.3	4	21	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
q. Remittance	0	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
r. Loan	0	1	0	1	0.3	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
s. Other	0	1	0	1	0.3	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
t. Unemployed/missing	16	163	284	25	-3.8	175	-5.1	218	-2.5	0	102	227	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																				
Total	237	237	237	237	-7.2	237	-10.1	237	0.0	237	237	237	239	-3.0	239	24.0	239	23.6	331	331	331	331	-93.7	331	-151.1	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200																		

Note:
P = Primary, S = Secondary, T = Tertiary
* - Data is reference only since this village received monetary compensation.
Source: Questionnaire Survey

c. Present diversification of the source of Income (2/4)

Livelihood	Pongoh Batu												Meyang Pongoh												Pongoh Istiqomah*												Tebing Alam											
	Before Redaction				Present				Before Redaction				Present				Before Redaction				Present				Before Redaction				Present																			
	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%	P(No.)	S(No.)	T(No.)	%																
a. Rice field	48	8	0	1	-26.9	0	-4.5	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
b. Non Rice field	2	20	2	0	-0.9	0	-11.4	0	-1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
c. Rubber plantation	81	17	0	3	-44.1	5	-6.8	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
d. Palm plantation	2	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
e. Ponds	1	11	6	0	-6.3	1	-5.7	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
f. Coffee	1	14	0	1	178	70.3	5	-5.1	1	-3.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
g. Fishery	0	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
h. Livestock	3	0	0	3	-0.1	2	-0.6	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
i. Agriculture	0	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
j. Transportation	0	2	1	1	0.6	2	0.0	0	-0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
k. Collecting wood	1	1	1	0	0.5	0	-0.6	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
l. Forestry	0	1	0	2	0.8	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
m. Carpenter	0	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
n. Trade (bank/shop)	0	0	0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
o. Public servant	4	9	2	8	2.3	18	5.1	0	-1.1	2	1	2	4	2.5	0	-1.3	1	1.3	3	1	12	15	0	-0.6																								

Table 3.17 (S/10) Classification of Villages

d. Changes of the Ownership of Capital Goods (1/2)

Village	Pulau Gadang		Koto Mesjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Binamang		Pongkai Baru		Mayang Pongkai		Pongkai Istiqomah *		Tanjung Alai	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1 No. of Respondents	237	-	259	-	331	-	200	-	505	-	176	-	79	-	165	-	187	-	312	-
2 Capital Goods																				
1) Color TV	119	50.2	173	66.8	287	86.7	23	11.5	41	8.1	5	2.8	8	10.1	78	47.3	28	15.0	59	18.9
2) B&W TV	-7	-3.0	8	3.1	265	80.1	6	3.0	-61	-12.1	20	11.4	-18	-22.8	-7	-4.2	-6	-3.2	-28	-9.0
3) Radio	38	16.0	61	23.6	-41	-12.4	-14	-7.0	-144	-28.5	-17	-9.7	-22	-27.8	5	3.0	-8	-4.3	-22	-7.1
4) Bicycle	-8	-3.4	29	11.2	-12	-3.6	-37	-18.5	-210	-41.6	-34	-19.3	-36	-45.6	8	4.8	-57	-30.5	-55	-17.6
5) Motorbike	46	19.4	70	27.0	248	74.9	-4	-2.0	-44	-8.7	-22	-12.5	-11	-13.9	52	31.5	4	2.1	2	0.6
6) Refrigerator	29	12.2	50	19.3	324	97.9	2	1.0	18	3.6	-1	-0.6	3	3.8	9	5.5	3	1.6	9	2.9
7) Kerosene Stove	117	49.4	126	48.6	-17	-5.1	2	1.0	-26	-5.1	-17	-9.7	-6	-7.6	60	36.4	44	23.5	41	13.1
8) Bed Room	52	21.9	62	23.9	327	98.8	0	0.0	8	1.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9) Buffalo	-13	-5.5	14	5.4	189	57.1	-52	-26.0	-206	-40.8	-53	-30.1	-18	-22.8	88	53.3	-21	-11.2	-80	-25.6
10) Goat	1	0.4	10	3.9	179	54.1	-46	-23.0	-272	-44.0	-50	-28.4	-29	-36.7	-20	-12.1	-26	-13.9	-52	-16.7
11) Poultry	-2	-0.8	13	5.0	-165	-49.8	-22	-11.0	-97	-19.2	-35	-19.9	-10	-12.7	-53	-32.1	-38	-20.3	153	49.0
Total (%)	-	157.0	-	237.8	-	478.5	-	-71.0	-	-186.7	-	-115.9	-	-175.9	-	133.3	-	-41.2	-	8.7

d. Changes of the Ownership of Capital Goods (2/2)

Village	Muara Takus		Koto Tuo		Muara Mahat Baru		Gumung Bungsu		Tanjung - Relocation ¹⁾		Tanjung - Non Relocation ²⁾		Karya Bhakti ³⁾		Gunung Malelo ⁴⁾		Tanjung Pauh		Tanjung Balik	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1 No. of Respondents	221		592		457		232		99		45		100		100		281		264	
2 Capital Goods																				
1) Color TV	70	31.7	245	41.4	248	54.3	38	16.4	-20	-20.2	8	17.8	33	33.0	23	23.0	93	33.1	46	17.4
2) B&W TV	-5	-2.3	-19	-3.2	-97	-21.2	-3	-1.3	-2	-2.0	4	8.9	30	30.0	-2	-2.0	-13	-4.6	-13	-4.9
3) Radio	17	7.7	-43	-7.3	57	12.5	49	21.1	-1	-1.0	7	15.6	13	13.0	11	11.0	-27	-9.6	25	9.5
4) Bicycle	-5	-2.3	-65	-11.0	18	3.9	-16	-6.9	-10	-10.1	8	17.8	15	15.0	2	2.0	-83	-29.5	-52	-19.7
5) Motorbike	40	18.1	115	19.4	70	15.3	10	4.3	17	17.2	5	11.1	46	46.0	12	12.0	-21	-7.5	1	0.4
6) Refrigerator	18	8.1	27	4.6	124	27.1	9	3.9	11	11.1	6	13.3	5	5.0	6	6.0	21	7.5	24	9.1
7) Kerosene Stove	100	45.2	46	7.8	54	11.8	67	28.9	33	33.3	7	15.6	72	72.0	21	21.0	21	7.5	32	12.1
8) Bed Room	0	0.0	0	0.0	197	43.1	0	0.0	-4	-4.0	0	0.0	-3	-3.0	10	10.0	2	0.7	-2	-0.8
9) Buffalo	-52	-23.5	-51	-8.6	-28	-6.1	-58	-25.0	-11	-11.1	-2	-4.4	-3	-3.0	4	4.0	-17	-6.0	-9	-3.4
10) Goat	-51	-23.1	-33	-5.6	-41	-9.0	-55	-23.7	-4	-4.0	-3	-6.7	-2	-2.0	6	6.0	-38	-13.5	-34	-12.9
11) Poultry	-32	-14.5	-40	-6.8	-43	-9.4	93	40.1	-2	-2.0	0	0.0	30	30.0	-1	-1.0	-39	-13.9	-46	-17.4
Total (%)	-	45.2	-	30.7	-	122.3	-	57.8	-	7.1	-	88.9	-	236.0	-	92.0	-	-35.9	-	-10.6

Note: 1) Not affected by the Project - data for reference only.
 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting - data for reference only.
 3) Transmigration Village surveyed for comparison purposes - data for reference only.
 4) Not affected by the Project - data for reference only.
 5) This village chose to take an option of monetary compensation - data for reference only.

Source: Questionnaire Survey

Table 3.17 (6/10) Classification of Villages

No.	Criteria	Pulau Gadang		Koto Mesjid		Ranah Sungkai		Lubuk Agung		Batu Bersurat		Bihamang		Pongkai Baru		Mayang Pongkai		Pongkai Istiqomah *		Tanjung Alai	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	As constructed	40	16.9	23	8.9	226	68.3	23	11.5	168	33.3	54	30.7	65	82.3	5	3.0	3	1.6	138	44.2
2	Renovated	29	12.2	97	37.5	83	25.1	11	5.5	234	46.3	66	37.5	12	15.2	131	79.4	0	0.0	57	18.3
3	Re-constructed	168	70.9	139	53.7	13	3.9	30	15.0	99	19.6	56	31.8	2	2.5	29	17.6	184	98.4	109	34.9
4	Other	0	0.0	0	0.0	9	2.7	136	68.0	4	0.8	0	0.0	0	0.0	0	0.0	0	0.0	8	2.6
	Total	237	100.0	259	100.0	331	100.0	200	100.0	505	100.0	176	100.0	79	100.0	165	100.0	187	100.0	312	100.0

e. Changes of Housing Conditions (1/2)

No.	Criteria	Muara Takus		Koto Tuo		Muara Mahat Baru		Gunung Bungsu		Tanjung - Relocation ¹⁾		Tanjung - Non Relocation ²⁾		Karya Bhakti ³⁾		Gunung Malelo ⁴⁾		Tanjung Pauh		Tanjung Balik	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	As constructed	116	52.5	118	19.9	54	11.8	65	28.0	0	0.0	87	87.9	0	0.0	86	86.0	47	17.8	22	7.8
2	Renovated	100	45.2	333	56.3	216	47.3	91	39.2	0	0.0	8	8.1	98	98.0	3	3.0	149	56.4	133	47.3
3	Re-constructed	4	1.8	141	23.8	187	40.9	76	32.8	40	88.9	3	3.0	2	2.0	9	9.0	67	25.4	119	42.3
4	Other	1	0.5	0	0.0	0	0.0	0	0.0	5	11.1	1	1.0	0	0.0	2	2.0	1	0.4	7	2.5
	Total	221	100.0	592	100.0	457	100.0	232	100.0	45	100.0	99	100.0	100	100.0	100	100.0	264	100.0	281	100.0

Note: 1) Not affected by the Project

Note: 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.

3) Transmigration Village surveyed for comparison purposes

4) Not affected by the Project

* - Data is reference only since this village received monetary compensation.

Source: Questionnaire Survey

Table 3.17 (7/10) Classification of Villages

f. Summary of Classification (1/4)		Pulau Gadang	Koto Mesjid	Ranah Sungkai	Lubuk Agung	Batu Bersurat
Item	Village	1	2	3	4	5
1	Attitude of the Resettled Families 1) Government intervention is accepted 2) Government intervention may be accepted 3) Government intervention is not accepted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Diversification of Income Sources - Primary 1) Well diversified 2) Relatively well diversified 3) Monoculturalistic development 4) Significantly monoculturalistic 5) Summary - Primary Source of Income:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	There is no significant change in overall conditions.		Significant loss in rubber plantation is cancelled out by the increase of fishery and livestock rearing.	Significant loss in rubber plantation is cancelled out by the increase of wage labor.	Significant loss in rice and up-land crop is cancelled out by the increase of rubber plantation although there is no yield of rubber.	Significant loss in rice and rubber plantation is cancelled out by the increase of fishery, wage labor and other employment.
	There is no significant change in wage labor.		There is no significant change in wage labor.	Wage labor increased	-	Wage labor increased
	Unemployment is slightly increased.		There is no change in unemployment.	Unemployment increased.	Unemployment slightly increased.	Unemployment increased.
	Up-land crop and fishery are the major secondary income sources.		Rubber plantation and fishery are the major secondary income sources.	Availability of secondary source of income, especially rice, is significantly reduced.	Availability of secondary source of income is significantly reduced.	Availability of secondary source of income, especially rice, is significantly reduced.
	There is no significant loss in tertiary source of income.		Remittance is a major increase among others.	There are very significant loss in tertiary income	Tertiary income source was not a significant part of	Loss of tertiary income sources as a whole is
3	Ownership of Capital Goods 1) Significantly increased 2) Moderately increased 3) Relatively un-changed 4) Moderately decreased 5) Significantly decreased	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Changes of Housing Conditions 1) Significant increase of reconstructed houses 2) Moderate increase of reconstructed houses 3) Few reconstructed houses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Source: Questionnaire Survey

f. Summary of Classification (2/4)

Item	Binaamang	Pongkai Baru	Mayang Pongkai	Pongkai Istiqqah ⁵⁾	Tanjung Alai
	6	7	8	9	10
Village					
1 Attitude of the Resettled Families					
1) Government intervention is accepted	○	○	○	○	○
2) Government intervention may be accepted					
3) Government intervention is not accepted					
2 Diversification of Income Sources - Primary					
1) Well diversified					
2) Relatively well diversified					
3) Monoculturalistic development	○	○	○	○	○
4) Significantly monoculturalistic					
5) Summary - Primary Source of Income:	Significant loss in rice and rubber plantation is cancelled out by the significant increase of fishery. Wage labor decreased. Unemployment slightly increased.	Significant loss of rubber plantation is replaced by wager labor. Wage labor is the main source of income.	Significant loss of rice and rubber plantation is replaced by oil palm plantation. Wage labor is slightly increased.	Significant loss of rubber plantation is replaced by fishery. Wage labor is slightly increased. Unemployment is slightly increased.	Significant loss of rubber plantation is cancelled out by spread over various sources of income. -
6) Summary - Secondary Source of Income:	Availability of secondary source of income is significantly reduced. Loss of tertiary income sources is relatively significant.	Availability of secondary source of income is significantly reduced. There was very significant loss of tertiary income sources.	Reduced secondary source of income including rice is relatively significant. There was very significant loss of tertiary income sources such as fruits, coffee,	Availability of secondary source of income, especially rice, is significantly reduced. Loss of rice and fruits was a very significant factor.	Availability of secondary source of income is reduced. There have been a large number of tertiary income sources significantly lost.
7) Summary - Tertiary Source of Income:					
3 Ownership of Capital Goods					
1) Significantly increased			○		
2) Moderately increased					
3) Relatively un-changed				○	○
4) Moderately decreased					
5) Significantly decreased	○	○			
4 Changes of Housing Conditions					
1) Significant increase of reconstructed houses	○		○	○	○
2) Moderate increase of reconstructed houses					
3) Few reconstructed houses					

Source: Questionnaire Survey

f. Summary of Classification (3/4)

Item	Village	Muara Takus 11	Koto Tuo 12	Muara Mahat Baru 13	Guntung Bungsu 14	Tanjung - Relocation 1) 15
1 Attitude of the Resettled Families						
1) Government intervention is accepted		○	○	○	○	
2) Government intervention may be accepted						
3) Government intervention is not accepted						
2 Diversification of Income Sources - Primary						
1) Well diversified			○	○	○	○
2) Relatively well diversified						
3) Monoculturalistic development						
4) Significantly monoculturalistic		○		○		
5) Summary - Primary Source of Income:		Significant loss in rice and rubber plantation is cancelled out by the significant increase of fishery.	Significant loss in rice, rubber plantation and fruits are relatively compensated by fishery and other activities.	Loss of rubber plantation and other income sources are replaced by oil palm plantation.	Loss of rice field was a very significant and it was replaced by rubber plantation.	Loss of rubber plantation was cancelled out by the increase of wagher labor.
		Wage labor is slightly increased.	Wage labor is significantly increased.	Wage labor is slightly increased.	Wage labor was significantly increased.	Wage labour increased.
		Unemployment is slightly increased.	Unemployment is significantly increased.	Increase of unemployment is relatively small.	Unemployment was not significantly increased.	There is no unemployment increased.
		Fruits and fishery are the significant loss.	Rice, fruits, fishery are significantly lost.	Diversification of secondary income sources have been developed.	Loss of rubber plantation, fruits, rice and up-land crops were significant.	Loss of rice field was significant change.
6) Summary - Secondary Source of Income:		There is no significant loss.	Fruits and agro-processing are significantly lost.	Diversification of tertiary income sources have been	Fruits and coffee have been lost without replacement.	No significant loss.
7) Summary - Tertiary Source of Income:						
3 Ownership of Capital Goods						
1) Significantly increased		○	○	○	○	○
2) Moderately increased						
3) Relatively un-changed						
4) Moderately decreased						
5) Significantly decreased						
4 Changes of Housing Conditions						
1) Significant increase of reconstructed houses		○	○	○	○	○
2) Moderate increase of reconstructed houses						
3) Few reconstructed houses						

Source: Questionnaire Survey

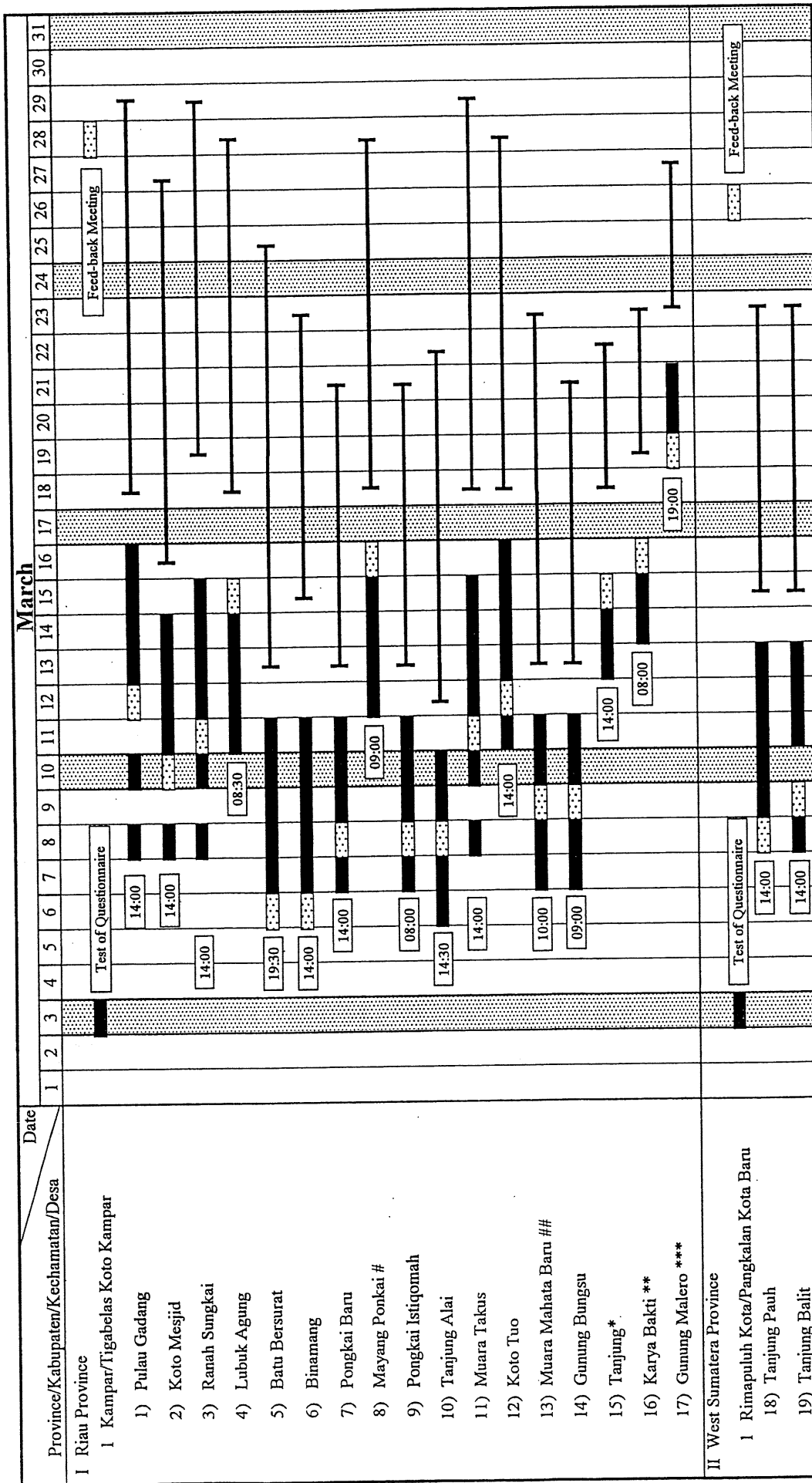
f. Summary of Classification (4/4)

Village	Tanjung - Non-Relocation ²⁾	Karya Bakti ³⁾	Gunung Malalo ⁴⁾	Tanjung Pauh	Tanjung Balik
Item	16	17	18	19	20
1 Attitude of the Resettled Families					
1) Government intervention is accepted					
2) Government intervention may be accepted					
3) Government intervention is not accepted					
2 Diversification of Income Sources - Primary					
1) Well diversified					
2) Relatively well diversified					
3) Monoculturalistic development					
4) Significantly monoculturalistic					
5) Summary - Primary Source of Income:					
	Rice and rubber plantation were significantly lost.	Loss of rice field was replaced by rubber plantation.	Loss of rice field is relatively significant.	Loss of rubber plantation was significant. It is replaced by wage labor and other sources.	Rice field, rubber plantation and fruits are significant change while there is no alternatives.
	There is no significant increase in wage labor.	There was significant decrease in wage labor.	No significant change.	Wage labor is significantly increased.	Wage labor is on the increase.
	No significant increase in unemployment.	There was significant decrease in unemployment.	No significant change.	No change in unemployment.	No change in unemployment.
	There is no significant change.	There is no significant change.	Loss of rice field is relatively significant.	Loss of rice, up-land crops, rubber plantation and fishery are very significant.	Most of the secondary income sources have been significantly decreased.
	There is no significant change.	There is no significant change.	There is no significant change.	Fruits and fishery are on the decrease.	Fruits, coffee, fishery and livestock are the significant decrease.
6) Summary - Secondary Source of Income:					
7) Summary - Tertiary Source of Income:					
3 Ownership of Capital Goods					
1) Significantly increased					
2) Moderately increased					
3) Relatively un-changed					
4) Moderately decreased					
5) Significantly decreased					
4 Changes of Housing Conditions					
1) Significant increase of reconstructed houses					
2) Moderate increase of reconstructed houses					
3) Few reconstructed houses					

Note : 1) Not affected by the Project
 2) Originally there was no families directly affected by the Project but found to be directly affected during the PRA meeting.
 3) Transmigration Village surveyed for comparison purposes
 4) Not affected by the Project
 5) This village chose to take an option of monetary compensation - data for reference only.

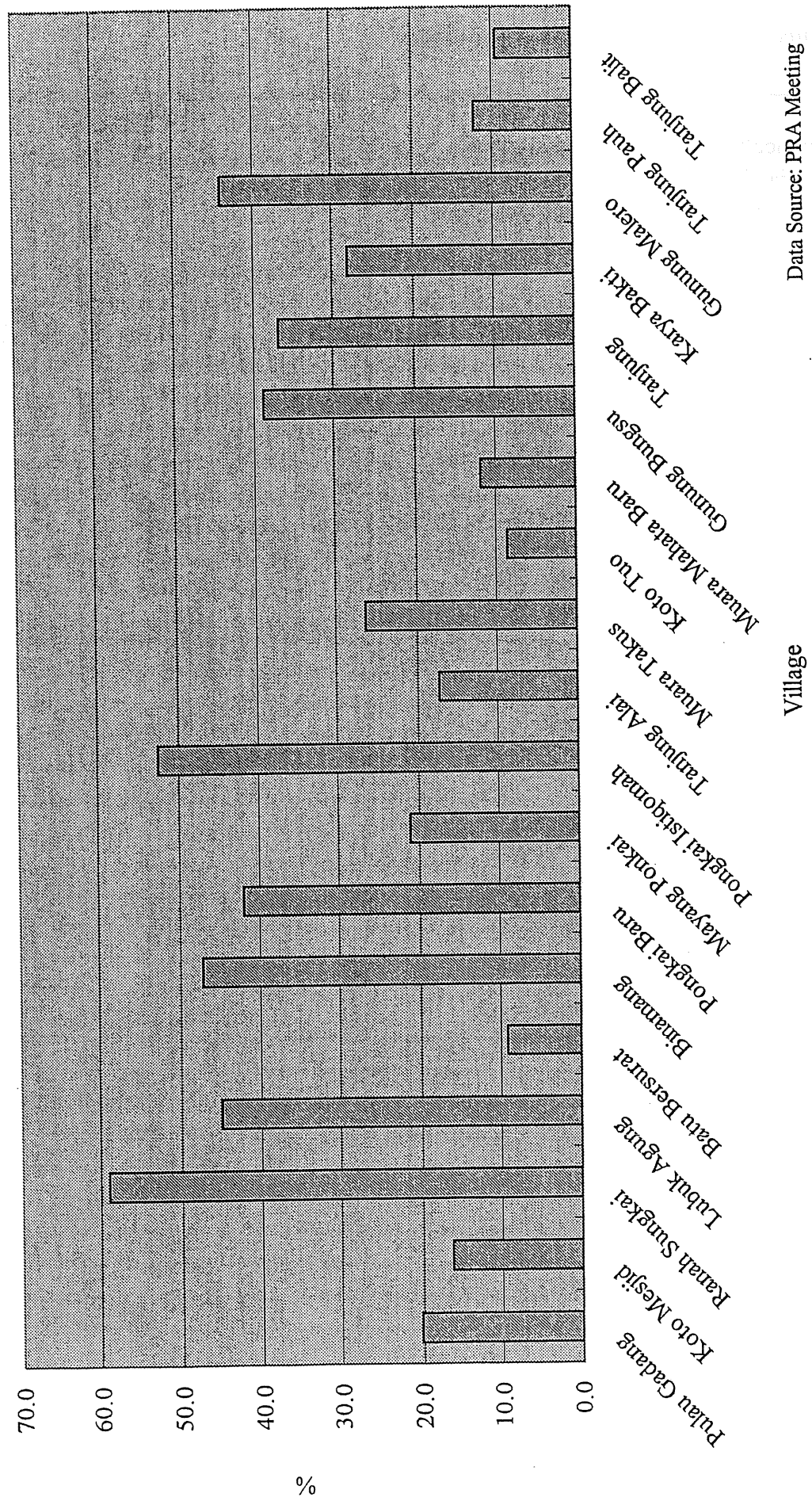
Source: Questionnaire Survey

Figure 3.1 Schedule of Impact Survey



Note: * Additional to the impact survey - the village not affected by the Project. However, 45 households claimed directly affected by the Project while they were not listed officially as directly affected households.
 ** At present it is in Sub-district Tapung of Kampar Regency.
 *** Additional to the impact survey of the village created by the national trans-migration scheme.
 # At present, Sub-district Kampar Kiri Hilir of Kampar Regency.
 ## At present, Sub-district Kampar Kiri Hilir of Kampar Regency.
 ■ Household Survey
 □ PRA Meeting
 ▨ Data Compilation
 ▩ PRA Meeting Time
 ▭ Feed-back Meeting

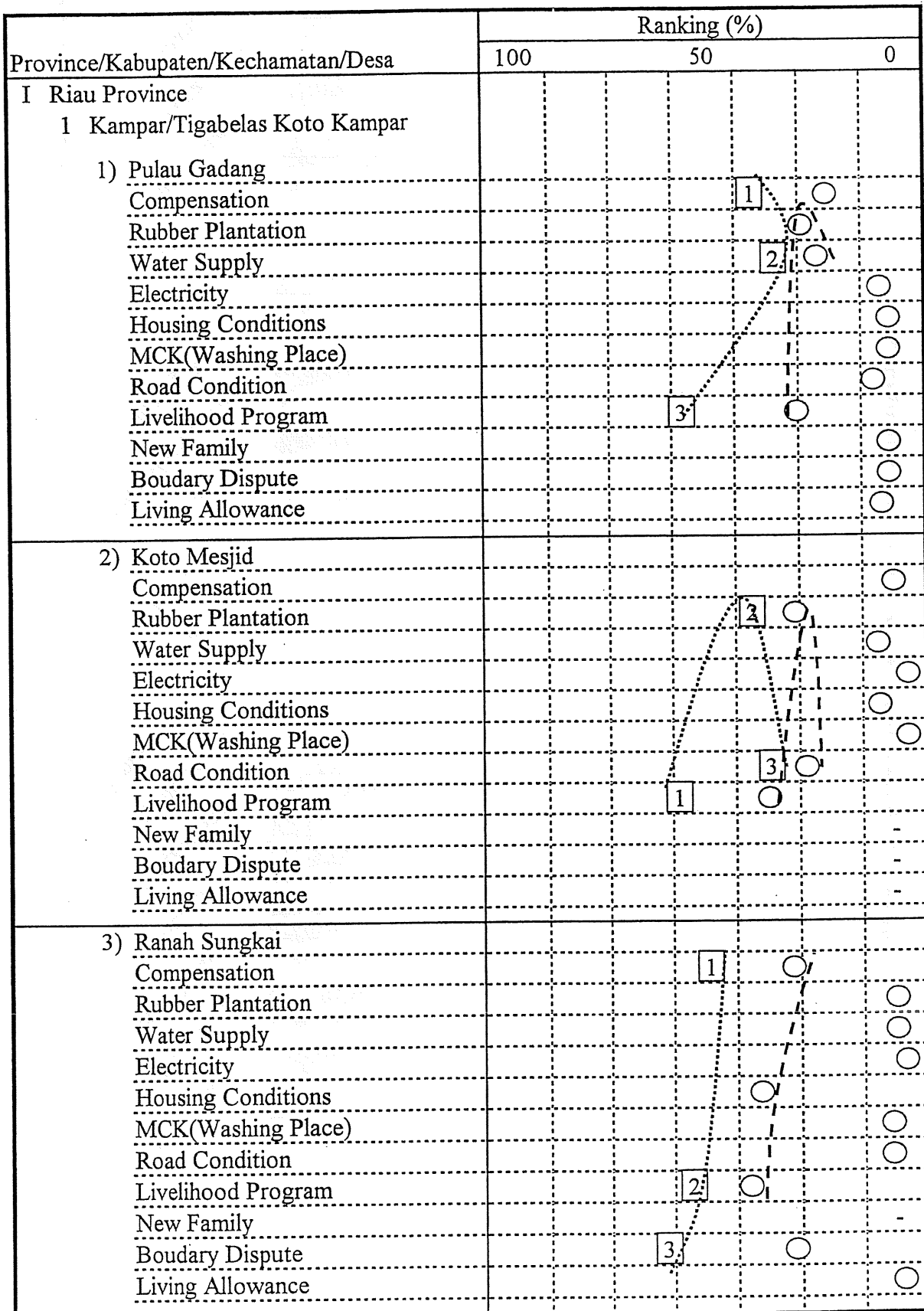
Figure 3.2 Percentage of PRA Meeting Attendance



Data Source: PRA Meeting

Village

Figure 3.3 Result of Ranking Exercise

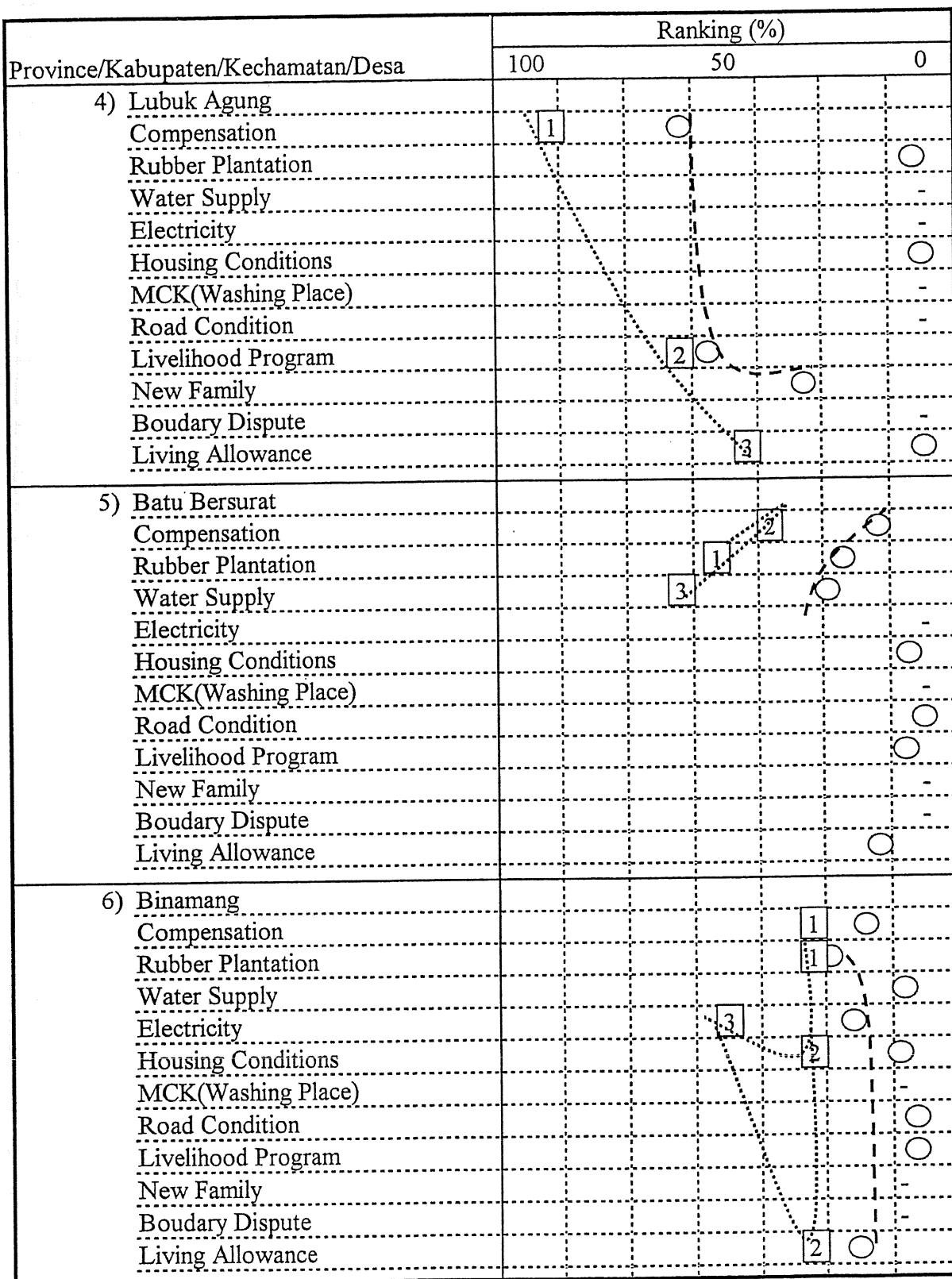


Note: ○ - Overall

2 - Priority Ranking

Data Source: PRA Meeting

Figure 3.3 Result of Ranking Exercise

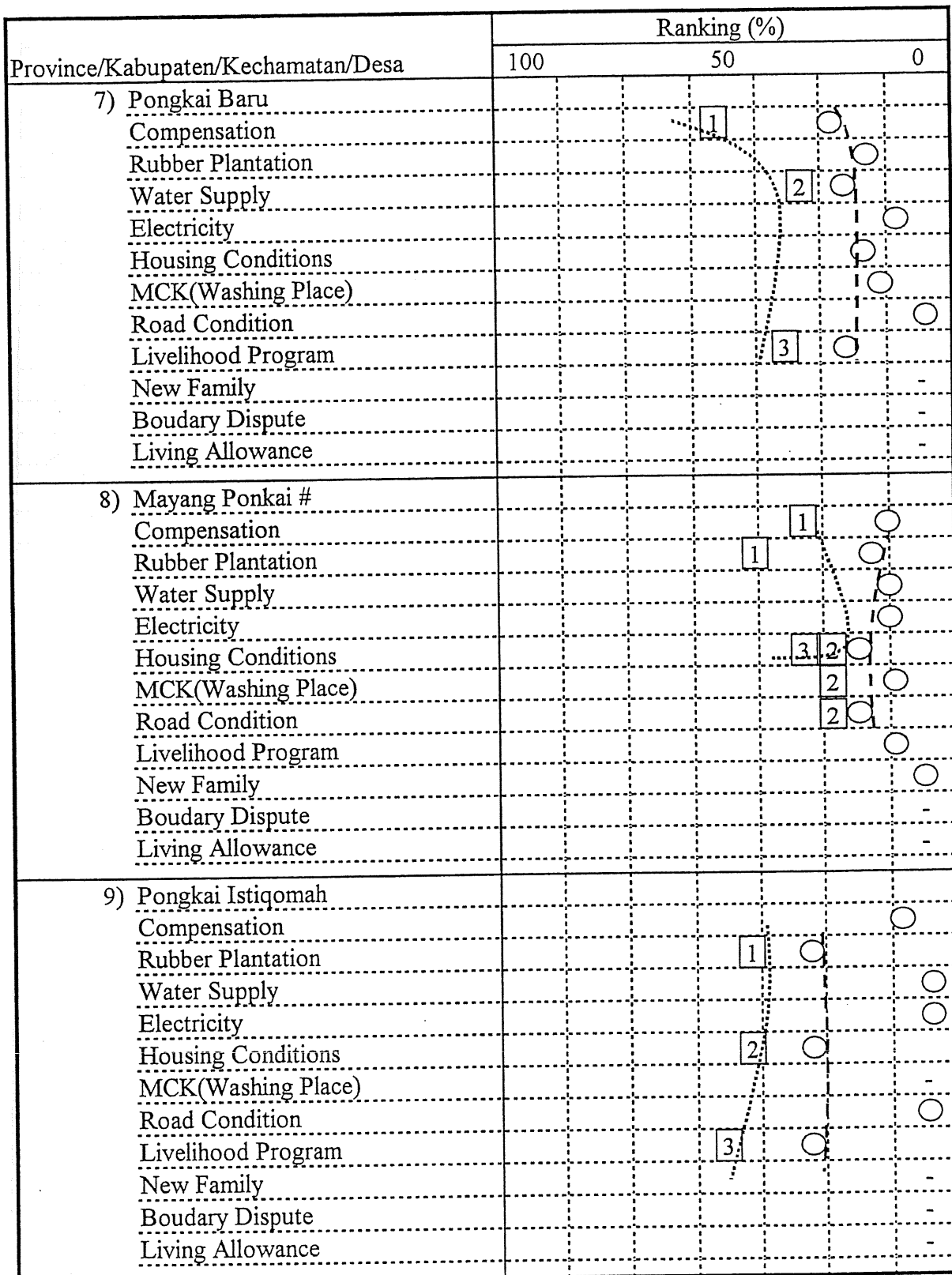


Note: ○ - Overall

2 - Priority ranking

Data Source: PRA Meeting

Figure 3.3 Result of Ranking Exercise

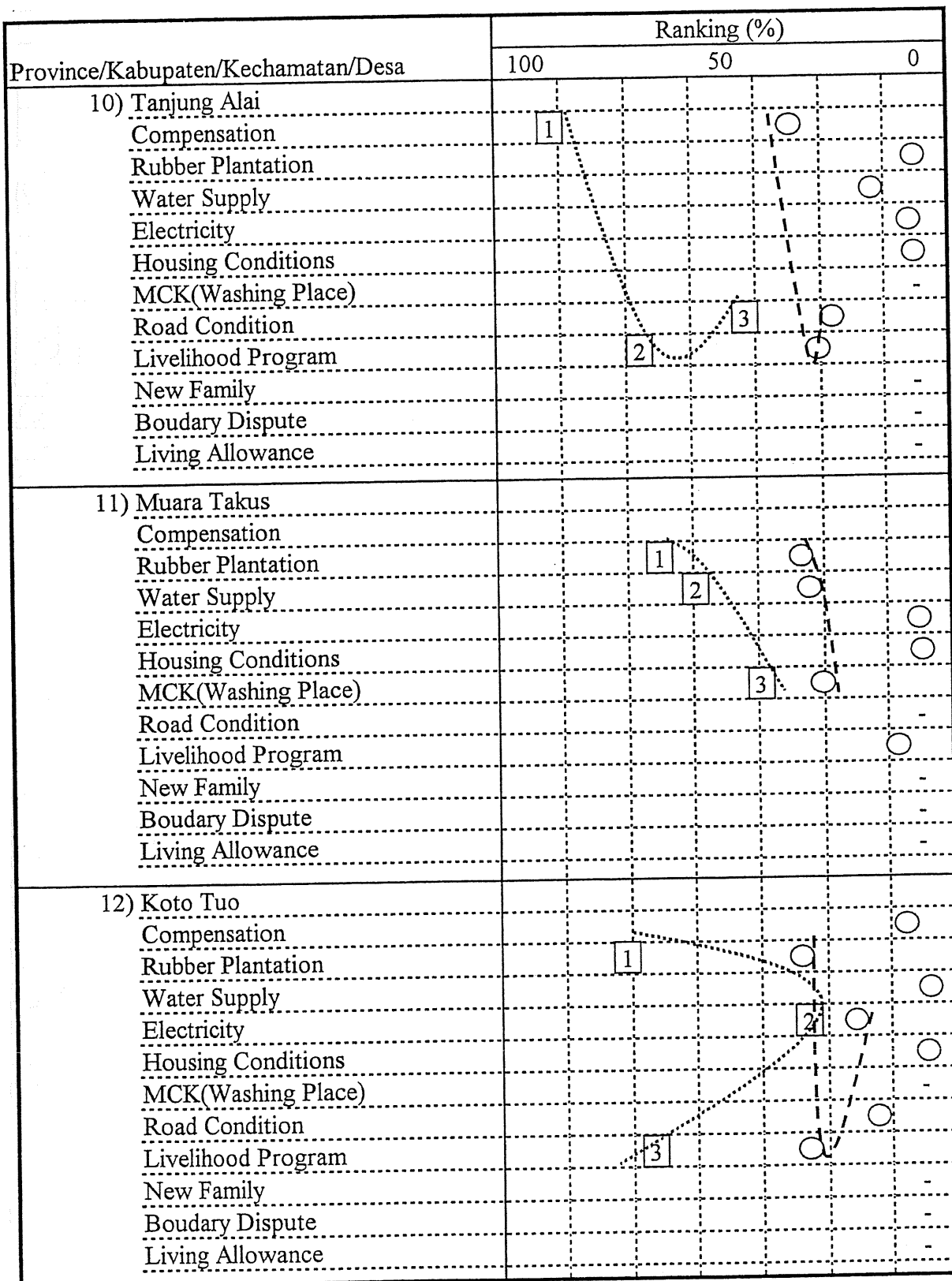


Note: ○ - Overall

2 - Priority ranking

Data Source: PRA Meeting

Figure 3.3 Result of Ranking Exercise

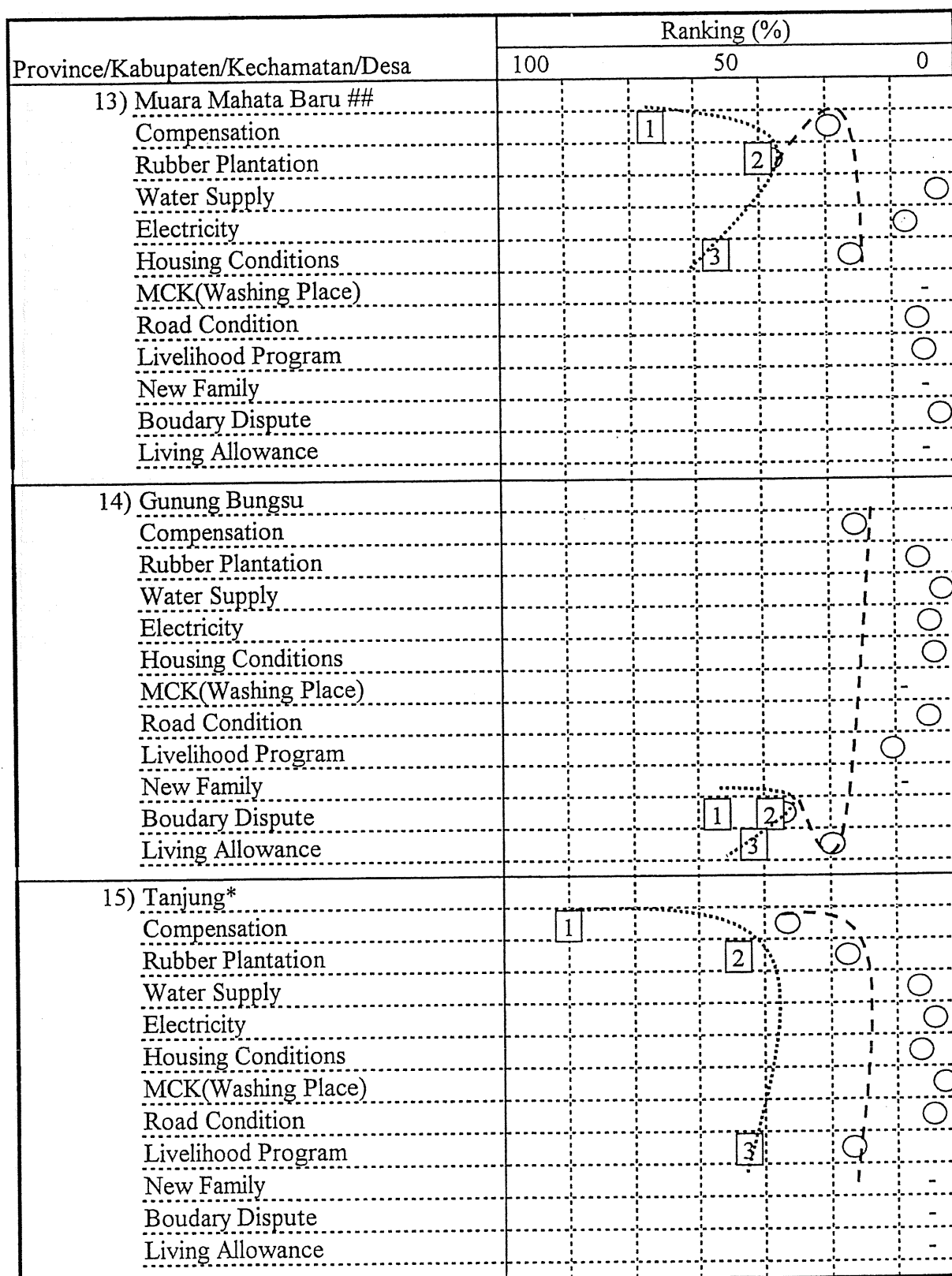


Note: ○ - Overall

2 - Priority ranking

Data Source: PRA Meeting

Figure 3.3 Result of Ranking Exercise

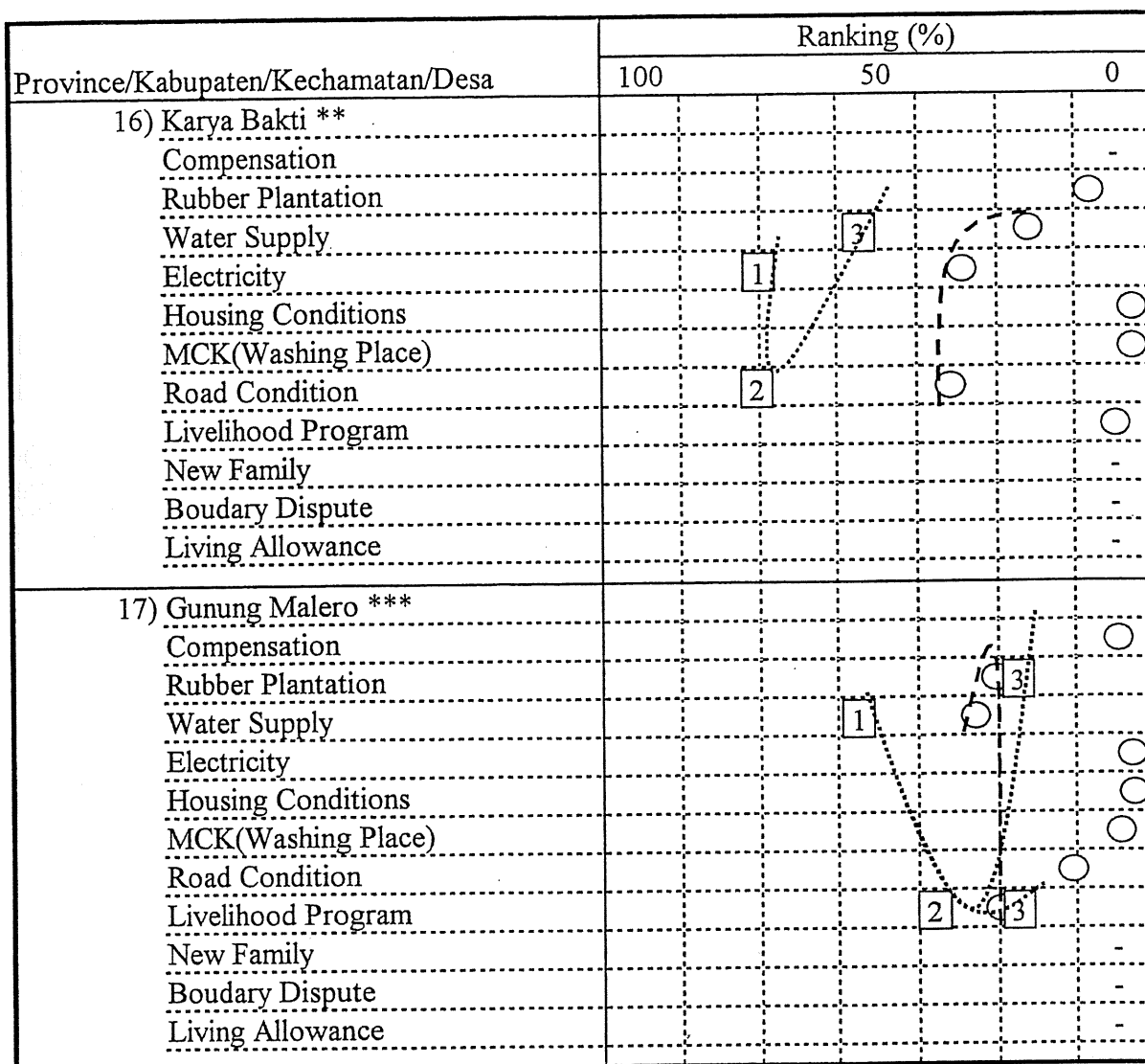


Note: ○ - Overall

2 - Priority ranking

Data Source: PRA Meeting

Figure 3.3 Result of Ranking Exercise



Note: ○ - Overall

2 - Priority ranking

Data Source: PRA Meeting

Figure 3.3 Result of Ranking Exercise

Province/Kabupaten/Kecamatan/Desa	Ranking (%)		
	100	50	0
II West Sumatera Province			
1 Rimapuluh Kota/Pangkalan Kota Baru			
18) Tanjung Pauh			
Compensation		1	
Rubber Plantation		1	
Water Supply		2	
Electricity			
Housing Conditions			○
MCK(Washing Place)			○
Road Condition			○
Livelihood Program			3
New Family			-
Boudary Dispute			-
Living Allowance			-
19) Tanjung Balit			
Compensation		2	
Rubber Plantation		1	
Water Supply		3	
Electricity			○
Housing Conditions			○
MCK(Washing Place)			○
Road Condition			○
Livelihood Program			○
New Family			-
Boudary Dispute			-
Living Allowance			-

Note: ○ - Overall

2 - Priority ranking

Data Source: PRA Meeting