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# WATER RESOURCES DEVELOPMENT

Guest Editor  
Cecilia Tortajada

Chief Editor: Asit K. Biswas

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# International Journal of WATER RESOURCES DEVELOPMENT

Volume 21 Number 2 June 2005

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# Post-project Review on a Resettlement Programme of the Kotapanjang Dam Project in Indonesia

SYAFRUDDIN KARIMI\*, MIKIYASU NAKAYAMA\*\*, RYO FUJIKURA†, TARO KATSURAI‡, MASAKO IWATA‡, TAKESHI MORI‡ & KOICHI MIZUTANI‡

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**ABSTRACT** *The Kotapanjang Dam project, in the Sumatra Island of Indonesia, has been criticized in that it created many problems for resettled families. Affected families filed a lawsuit in Indonesian and Japanese courts. The authors conducted a field survey in four resettlement villages to evaluate the resettlement scheme applied. The survey revealed that living conditions of two villages were significantly improved after resettlement. The condition of another village was fairly improved, although there was room for further improvements. In yet another village, while many people experienced a decrease in income and hardship after the resettlement, other indicators of quality of life suggested improvements.*

## Introduction

To meet the rapidly growing demand for food and energy, large dam construction has been a viable development option for developing countries. In China, for example, around 22 000 large dams have already been built during the latter half of the 20th century and 280 dams are currently under construction. In India, over 4000 large dams have been constructed and more than 600 are under construction (WCD, 2000, pp. 9–10).

The social and environmental impact of large dams has become a major concern. Particularly, their impact on the affected people is serious in many dam construction sites and makes projects controversial. Protests from the affected people and NGOs have become increasingly intense around the world. Examples include the Sardar Sarovar Project (Narmada Dam) in India and the Pak Mun Dam in Thailand. The World Bank and the Japanese government cancelled financing to the Sardar Sarovar Project in the 1990s. The Thai government was forced to open a gate of the Pak Mun Dam in 2000 after dam

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completion and was unable to operate it. Both cases were due to strong opposition of the affected people and NGOs. As governments of developing countries plan to construct more large dams, conflict between the dam developers and the affected people will likely to be even more serious.

Under the initiatives of the World Bank and the World Conservation Union (IUCN), the World Commission on Dams (WCD) was established 'to develop decision-making criteria and policy and regulatory frameworks for assessing alternatives for energy and water resources development' and 'to develop and promote internationally acceptable standards for the planning, assessment, design, construction, operation and monitoring of large dam projects'. In November 2000, the WCD finally published *Dams and Development* as the only and final report (WCD, 2000). The WCD was then disbanded. The WCD proposed seven strategic priorities in order to 'equitable and sustainable development of water and energy resources', and rose to 'gaining public acceptance' and as the first priority in the report. Doubts were posed regarding the WCD's legitimacy (Biswas, 2004) and regarding the applicability of its recommendations presented in the report to real world dam projects (Fujikura & Nakayama, 2002). On the other hand, the report was welcomed by many NGOs. Currently, efforts to support dialogue and widespread dissemination of the report have been made under an initiative of the UNEP, within the framework of the Dam and Development Project (DDP).

Needless to say, adverse social impacts by dam construction should be minimized, and living condition of the affected people, particularly of resettlers, should not deteriorate. Otherwise, public acceptance may never be gained. Carrying out a post-project survey on the affected people has proven to be an effective method to evaluate resettlement measures taken and to improve measures for dam construction projects in future. The number of post-project surveys on dam projects carried out so far is fairly small. Comprehensive surveys on dam-affected people have not been conducted in most of the post-project surveys conducted in the past.

Moreover, as for the cases where post-projects were conducted by implementing agencies or funding agencies, there remain concerns over the independence of the evaluators from the agencies and (consequently) over the adequacy of the studies. This may result in a delay of the improvement of the living conditions of the affected people, losing the opportunity to obtain lessons for the future. On the other hand, surveys on the infrastructure projects including dam construction projects conducted by a totally independent body from the implementing or funding agencies may be influenced by political bias for specific purposes. They include surveys for endorsing anti- or pro-development advocacy. The authors have shown that there have been politically biased criticisms over some successful development projects, in which projects were (contrary to reality) supposed to have resulted in failure (Nakayama & Fujikura, 2001). The authors concern that such 'surveys' may lead to inaccurate conclusions, and that they hinder a right understanding or designing of the development projects. The risk will become greater if a meaningful post-project survey is not conducted. Independent post-project evaluations without any political bias should be conducted to obtain useful lessons for the future, namely for better project planning and implementation.

The authors conducted a field survey on people resettled due to the Kotapanjang Dam Project in Sumatra Island, Indonesia, as a case study of the evaluation of resettlement projects. A household survey on resettled families was conducted in the Kotapanjang area with two goals: to clarify the present condition of resettled villagers, compared with that of

before their resettlement; and to associate the present condition with some cause. Meanwhile, affected families filed a lawsuit in Indonesian and Japanese courts seeking compensation for damage caused by the project. The petition includes a kind of plaintiff's survey of the situation on resettlers after the resettlement.

The first section covers background information on the project. The second section reviews the methodology in which the survey was conducted by the authors. The third section discusses some of the findings of the survey compared with that insisted in the petition submitted to the lawsuit. In the final section, findings of the survey of the authors are summarized and the importance of objective post-project study is discussed.

## **Kotapanjang Dam Project**

### *Meeting the Needs for More Electricity in the Middle of Sumatra Island*

Between 1980 and 2000, Indonesia's population grew by 41% from 150 million to 212 million (United Nations, 2003). Before the Asian crisis, the Indonesian economy also had remarkable growth, with an average annual gross national income increase of 7%, from US\$74 806 million in 1980 to US\$221 276 million in 1996 (World Bank, 2002). Since this economic growth was supported by rapid industrialization, it also increased the demand for electricity. As a result, many power stations, both thermal and hydro, were planned and built during this period.

It was during this period of increasing electricity demand that Kotapanjang Dam was constructed. The dam, 58 m in height, 257.5 m in width, 1545 million m<sup>3</sup> in total reservoir capacity and 114 MW in generating capacity, is in the middle of Sumatra Island on the border between Riau and West Sumatra provinces. The dam project aimed to provide stable electrical power in order both to improve regional electrification rate and to meet increasing electricity demand.

According to PLN (Indonesian National Electric Power Corporation), with the contribution of the Kotapanjang Dam, the annual electricity generations in the two provinces increased from 286 GWh in 1985 to 2396 GWh in 2001. The electrification rate in the mid-Sumatra area, which was 29.4% in 1994, amounted to 45.5% in 2001, while the rate is still under the whole country average of 52.0% (JBIC, 2003).

An area of 124 km<sup>2</sup> was submerged due to the reservoir. The residents of eight villages in Riau Province and two villages in West Sumatra Province were obliged to be resettled. The number of displaced persons amounted to 4886 households with 16 954 people (JBIC, 2003).

### *Japanese Yen Loan*

Upon a request of the Indonesian government, a feasibility study of the Kotapanjang Dam project was carried out as Japanese technical assistance. In 1984, the Japan International Cooperation Agency (JICA) completed a feasibility study of the project in cooperation with the Indonesian government.

Engineering and construction of the project was partly financed by a soft yen loan provided as Japanese official development assistance. The executing agency of the loan was the Overseas Economic Cooperation Fund, Japan (which was later merged with the Export-Import Bank and became JBIC, Japan Bank for International Cooperation).

The borrower is the government of Indonesia and the executing agency is the PLN. In 1985, 1152 million yen were provided as an Engineering Service yen loan. In 1990 and 1991, loan agreements regarding the provision of 12 500 million yen and 17 525 million yen were concluded as phases I and II of dam construction, respectively. Dam construction was completed in February 1997, and the power generators came into operation in February 1998 (JBIC, 2003).

Regarding the dam project, an environmental impact analysis was conducted by Andalas University in 1981. Being entrusted by PLN, Riau University completed an environmental impact assessment, an environmental management plan and an environmental monitoring plan in 1984. According to Indonesian legislation, all of them were finally approved by the Minister of Mining and Energy in 1989. Since neither environmental impact assessment nor the environmental management plan have been made available to the public, little information is available to the authors regarding the development process and stakeholder participation for these documents. To confirm the result of the studies and proposed mitigation measures, the OECF dispatched a study mission to the dam site in 1990. Based on the internal review of these studies according to the OECF's environmental guidelines, the OECF requested the government of Indonesia to take appropriate measures to mitigate environmental impacts.

#### *Problems Encountered by Resettled Families*

The Kotapanjang Dam project has been criticized in that it created many problems for resettled families. Newly planted rubber trees in the resettlement villages reportedly failed to grow as expected, which was assumed to be the largest problem. These rubber trees were assumed to be planted by PLN and to be handed over to the resettlement families once the trees had become productive (i.e. 5–6 years after planting). It was also mentioned that in some villages, the water supply was not enough to meet demand by villagers. In addition, a site-specific problem was suggested to exist in the project site of the West Sumatra province, where the villagers were from the Minangkabau tribe. The implementation scheme of the project was criticized on the grounds that the traditional culture of the Minangkabau people was ignored and that there no Urayat (hereafter 'community-owned land') was given to the community and that Rumah Gadan ('community facility') was not given in the resettlement villages. Besides, it was also criticized (Shien suru kai, Petition, 2002, p. 6) that the houses given to the resettlers in the resettlement villages were not in the Minangkabau architectural style, which is distinguished by their steep, pointed, curving roof gables, and outer walls of wood, being completely carved and painted in brilliant colours.

#### *Lawsuits in Indonesia and Japan*

A lawsuit regarding compensation for displaced persons by the Kotapanjang Dam was first made in a local Indonesian court in June 1998. Ten households of Tanjung-Balit village appealed to the Tanjung-Patty District Court against PLN, the governor of Kotorimapple and the Land Accommodation Committee. Furthermore, in May 2000, 67 households of Tanjung Pauh village made another lawsuit against the Home Secretary, Minister of Agriculture, and PLN (Sumi, 2004).



The judgements for these cases were made by the Indonesian local court in September 2000 and February 2001, respectively. Although payment was ordered for a part of the claimed unpaid compensation, many of the claims were rejected. The residents were dissatisfied with the results and have appealed to the Indonesian Supreme Court. Trials are still being held (Sumi, 2004).

In September 2002, representatives of 3861 displaced persons filed a lawsuit at the Tokyo District Court in Japan against the Japanese government, JBIC, JICA and Tokyo Electric Power Service Co. (TEPSCO) for their roles in the Kotapanjang Dam Project. In March 2003, 4535 displaced persons filed an additional lawsuit to the Tokyo District Court and the number of plaintiffs amounted to 8396, which is more than half of the adults classified as displaced persons (Sumi, 2004).

A Japanese NGO, Kotopangjang damu higaisha jumin wo shien suru kai (Supporters Association for the Victims of Kotopangjang Dam), seemed to play a central role in this litigation. While income and expenditure of the NGO are not made public, it seems that a significant share of the expense necessary for the litigation, including the travel expenses of plaintiffs from Indonesia to Japan, has been met by the NGO and its supporters. Representative of the NGO, Professor Kazuo Sumi, is an influential Japanese critic against large dam projects and the Japanese ODA as a whole. The defence council is organized by eleven lawyers, some of whom are active in defending human rights (Kusano, 2004).

The plaintiffs who were resettled due to the project sought 19.3 billion yen in compensation for damage caused by the project, insisting that their living condition was significantly worsened. In addition, they demanded the Japanese government lobby the government of Indonesia in Jakarta to restore the area to its original condition by removing the dam. One of the main claimed problems with this project was the non-existence of a ready-to-harvest rubber plantation, provision of which was promised by the Indonesian government to the resettled villagers. Together with other allegedly broken promises of compensation and an inconsideration of their distinct culture in the resettlement plan, the resettled villagers claimed their traditional way of life was destroyed (Sumi, 2004). Defendants claimed they were not liable for the matter because they were not the responsible executing agency of the project, but were merely a financier or a consultant.

### **Field Survey**

The authors designed and conducted this survey for two goals. The first goal was to clarify the present living conditions of resettled villagers compared with the situation before their resettlement. The second goal was to associate the present living conditions with some cause so that inferences can be drawn about how to improve resettlement planning.

### *Questionnaire Design*

The following items were included in the questionnaire used for the survey: (1) occupation and income, (2) property; (3) family and community, (4) general satisfaction, and (5) compensation and relationship with administration. In the first two items, households' economic conditions were investigated. The third item sheds light on family and community ties. In the fourth item, questions on general satisfaction, such as a household's economic well being and satisfaction with their occupation, were asked. In the last item, questions on the resettlement method were asked. All questions were close ended.

### *Sampling and Interview Method*

Four villages, Koto Masjid, Pulau Gadang, Tanjung Pauh and Pongkai Baru, were selected as targets for this survey. These villages were selected through reviews of various documents and preliminary interviews. The resettlers in Koto Masjid and Pulau Gadang were seemingly successful in re-establishing livelihood after relocation, while those in Tanjung Pauh and Pongkai Baru were not.

All interviews, conducted in March and April 2004, were structured using the questionnaire designed as above and done person to person by interviewers visiting each household. The interviewers were composed of Indonesian and Japanese researchers from Andalas University (Indonesia), Hosei University (Japan) and Tokyo University of Agriculture and Technology (Japan). They used to be engaged in research activities about the impacts of the construction of hydropower stations on the human environment observed in such Indonesian cases as Cirata Dam, Saguling Dam and Singkarak Hydropower Station. For each village, 50 households were randomly sampled. After carrying out the interviews, it turned out that some interviews were performed on households of non-resettlers, i.e. those voluntarily transmigrated from Java Island. These households were eliminated from the samples for analysis. The numbers of valid samples were 47 for Koto Masjid, 50 for Pulau Gadang, 45 for Tanjung Pauh and 32 for Pongkai Baru.

## **Findings**

### *Standard of Living*

The Petition (2002, pp. 23–27) suggests that the standard of living among resettlers became much worse after relocation. A member of the Japanese Diet also pointed this out in a discussion of a committee (Government of Japan, 1999). This particular issue has been the major point of criticism over the implemented compensation scheme of the project.

The survey revealed (Table 1) that in three of the four villages surveyed, the majority of people had more income than before (i.e. before relocation). Only in one village did more people experience a decrease of income after resettlement. The result suggests that the criticism over the resettlement is not based on very solid ground, as long as rehabilitation of income is concerned.

The survey also made it clear that more people now have commodities, which they did not have before relocation. More households now enjoy watching colour television and storing food in a refrigerator, even in Pongkai Baru, where more people experienced a decrease in income. As shown in Table 2, the percentage of resettlers possessing colour

**Table 1.** Comparison of present income with that before resettlement

	Increased	Same	Decreased	No answer	Total
Koto Masjid	33	2	7	5	47
Pulau Gadang	40	4	5	1	50
Tanjung Pauh	27	3	14	1	45
Pongkai Baru	4	3	22	3	32
Total	104	12	48	10	174

Table 2. Commodities owned by resettlers

	Colour television						Refrigerator						Motorcycle					
	Before		Present		Before		Present		Before		Present		Before		Present			
	Number of owners	%	Number of owners	%	Number of owners	%	Number of owners	%	Number of owners	%	Number of owners	%	Number of owners	%	Number of owners	%		
Koto Masjid	8	17.0	32	68.1	3	6.4	14	29.8	12	25.5	20	42.6						
Pulau Gadang	4	8.0	37	74.0	1	2.0	19	38.0	9	18.0	28	56.0						
Tanjung Pauh	3	6.7	20	44.4	3	6.7	13	28.9	3	6.7	10	22.2						
Pongkai Baru	5	15.6	11	34.4	3	9.4	7	21.9	14	43.8	14	43.8						
Total	20	11.5	100	57.5	10	5.7	53	30.5	38	21.8	72	41.4						

Table 3. Sources of drinking water

		Before		Present	
		Number of households	%	Number of households	%
Koto Masjid <i>n</i> = 47	well	3	6.4	44	93.6
	river/lake	32	68.1	2	4.3
	spring water	12	25.5	1	2.1
Pulau Gadang <i>n</i> = 50	well	3	6.0	39	78.0
	river/lake	46	92.0	7	14.0
	spring water	1	2.0	4	8.0
Tanjung Pauh <i>n</i> = 45	water line	0	0.0	43	95.6
	well	7	15.6	1	2.2
	river/lake	28	62.2	0	0.0
	buy	1	2.2	1	0.0
	spring water	9	20.0	32	2.2
Pongkai Baru <i>n</i> = 32	well	8	25.0		100.0
	river/lake	24	75.0	0	0.0

televisions, refrigerators and motorcycles all increased (on average) from 11.5 to 57.5%, from 5.7 to 30.5% and from 21.8 to 41.4%, respectively.

The survey also revealed an improved living standard with respect to drinking water access. Although the majority of households used to secure their drinking water from rivers or lakes before resettlement, as shown in Table 3, over 78% of households now obtain drinking water from a well or water line. Due to this change, the time required to access drinking water decreased significantly. As shown in Table 4, in Koto Masjid, the percentage of households accessing drinking water in zero minutes (less than 1 min), increased from 38.3 to 72.3%. Similarly, in Pulau Gadang, Tanjung Pauh and Pongkai Baru, it increased from 4 to 78%, from 35.6 to 100%, and from 28.1 to 62.5%, respectively. Although there are criticisms made against post-relocation drinking water access (Sumi, 2004, pp. 365–370), these figures clearly show that access to water, in terms of the time required, improved after relocation.

The survey also revealed a contradictory result from the accusation made in the Petition regarding malaria contagion. Although there were accusations about the probability of an increase of malaria contagion due to inundation by the reservoir (Petition, 2002, p. 8), the survey revealed no such incidence. On the contrary, the number of households experiencing malaria contagion decreased slightly from 9.9% before resettlement to 8.7% after the resettlement (Table 5). While the cause of such a decrease ought to be investigated further, it may be attributed to a more detached way of living (after relocation) from water bodies.

After examining the above-mentioned facts, it is safe to assume that (on average) the living conditions of the resettlers and their quality of life improved significantly after relocation in all four villages examined. There seem few clues to assume that the implemented resettlement scheme has driven resettlers into massive poverty in the new villages.

Table 4. Time (min) required to secure drinking water

		Before		Present	
		Number of households	%	Number of households	%
Koto Masjid <i>n</i> = 47	0	18	38.3	34	72.3
	1-5	9	19.1	8	17.0
	6-10	14	29.8	5	10.6
	11-15	6	12.8	0	0.0
Pulau Gadang <i>n</i> = 50	0	2	4.0	39	78.0
	1-5	26	52.0	7	14.0
	6-10	9	18.0	2	4.0
	11-15	10	20.0	1	2.0
	16-	3	6.0	1	2.0
Tanjung Pauh <i>n</i> = 45	0	16	35.6	45	100.0
	1-5	18	40.0	0	0.0
	6-10	4	8.9	0	0.0
	11-15	7	15.6	0	0.0
Pongkai Baru <i>n</i> = 32	0	9	28.1	20	62.5
	1-5	10	31.3	12	37.5
	6-10	6	18.8	0	0.0
	11-15	7	21.9	0	0.0

### Rural Electrification

The anticipated improvement in rural electrification was assumed to be one of the major benefits of the project. The former villages (in which the resettlers used to reside) had no access to a commercially supplied power line and a limited number of households had access to electricity, which used to be supplied by a power generator installed in the villages. Not surprisingly, only wealthy people could enjoy the benefits of electricity at that time.

Sumi (2004, p. 502) suggests that the rate of electrification in the resettlement villages failed to increase, stating that the resettlement villages were not connected to the major power grid of the region.

The survey revealed that the rate of electrification improved significantly in all villages examined (Table 6). Note that all the households are now electrified in two villages and that the rate of electrification in the four villages surpasses the regional average of 45.5%,

Table 5. Number of households that experience malaria contagion

		Before		Present	
		Number of households	%	Number of households	%
Koto Masjid	<i>n</i> = 47	1	2.1	1	2.1
Pulau Gadang	<i>n</i> = 50	8	16.0	8	16.0
Tanjung Pauh	<i>n</i> = 45	3	6.7	5	11.1
Pongkai Baru	<i>n</i> = 32	5	15.6	1	3.1
Total	<i>n</i> = 172	17	9.9	15	8.7

Table 6. Electrification rate

		Before		Present	
		Number of electrified households	%	Number of electrified households	%
Koto Masjid	<i>n</i> = 47	12	25.5	47	100.0
Pulau Gadang	<i>n</i> = 50	19	38.0	50	100.0
Tanjung Pauh	<i>n</i> = 45	9	20.0	43	95.6
Pongkai Baru	<i>n</i> = 32	4	12.5	28	87.5
Total	<i>n</i> = 174	44	25.3	168	96.6

almost by 'double score'. Note too that (1) all these villages are connected to the regional power grid, (2) the rate of electrification is as high as 87.5% in the 'worst' village of Pongkai Baru, and (3) the rate of electrification used to be between 13 and 38% for the resettlers before relocation. The result of the survey clearly shows that the quality of life of the villagers has improved in terms of enjoying benefits by having access to commercially supplied electricity.

#### *Issues of Community and Culture*

The resettlement is assumed to have many impacts on the community and its culture. This aspect was touched upon by the Petition (2002, p. 6). The resettlement scheme was criticized in the context that the houses provided to the resettlers were not based on the traditional way of building houses by the Minangkabau people, which is signified by the 'lifted floor' above the ground.

The survey revealed, as shown in Table 7, that only one family out of 174 respondents used to live in a house of traditional Minangkabau architecture. It was also found that four families out of 174 households examined now have houses with 'lifted floor' of the traditional Minangkabau architecture. It is safe to assume that the traditional architecture was by no means the prevailing style in the original villages of the resettlers and that there in fact exists (relatively speaking) more houses with traditional architecture in the new villages.

The Petition (2002, p. 6) also hints that the houses provided to the resettlers in their new destinations were much worse than what they used to own. Table 8, however, suggests that

Table 7. Number of households owning raised-floor-style houses before resettlement and/or presently

	Both presently and before resettlement	Only before resettlement	Only presently	Neither presently nor before resettlement	Total
Koto Masjid	0	0	1	46	47
Pulau Gadang	0	0	0	50	50
Tanjung Pauh	0	0	2	43	45
Pongkai Baru	1	0	0	31	32
Total	1	0	3	170	174

Table 8. Size of the present house compared with that of before resettlement

	Larger	Same	Smaller	Do not know	Total
Koto Musujid	33	6	5	3	47
Pulau Gadang	40	5	3	2	50
Tanjung Pauh	13	18	11	3	45
Pongkai Baru	6	8	18	0	32
Total	92	37	37	8	174

in terms of the size of houses, more resettlers now have more spacious houses than before. On this resettlement, the same type of wooden houses was provided to all families. Some people do live in those houses, but others who had owned land and their houses before resettlement received additional compensation and could build new houses.

The Petition (2002, p. 6) also mentioned that resettlers lost both community-owned land and community facilities after relocation. Almost all respondents suggested that they used to own community-owned land before relocation, while only 6–15% of people assumed they still had community-owned land in the new location. On the other hand, almost all the resettlers recognized that they still had community facilities in their new villages. Thus, while the community-owned land has diminished after relocation, and it may be regarded a big societal problem for resettlers, it might not be justified to assume that the resettlers also lost their community facilities through relocation (Table 9).

#### *Participation of Resettlers in the Planning Process*

The Petition (2002, p. 20) suggests that absolutely no consultation with resettlers was ever made by the implementing body of the project and that no 'democratic' meeting was held between two parties. The Petition specifically mentions that no consultation was made with resettlers regarding their destination, i.e. where new villages should be built for them. It was also described in the Petition (2002, p. 20) that the location of new villages was

Table 9. Number of households recognizing the existence of community-owned land and community facilities

		Community-owned land				Community facility			
		Before		Present		Before		Present	
		Number of households	%	Number of households	%	Number of households	%	Number of households	%
Koto Masjid	<i>n</i> = 47	46	97.9	7	14.9	45	95.7	46	97.9
Pulau Gadang	<i>n</i> = 50	48	96.0	3	6.0	48	96.0	48	96.0
Tanjung Pauh	<i>n</i> = 45	44	97.8	5	11.1	44	97.8	44	97.8
Pongkai Baru	<i>n</i> = 32	32	100.0	2	6.3	32	100.0	31	96.9
Total	<i>n</i> = 174	170	97.7	17	9.8	169	97.1	169	97.1

**Table 10.** Did anybody explain to you about the resettlement?

Answer: Village	Yes	No	No answer	Total	Per cent of 'Yes'
Koto Masjid	41	3	3	47	87
Ppulau Gadang	46	2	2	50	92
Tanjung Pauh	40	1	4	45	89
Pongkai Baru	25	3	4	32	78
Total	152	9	13	174	87

**Table 11.** Did you or a person representing you negotiate about the resettlement?

Answer: Village	Yes	No	No answer	Total	Per cent of 'Yes'
Koto Masjid	32	11	4	47	68
Ppulau Gadang	34	15	1	50	68
Tanjung Pauh	23	17	5	45	51
Pongkai Baru	16	11	5	32	50
Total	105	54	15	174	60

**Table 12.** Did you have choices for the place to resettle?

Answer: Village	Yes	No	No answer	Total	Per cent of 'Yes'
Koto Masjid	16	27	4	47	34
Ppulau Gadang	21	28	1	50	42
Tanjung Pauh	17	25	3	45	38
Pongkai Baru	10	20	2	32	31
Total	64	100	10	174	37

'unilaterally' determined by the government of Indonesia, i.e. without consultation with the resettlers.

The above accusation contradicts the results secured by the survey. As shown in Table 10, more than 80% of respondents on average were informed of the resettlement scheme before relocation. More than half in fact negotiated with the implementing body of the project about the ways and means of resettlement (Table 11). Table 12 suggests that nearly 40% of respondents indicated they were given choices in terms of alternative destinations (i.e. the location of new villages). Again, the result of the survey clearly reveals different pictures about the participation of the resettlers in the planning process of their relocation, as compared with the accusation in the Petition.

## Conclusions

This survey revealed that living conditions of two villages (Koto Masjid and Pulau Gadang) were significantly improved after resettlement. Tanjung Pauh and Pongkai Baru were selected as the site of the survey because they could have been regarded as the villages in which resettlement was conducted least successfully.



However, the condition of Tanjung Pauh was fairly improved, although there is still room for improvements. In Pongkai Baru, while many people experienced a decrease in income, indicating hardship after the resettlement, other indicators of quality of life other than income, such as access to drinking water or electrification, improved. The number of valid samples of households may not be large enough to conclude the whole situation, but it might be concluded that living conditions in general were improved after resettlement.

Further study is needed to identify factors contributing to the improvement, and to what extent the resettlement programme itself has contributed to the successes in these cases. The high capability of people in the former two villages might have led to the observed improvements. There likely existed some good practices by resettlers, from which important lessons for the future project may be obtained.

The Petition made in the Indonesian and Japanese courts is based on a different assumption about the living conditions of the resettlement, as compared with the same conditions as revealed by this survey. The former concluded that resettlement only attributed to worse living conditions for the majority of the resettlers. It is natural that the survey conducted by the plaintiffs had some political bias in order to take advantage in their litigation. The Petition (2002) was, not surprisingly, based on the assumption that the resettlement scheme and all other components of the project resulted in failure. This assumption is quite apart from the result of the survey, as described above.

It is crucial to gain public consensus about dam construction projects, either positively or negatively. This survey indicated that some good practices existed in the resettlement scheme of this particular project. Good practices will contribute significantly not only to better living conditions for resettlers, but also to obtaining public acceptance. However, under the influence of political bias, the good practices might likely be overlooked, and it may lead to a delay in improving modalities for resettlement scheme of dam construction projects.

More post-project evaluation of resettlement projects should be conducted for the future improvement of resettlement schemes in dam construction projects. Political bias should be minimized when carrying out such surveys. Political bias to the evaluation of the public sector may be minimized by disclosing the procedure and relevant information and by securing participation of various stakeholders. As for the Kota Panjang Dam project, there has been little information available on post-project evaluation. Efforts should be made so that a post-project survey should be carried out without political bias and that the outcome of the survey be made transparent for the public.

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