

***Livelihood status of resettlers affected by the Saguling
Dam project,
25 years after inundation***

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by Dam Construction Projects: Cases in Asia”

Structure of presentation:

- Introduction
- Research Methodology
- Research Findings
- Discussion:
 - ✓ *conclusion & implication for future policy*

Introduction

- Dams provide reliable sources of drinking water and irrigation, hydropower, recreation, navigation, income, and other important benefits (WCD, 2000a). Further, in the presence of climate change, dams may play an increasingly important role in protecting water resources.
- However, dam development projects have raised complex issues, which frequently attract many critics. The projects, somehow, will produce some long-lasting negative impacts in the reservoir area and potentially nationwide. Resettlement problems are key among the economic, social, and environmental consequences as a large dam development project often causes involuntary resettlement, and the number of affected people can be considerable due to the extent of land submerged.
- In the case of Saguling dam construction, the project displaced 3038 families from the inundated area and affected 7626 families that lived in non-inundated areas but had land and sources of income in the inundated area (PLN, 1989). Most challenging socioeconomic impacts relate to the migration and resettlement of people near the dam sites

Resettlement Programmes for Saguling:

- (a) Transmigration to outer island of Java
- (b) Local transmigration, meaning migration within the area of West Java, and
- (c) Decision by the people on where they would stay.

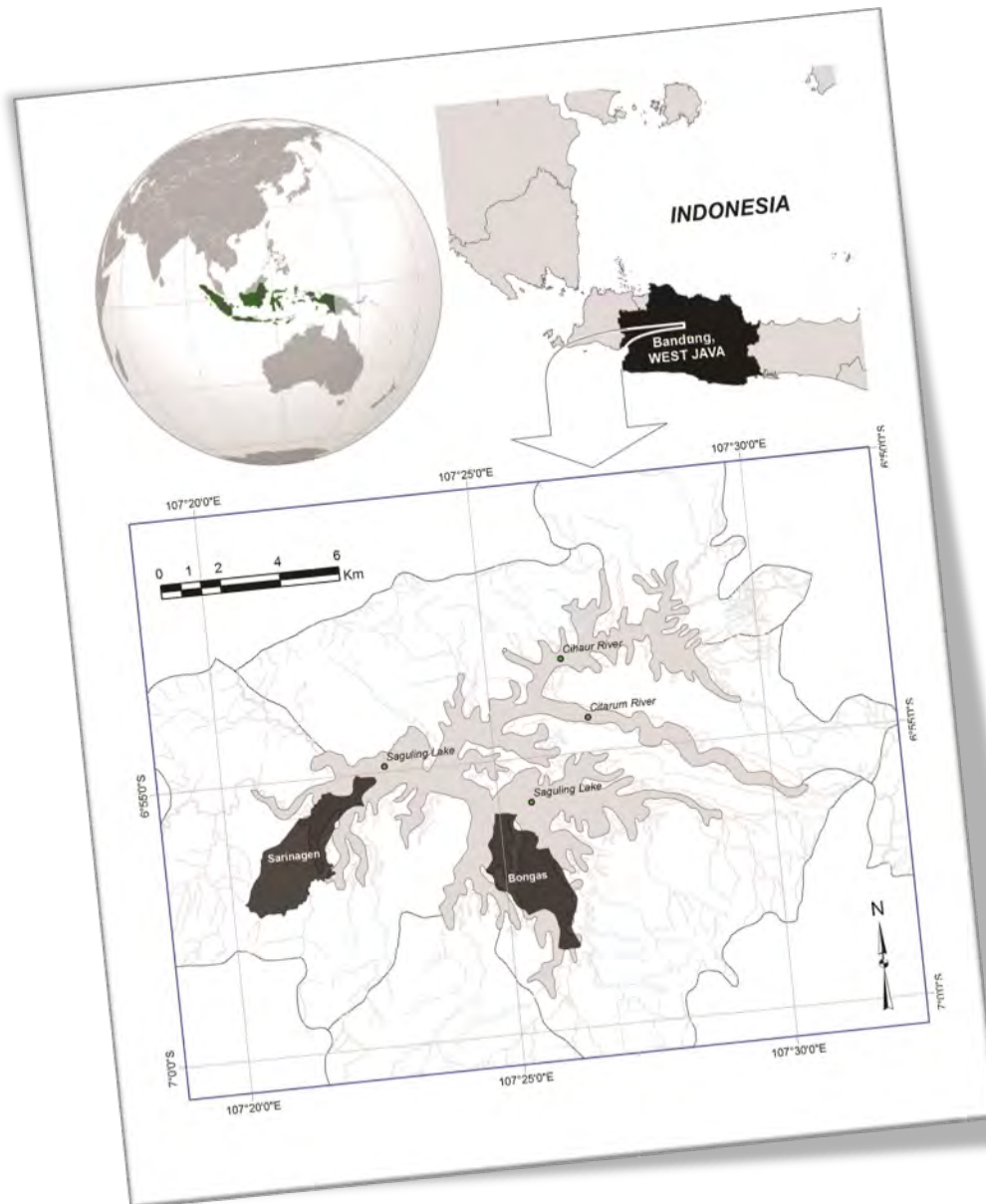
- A few additional alternatives, such as estate work, construction and agri-aquaculture were also provided as options by the government.
- Only 3.9% followed option (a) & (b); the rest of the resettlers chose to relocate near the reservoir (Suwartapradja et al. 1985). The resettlers who chose to transmigrate to out of Java Island, and those who moved out based on their own choice returned to Saguling.
- Development of cage aquaculture (FNCA), as an alternative option of resettlement, was provided. The Implementation of FNCA was concentrated in **Bongas** area. Bongas, now is the predominant center of the Saguling FNCA industry. The success of the floating net cage systems in this area is not only due to **better water quality factors, socioeconomic and infrastructural** factors. On any account, there was **an inequality of access to resource and opportunity** among the resettlers, particularly deal with cage aquaculture, which may affect their socio-economic status.
- This study examines the long term effects of Saguling dam construction on the livelihood of displaced people, paying more attention on the effects of inequality of access to FNCA between the resettlers.

Research Methodology

Research Sites:

1. Bongas
2. Sarinagen

- * FNCA was introduced at Bongas
- * the success of cage aquaculture program in Bongas was due to better water quality, and socioeconomic and infrastructural support



Data collection and analysis:

- The study employed the **descriptive approach**
- Both **quantitative** and **qualitative data** were used
- A survey was done in 2011.
- Data collection was done using **semi-structured interview** equipped with **questionnaire** which covered the status of socioeconomic, feelings of the resettlers, and infrastructure of both villages. Secondary data was collected to fill data which was not obtained from interview.
- The target respondents were who were at least in age of 17 or married. It is assumed that they had strong perception about any impacts of the dam construction in the past, and can provide any relevant information clearly.
- The total respondent was **147 resettlers** [97 persons from Bongas & 50 persons from Sarinagen].

Research Findings



Types of the resettlers' occupation before resettlement and at present time

Occupation		Bongas		Sarinagen	
	Category	Before Resettlement	Present	Before Resettlement	Present
1. Farmer:	Self-employed	74(76.3%)	11(11.3%)	47(94%)	14(28%)
	Share cropper	7(7.2%)	43(44.3%)	2(4%)	26(52%)
2. Employee:	Public offices	6(6.2%)	8(8.2%)	6(12%)	2(4%)
	Private sector	3(3.1%)	1(1%)	0(0%)	0(0%)
3. Laborer:	Farm	5(5.2%)	4(4.1%)	0(0%)	2(4%)
	Unskilled manual	4(4.1%)	1(1%)	1(2%)	0(0%)
	Construction	1(1%)	2(2.1%)	2(4%)	2(4%)
4. Unemployed:		1(1%)	23(23.7%)	0(0%)	7(14%)
5. Others:		27(27.8%)	23(23.7%)	4(8%)	15(30%)

NOTE: The interviewees were allowed to put more than one answer to this question

FNC aquaculture ownership



Ownership	Bongas	Sarinagen
1. No of Households own FNC:		
- at 1985-1987	55	18
- at 2011	11	4
2. No of cages/household:		
- at 1985-1987	15	7
- at 2011	7	8

Convenience of Livelihood

Access to Main road

- Generally, the resettlers who live either in Bongas or Sarinagen came from the same villages or the neighboring villages. Therefore, **the new settlements do not differ much in access to, or network with the public infrastructures**. Nevertheless, **some resettlers in Bongas said that their dwelling sites are farther to the main road compared to those in their origin**. Some new dwelling sites are isolated from the previous main road by water so that the overland access is disconnected. As a result, some important facilities such as administration offices, health units, markets and down town are farther as they use different route. They can still use the same route but travelling through the waterway is more expensive



Changes of House:

Changes in house size

	Change of House		
	Larger	Same	Smaller
Bongas	61.1%	26.3%	12.6%
Sarinagen	50%	48%	2%

Style of house

Style of House		Bongas	Sarinagen
B e f o r e Resettlement	- permanent	21.6%	12.0%
	- semi-permanent	12.4%	2.0%
	- non-permanent	63.9%	86.0%
	- others	2.1%	0%
Present	- permanent	85.6%	80.0%
	- semi-permanent	3.1%	0%
	- non-permanent	9.3%	20.0%
	- others	2.1%	0%

Electricity

- In their original settlement, the people had **no electricity** which characterized the situation for most of those in rural areas in Indonesia. Only few people enjoyed electricity using battery accumulators (13.4% in Bongas, and 14% in Sarinagen). After dam construction and with the development of Saguling hydropower, **almost all the resettlers have the electricity supplied by hydropower of Saguling unit**. Only 3% of the resettlers live in Bongas remain without electricity supply.

Drinking water

- In their original settlement the water line was not available. Even after 25 years of the project development, they have not had such service yet. They have been long time depend on **wells/pumps, lake and rivers, and water spring** to meet the drinking water demand. However, the **number of well and pump are much more in the new settlement**. A lot of resettlers own wells or pumps so that they can have water easily, or they can share it from the neighbouring households.
- Introduction of the water pump technology into both villages are increasing. Recently, technologies of bottled drinking water are also appearing in rural areas. Therefore, some resettlers prefer to drink that water which has better quality, and is more expensive. Drinking water availability seems to make the resettlers feel more convenient in their new settlement.

Education

- Education status of second generation of the resettlers is considered as being representative of those existing after the resettlement.
- The education status is evaluated based on the **availability of school facilities, opportunity for higher education and employment.**
- In general, it can be considered as **being improved** as nearly 90% of the resettlers, either in Bongas or in Sarinagen, perceived that availability of school facilities for their children as far better compared to that before resettlement. This may correlate to the “obligatory 9-year schooling’ program from the national government which make primary school (SD) and junior high school education (SMP) compulsory for citizens. Consequently, wide scale construction of such school facilities comes to rural areas such as Saguling area.
- Majority of the resettlers in Bongas (85.6%) and Sarinagen (86%) explained that the opportunity for higher education is far better, and as well as the opportunity for employment



Social life

- Social cohesion of a community can be indicated by time and resources devoted to religious activities. The resettlers both in Bongas and Sarinagen participate actively in building mosques as a common praying facility for most of the resettlers and non-resettlers. Majority of mosques in Bongas (90%) and sarinagen (82%) were build by local people on a self-supporting basis, while few of which were supported by local government.
- In Bongas, majority (43.3%) of resettlers perceive that their religious activities are increased with more participation, while in Sarinagen most of them (56%) perceive no changes in such activities.
- It seems that assimilation between resettlers and non-resettlers in Bongas are better than those in Sarinagen.

General Satisfaction

- Theresettlers, both in Bongas and Sarinagen, enjoyed new environment with increased quality of livelihoods. Changes in house size and style, electricity grid, drinking water, health facilities, and education are among the improved measures compared to their live experienced before resettlement. However, resettlement programs set up by the PLN and the local government seems not fulfilling their expectation completely.

1) Job and Economic condition

- Job is one of their main concerns; among the resettlers live in Bongas there is **a decrease in satisfaction level** with the **present jobs** (from 59.8% to 46.4% of the resettlers), while among those live in Sarinagen there is **a slight increase** in such feeling (from 68% to 70% of the resettlers).

In addition, this might be due to a bigger number of unemployed resettlers of Bongas as well. The type of employment to which the resettlers participate in will affect the level and stability of income, and hence the economic condition. Therefore, feeling of dissatisfaction with the present job in Bongas resettlers may correlate to their dissatisfaction with their present economic condition. In contrast to what happen in Bongas, majority of resettlers from Sarinagen (56%) expressed their satisfaction with the present economic condition.

2) Living Environment,

- Majority of the resettlers either lives in Bongas (64%) or in Sarinagen (60%) expressed their satisfaction with the present living environment. The new settlement may not be a distress for them as they share the same cultures and customs. However, majority of the resettlers do not seem to enjoy public facilities such as community halls, common toilets, volley ball and badminton courts, and football fields..

3) Environment for children

- Majority resettlers feel happy to the present environment for the interest of their children. They perceived that their children have a good education, so that in future they can take more benefits than in the past.
- Eventhough the land ownership decreased, they are satisfied with the land availability in the present time. It can be sociocultural reason; typically people in West Jawa like to keep gathering with their relatives rather than they are separated for economic purposes. As long as they can gather with all family members, properties come to second or third interest.
- For them, job opportunities for their children are good at this moment. They are optimistic that their children will have a better livelihood compared to the parents. The resettlers hope that with their education, their children will be absorbed in public offices, schools, military services, private companies, and other sectors.

Conclusions & Recommendation

To summarize the key findings drawn from the Saguling Dam development project and its resettlement programme:

1. In the new settlement, the livelihood patterns of the resettlers are in general improved, nearly three decades after the resettlement programme.
2. However, the dam development project has also caused long-term negative consequences for the resettlers. Conversion to less preferable and beneficial occupations, and unemployment, were among the most common negative impacts.
3. The alternative option of the resettlement scheme, i.e. aquaculture development, was successful in helping the resettlers restore their livelihood only in the short term. In the long term, aquaculture development failed to provide alternative opportunities to rebuild lost livelihoods because of environmental and socio-economic constraints.
4. Differences in access to and opportunities for resources have created differences in quality of livelihood among the resettlers.
5. Jobs availability and economic conditions seem to be the most important factors affecting the satisfaction level of the resettlers.

Key points for recommendation:

1. Policy makers should consider the long-term consequences of dam construction on project-affected people when a resettlement scheme is planned and implemented.
2. Selection of resettlement alternative options should consider local backgrounds, such as socio-economic and environmental characteristics, to avoid inequality among the resettlers. Intensive dialogue with local people and scientists will be helpful to describe the local backgrounds.
3. The resettlement programme should also consider the local dynamics in order to make appropriate anticipations for the future in case the programme is not successful.
4. Job provision should be given high priority in the resettlement programme because jobs will be of the greatest interest to the resettlers.

Thank you very much..