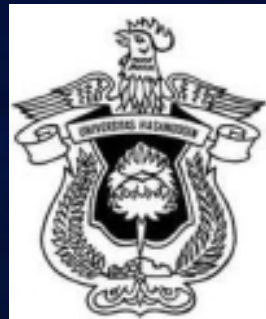


# A long term evaluation of families affected by the Bili-Bili Dam development resettlement project in South Sulawesi Indonesia

UNIVERSITAS HASANUDDIN

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INDIAN OCEAN

PAPUA NEW GUINEA

INDONESIA

ARABIAN SEA



Scale 1 : 1 000 000

km

**South Sulawesi**

miles

119°

5°

5°

**UJUNG PANDANG  
(Makassar)**

Fort Rotterdam & Fort Schouten

Ballalampoa

Bontoleba

Bontobona

Galesong

Takalar

Cilalang

Mangadu

Ujung Salisingang

Allu

Tenefta

Bontowa

Ujung Pele

Ujung Bero

Ujung Bero

Ujung Bero

Ujung Bero

Ujung Bero





# Bili-Bili Multipurpose Dam



# Technical data of Bili-bili dam

## Reservoir

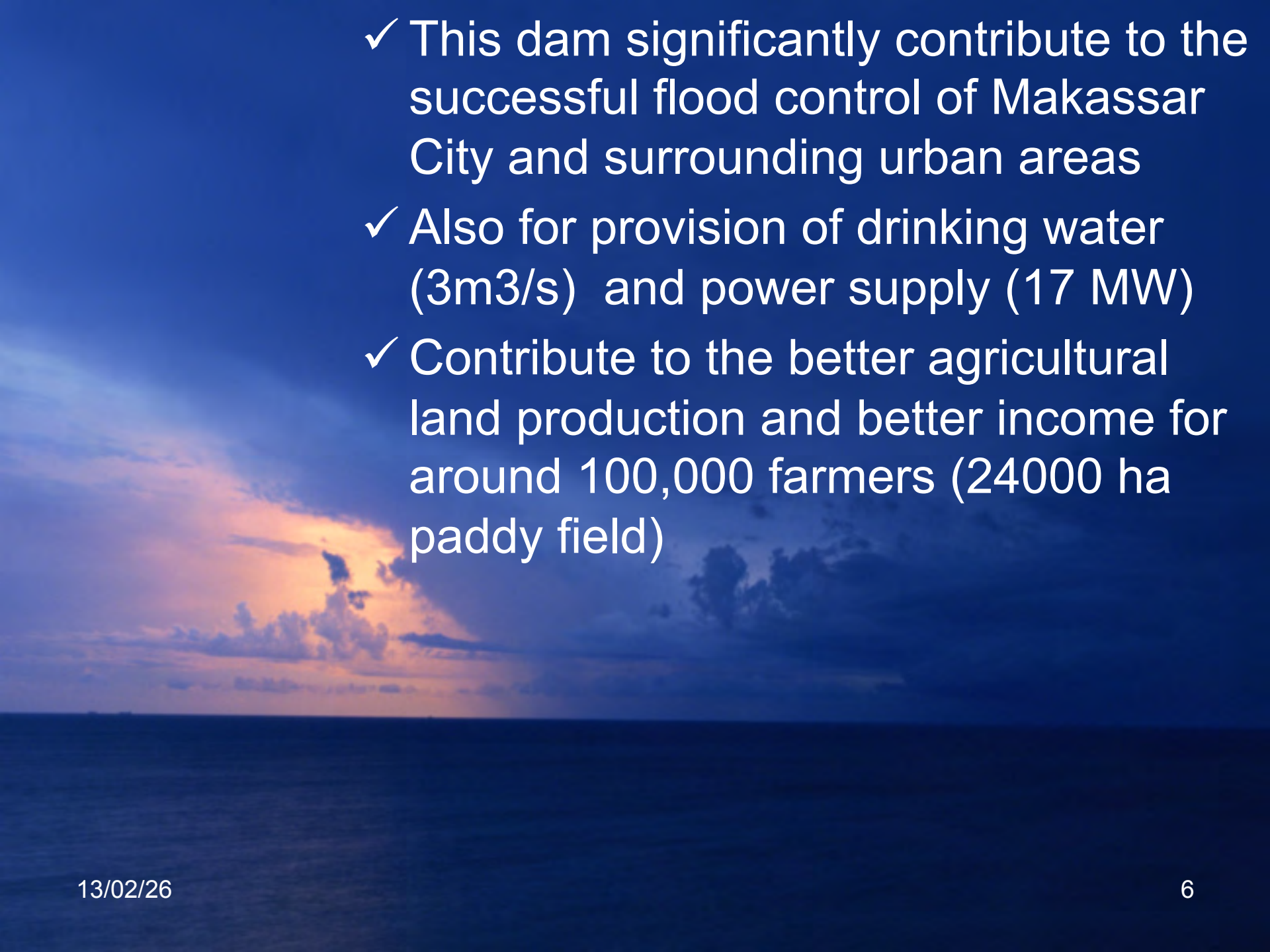
- Total Storage Capacity 375,000,000 m<sup>3</sup>
- Effective Storage Capacity 346,000,000 m<sup>3</sup>
- Flood Control Capacity 41,000,000 m<sup>3</sup>
- Irrigation Water 270,000,000 m<sup>3</sup>
- Municipal Water 35,000,000 m<sup>3</sup>
- Sediment Capacity 29,000,000 m<sup>3</sup>

## Hydropower (17 MW)


## Dam (Center Cored Rockfill Dam)

- Main Dam H = 73m, L = 750 m
- Right Wing Dam H = 52 m, L = 412 m
- Left Wing Dam H = 42 m, L = 646 m



- 
- ✓ This dam significantly contribute to the successful flood control of Makassar City and surrounding urban areas
  - ✓ Also for provision of drinking water (3m<sup>3</sup>/s) and power supply (17 MW)
  - ✓ Contribute to the better agricultural land production and better income for around 100,000 farmers (24000 ha paddy field)

# How is the condition of resettlers ?

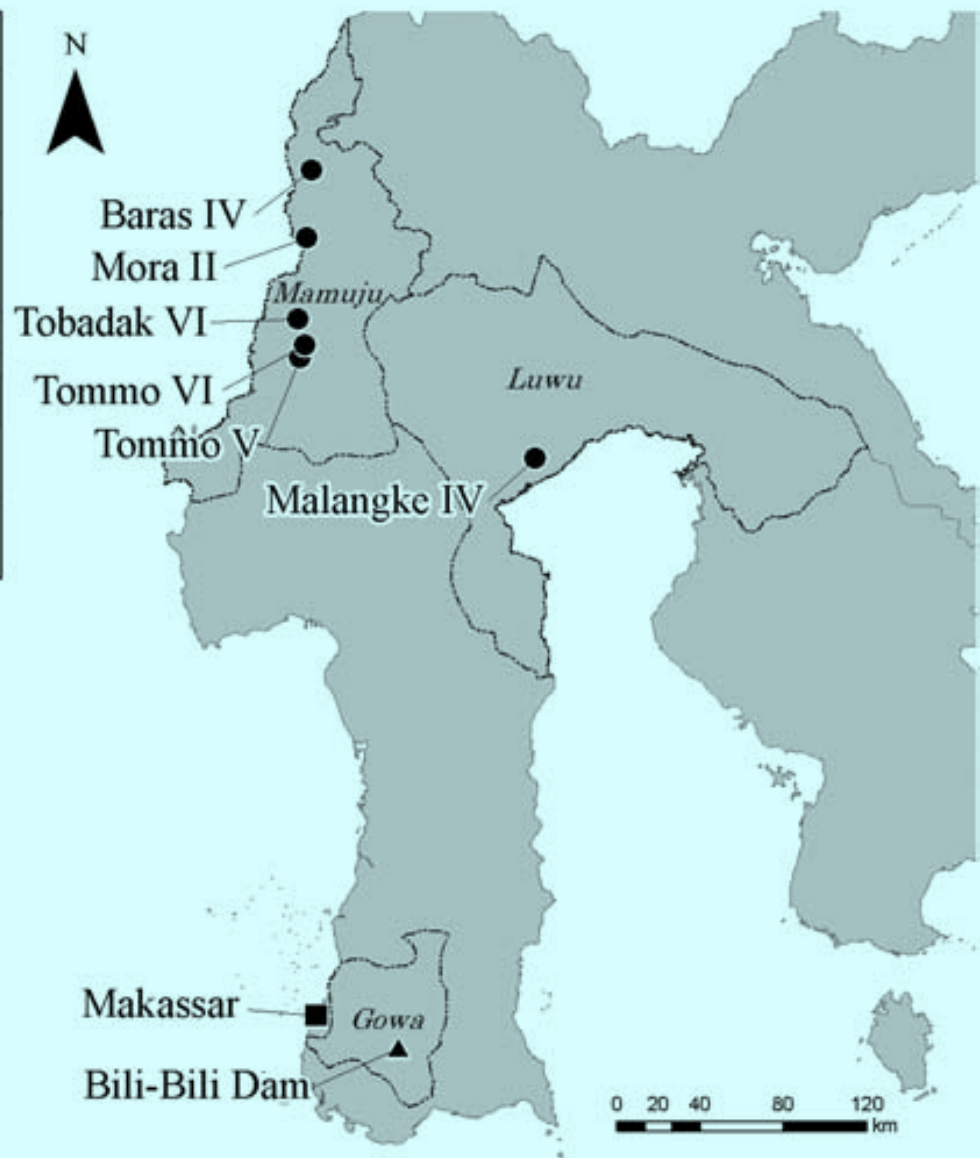
- 
- ✓ **MONEY** for **LAND** (including houses and plants) for all PAFs
  - ✓ Free to decide their own destinations
  - ✓ Infrastructure development for expected destinations (reservoir vicinity and transmigration site)
  - ✓ Special arrangement for transmigration program

# COMPENSATION for Project Affected Families (PAFs)



	<b>DESTINATION</b>	<b>Number of HHs</b>	<b>Year of resettled</b>
1.	<b>Reservoir Vicinity</b>	1079 (51.8%)	1989 - 1995
2.	<b>Urban Areas</b>	415 (19.9%)	1989 – 1995
3.	<b>Transmigration Area</b>		
	<i>a. Luwu District)</i>	200 (9.6%)	1990 -1991
	<i>b. Mamuju District</i>	391 (18.8%)	1991 - 1995
	<b>TOTAL</b>	<b>2085</b>	

Number of PAFs by destination





- TP was not developed specifically to accommodate PAFs but rather to accommodate transmigrants from densely populated islands, including Java and Bali.
- Throughout the twentieth century, the Dutch and subsequently the Indonesian governments set up internal migration policies in Indonesia to tackle the problems caused by population pressure on the land resources in Java and Bali in order that the people could attain self-sufficiency with their rice production.
- These policies entailed moving populations from the overcrowded islands to the thinly populated neighbouring islands of Sumatra, Kalimantan and Sulawesi. At the beginning of the TP, each transmigrant family was offered a piece of land and tools for slash-and-burn farming

(Barral & Poncet, 2007).

# TRANSMIGRATION PROGRAM

Name of transmigration unit	Number of families by year of resettlement					Total number of families
	1990–91	1991–92	1992–93	1993–94	1994–95	
Mamuju District						391
Tommo V	–	194	–	–	–	194
Tommo VI	6	–	50	30	–	86
Tobadak VI	–	–	–	42	–	42
Baras IV	34	–	–	–	–	34
Mora II	–	–	–	–	35	35
Luwu District						200
Malangke IV	200	–	–	–	–	200
Total	240	194	50	72	35	591

*Source:* Interviews with staff of the Transmigration Office of South Sulawesi Province, 1997

Details of PAFs to transmigration area



Site

(Result : resettlers condition at Malangke worse than  
locals

resettlers condition at Mamuju better than  
before )

Third : **Survey on Condition of Returnees at Reservoir  
Vicinity**

# SURVEYS TIMELINE

# Survey on Condition of Returnees at Reservoir Vicinity

*Target: 'returnees'*

*PAFs returning from transmigration areas to the reservoir vicinity*

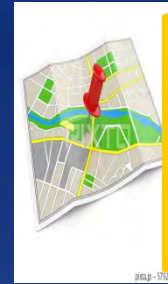
*Objective : to examine the role of the TP as an additional option in the relocation scheme*





# PROFILE OF RESPONDENTS (101 HHs)

Respondents are  
Head of PAFs or  
member who have  
experience living in  
transmigration area



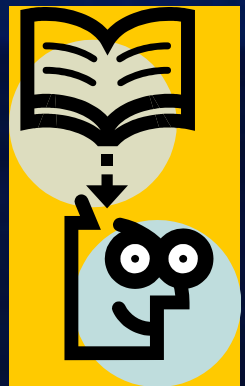
48 Luwu  
53 Mamuju



**Female : 67**

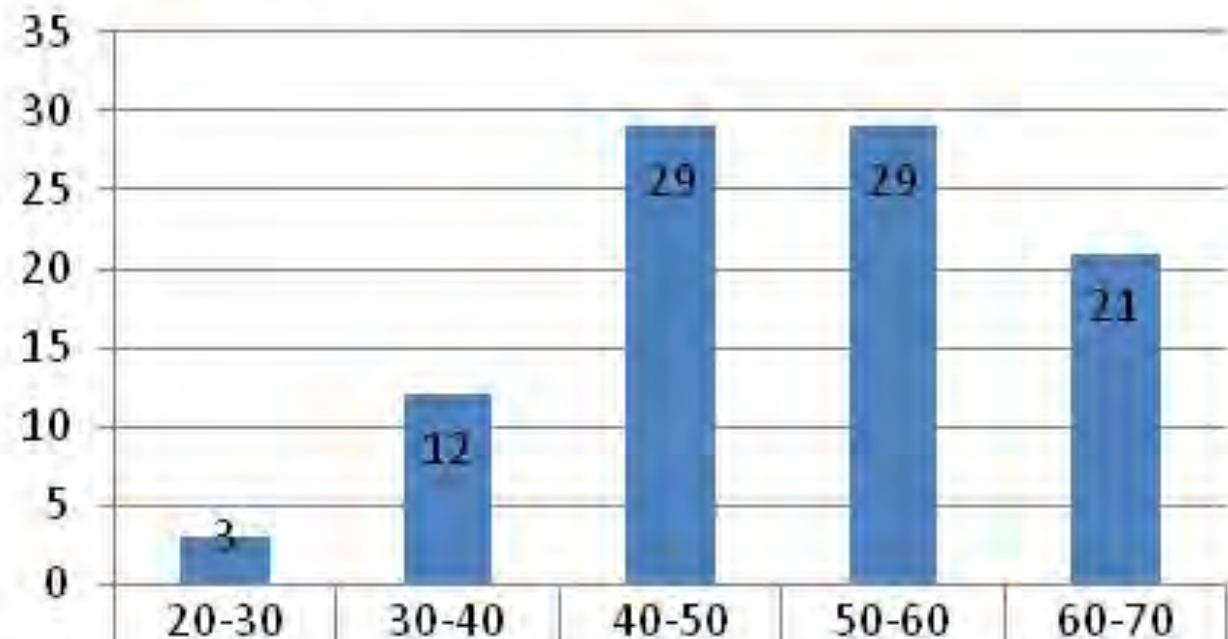
**Male : 34**

**Education :** Illiteracy (25),  
Primary school (46),  
Junior High school  
(15),  
senior High (9)



# number of respondents

■ number of respondents



number of respondents

3

12

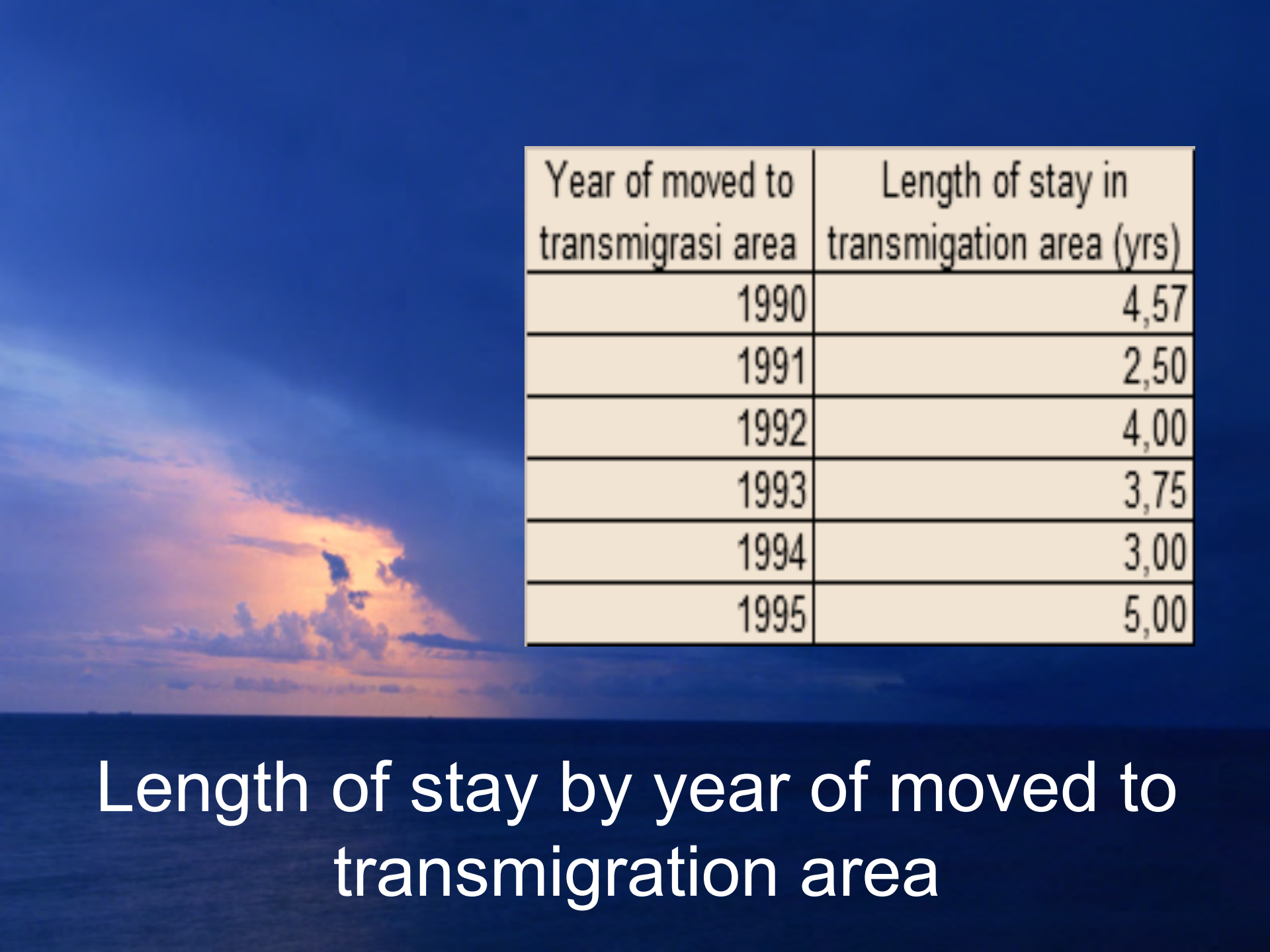
29

29

21

## Age Distribution of Respondents





Year of moved to transmigrasi area	Length of stay in transmigration area (yrs)
1990	4,57
1991	2,50
1992	4,00
1993	3,75
1994	3,00
1995	5,00

Length of stay by year of moved to transmigration area

Table 2. Families' reasons for returning to the reservoir vicinity.

Reasons	From Mamuju	From Luwu	Total
Low productivity/income/floods	15	24	39
Land disputes	3	16	19
Insurmountable hardship	6	0	6
Desire to reunite with families remaining in the original vicinity	14	4	18
Livelihood unfavorable/safety reasons	3	4	7
Desire for better access to children's education	4	0	4
Health and age-related problems	8	0	8
TOTAL	53	48	101

REASONS for Returning to home town and  
problem they faced



Table 3. Land ownership of returnees.

Land ownership (ha)	Mamuju			Luwu		
	Original vicinity	TP area	Present location	Original vicinity	TP area	Present location
> 2.0	10	5	4	6	2	4
2.0	2	32	0	0	0	0
1 to <2.0	19	7	6	9	2	3
0.1 to <1.0	17	9	33	32	44	32
0	5	0	10	1	0	9
Total	53	53	53	48	48	48

# Land Ownership of Returnees

Table 4. Changes in the occupation of returnees.

Occupation	Mamuju			Luwu		
	Original vicinity	TP area	Present residence	Original vicinity	TP area	Present residence
Self-employed farmer	45	52	35	42	46	29
Tenant farmer	5	1	7	6	0	8
Government employee	0	0	0	0	0	0
Company employee	1	0	0	0	0	3
Trader/businessman	1	0	3	0	0	2
Labourer	0	0	5	0	0	3
Unemployed	0	0	2	0	2	1
Others	1	0	1	0	0	2
Total	53	53	53	48	48	48

# Changes in Occupation



Suitable : 79  
Not suitable : 22

satisfied 70  
not satisfied 31



impression on compensation



**85** HHs using the compensation money to purchase house and or land

- ❖ 64 house and building houses
- ❖ 21 land only (for house or agricultural land)

Other usages are

for food, education, motorcycle and about 10 HHs using money for Haj to Mecca and 9 HHs for Wedding ceremony

**HOW they use the compensation money**

Table 6. Number of project-affected families who were relocated and who purchased their present home, in four time periods.

		Mamuju			Luwu		
Period		Relocation to TP	Returned to reservoir vicinity	Purchased/ built present home	Relocation to TP	Returned to reservoir vicinity	Purchased/ built present home
1	1990–1991			5	48	4	8
2	1991–1995	53	32	18		36	20
3	1995–2000		14	21		6	11
4	2001–2006		7	7		2	9
TOTAL		53	53	51*	48	48	48

\*Two of the returnees moved in with relatives and do not own their own homes.

MOVED out and returned to reservoir vicinity

- 100 close to family and extended family
- 75 better infrastructure
- 72 schools and health services better
- 66 easier get job



Reasons for chosen  
the current location





– house of returnees :

24 very good ;

68 moderate ;

19 bad

– how they owned the house

- 86 purchased by themselves

- 13 received from parents or local government

- 2 moved in with other relatives

– House in transmigration area

- 27 sold ; 26 other family member still live there

- 25 just left do not know

# Existing house condition of returnees

Table 5. Comparison of assets and utilities of returnees.


Assets	Mamuju			Luwu			Total		
	Original vicinity	TP area	Present residence	Original vicinity	TP area	Present residence	Original vicinity	TP area	Present residence
TV	17	4	51	9	3	44	26	7	95
Motorcycle	9	3	40	5	0	26	14	3	66
Refrigerator	0	1	31	2	0	21	2	1	52
Access to electricity	13	1	52	5	1	41	18	2	93
Own toilet	11	18	47	18	23	42	29	41	89

		Original domicile	Transmigration area	Present residence
1.	Better house	14	3	84
2.	Toilet	27	43	83
3.	Piped water	0	0	32
4.	Main water source (Well)	84	99	30
5.	Electricity	17	1	92
6.	Refrigerator	2	1	52
7.	Motorcycle	14	1	67
8.	Irrigation water sufficiency	23	46	9

# Poverty indicators





- 
- 38 Married to locals
  - 32 Success and better life because:
    - hard workers
    - receiving good land , fertile and not flooded
  - 25 have no options
    - 15 Do not have land in home town
    - 10 Do not have family anymore in home town
  - 6 Do not know

REASONS for stay in Transmigration Area  
(according to returnees)



- existing job ?  
80 satisfied
- current domicile?  
92 satisfied
- want to live here for  
long time? 96 yes



general satisfaction

# *Discussion points*

- The resettlement scheme for the Bili-Bili Dam development provided cash compensation for all PAFs and offered the additional support to join the Transmigration Program.
- The cash compensation provided wide options for the PAFs, and about 70% chose to stay close to their original vicinity or relocated to urban areas. Even the PAFs joined TP, most of them purchased the land at the original vicinity





- Indonesia has experienced rapid economic growth throughout the past two decades, even the PAFs who relocated to the reservoir vicinity may still engage in non-agricultural sectors of work.
- While all participants in the TP experienced hardships, 40% of PAFs in Mamuju successfully established their livelihood. Most returnees also obtained land and houses in the reservoir vicinity by taking advantage of the TP and are satisfied with their present conditions.

# *Conclusion*

- Cash compensation was relevant to most of the PAFs. The resettlement scheme was fairly successful, except for a small number of poor families who benefitted from neither the cash compensation nor the TP.
- The TP still need improvements in implementation but significantly gave additional support for the disadvantaged group.

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*THANK YOU*

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