

WATER AVAILABILITY IN WUA RENGANG

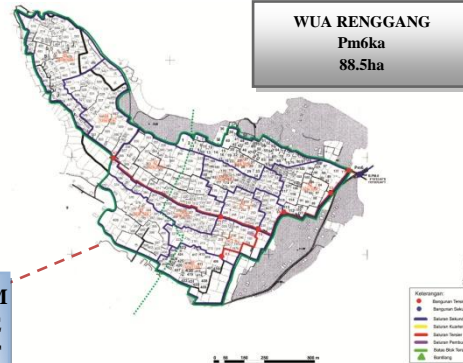
Dorothea Agnes Rampisela, Ratna Maruddin, Bulaeng, and Claudiayanti

INTRODUCTION

Rice fields within WUA Renggang measure 88.5ha in total, some experiencing water insufficiency during the first dry season planting of 2012 (May-August). Suspected causes were insufficient water supply at the downstream end of the primary canal, or water loss or mismanagement at the local tertiary level grids, at the upstream end of Pammase Canal. This research is intended to analyze main causes of irrigation water irrigation in WUA Renggang during the First Dry Season Planting of 2012.

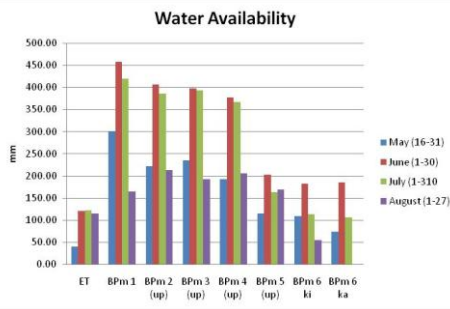
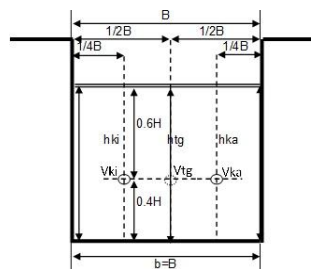
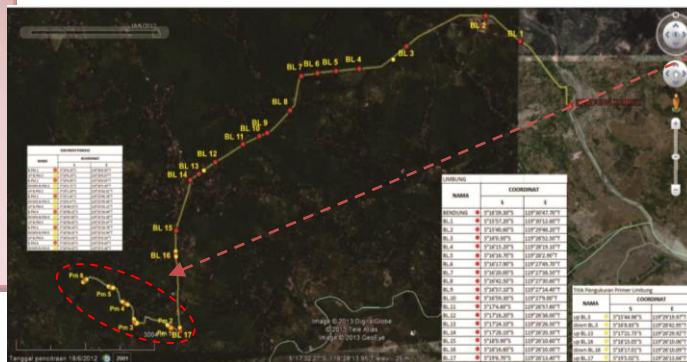
Time and location

- Research was conducted in the months of May to August of 2012.
- Research location was the Pammase Secondary Canal, which supplies the fields of Kalebajeng and Tanabangka Villages, West Bajeng Subdistrict, Gowa District.



METHODS

- Measurement of secondary canal debit was conducted on a weekly basis on seven points of the upstream end of each tertiary plot watergate.
- Measurement of water debit and field observation were conducted in participatory manner, involving caretakers of FWUA Sirannuang, which is comprised of eighteen WUAs, one of which is WUA Renggang
- Rainfall rate measurement utilizes automatic measuring devices, yielded data every ten minutes.
- Estimation of plants' water needs was set in the timeframe of May 15 to August 15, 2012.



Time	ET (mm)	Water Inflow Pammase SC (mm)	Water Discharge (mm)						Rainfall (mm)	DS (mm)	
			Pm 1	Pm 2 up	Pm 3 up	Pm 4 up	Pm 5 up	Pm 6 ki			Pm 6 ka
May (16-31)	39,91	269,8	300,3	222,1	234,8	192,7	114,5	108,3	73,7	3,6	42,37
June (1-30)	120,25	410,0	457,8	406,6	397,4	376,7	202,6	181,4	184,9	70,8	157,16
July (1-31)	122,29	390,4	419,3	385,7	392,6	366,5	162,5	112,7	105,8	25	160,46
August (1-27)	111,40	163,7	212,4	192,8	205,1	168,5	53,7	0,0	0,0	0,6	49,66
Total	393,85	1.234,0	1.389,8	1.207,2	1.229,8	1.104,4	533,3	402,4	364,4	100	

- Water shortages during the first dry season planting in the downstream areas of Kampili Irrigation Area were not caused by water supply problems at the primary nor the secondary canals.
- Water shortages were caused by water loss at Pm4 tertiary block, as well as inactivity of WUA caretakers.



- This water shortage problems should have been solved at local level, where the caretakers of FWUA Sirannuang should be able to coordinate properly between watergate custodians, caretakers of WUA Tunirannuang, Binabbasa and Renggang, supported by Heads of Villages of Kalebajeng and Binabbasa.
- Improve water management on tertiary blocks Pm5, Pm6ki, and Pm6ka; which should be prioritized due to limited water supply potential.

CONCLUSION

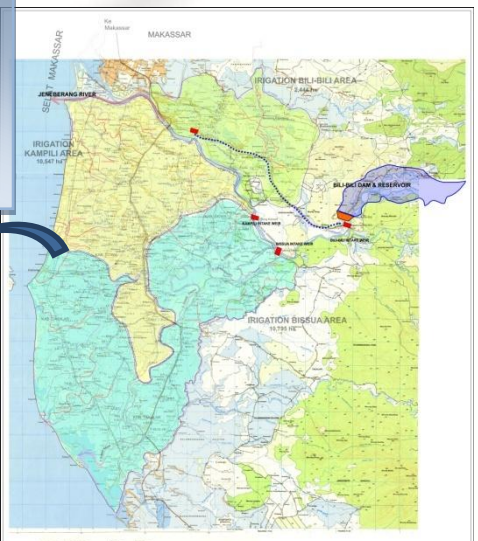
KINDS OF CROPS IN FWUA SIRANNUANG

Dorothea Agnes Rampisela



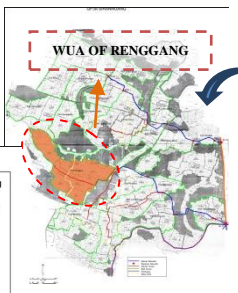
FWUA Sirannuang, located in the Kampili Irrigation Area, is 663.26ha in size and is comprised of eighteen WUAs. Eleven of those WUAs acquire water from BL 16 to irrigate 390.79ha of fields, via the Majannang Secondary Canal. Six other WUAs acquire water from BL 17 to irrigate fields 272.47ha in size via the Pammase Secondary Canal.

INTRODUCTION

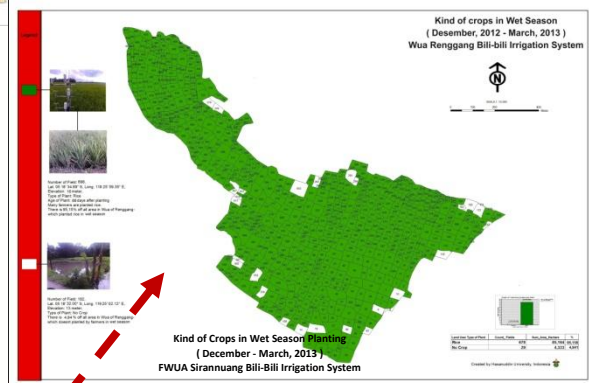
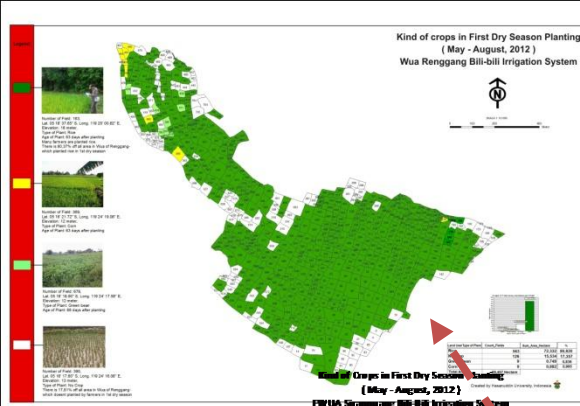


PARTICIPATORY APPROACH

SUPPORT FROM LOCAL GOVERNMENT



SOLUTION (ACTION PLAN) BY LOCAL FARMER (P3A FARMER)



PREDICTION OF PAST CROP COVERAGE

EACH CROP COLOR

COLOR SEPARATION

FIELD SURVEY DATA OF PERSENT CROP

GIS SIMULATION

GIS

CHECK GROUND

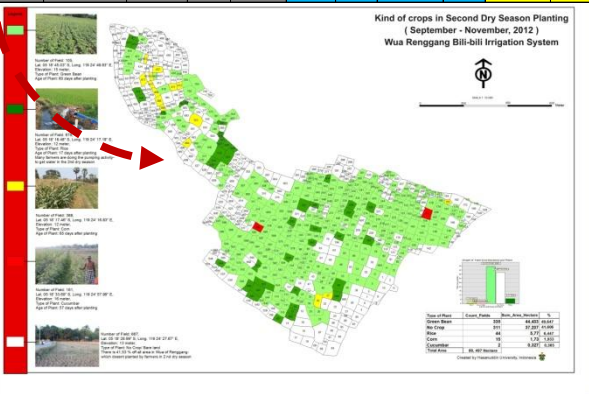
No	Name of Wua	Tertiary Blok	Total (Ha)	Irrigated				Non-irrigated				
				Paddy (Ha)	%	Mung Beans (Ha)	%	Corn (Ha)	%			
1	Campaga	Mg 1 Ki	11.14	2.43	21.81	2.43	21.81	8.71	78.19	0.00	0.00	
2	Batangkaluku	Mg 2 Ki	20.01	19.28	96.35	19.28	96.35	0.73	3.73	0.00	0.00	
3	Lompo Batua	Mg 3 Ka	19.48	17.63	90.50	17.63	90.50	1.85	9.50	0.00	0.00	
4	Sajeneva	Mg 3 Ki	15.50	6.09	39.29	6.09	39.29	9.41	60.71	0.00	0.00	
5	Kolasa	Mg 4 Ki	27.40	18.81	68.58	18.81	68.58	2.18	10.42	0.00	0.00	
6	Tangka Bata	Mg 4 Ki	42.80	40.17	93.85	40.17	93.85	2.43	5.70	0.00	0.00	
7	Bontolungga	Mg 6 Ki (Hulu)	21.33	21.33	100.00	21.33	100.00	0.00	0.00	0.00	0.00	
8	Bontobona	Mg 7 Ki (Hulu)	22.65	4.31	19.03	4.31	19.03	18.34	80.97	0.00	0.00	
9	Bajipamal	Mg 6 Ki (Hilir)	18.08	18.07	100.00	18.07	100.00	0.00	0.00	0.00	0.00	
10	Bontob	Mg 7 Ki (Hilir)	26.41	26.03	98.56	26.03	98.56	3.18	12.03	0.00	0.00	
11	Luwotota	Mg 7 Ki (Hilir)	37.51	15.83	42.19	15.83	42.19	21.88	58.33	0.00	0.00	
Saluran Majannang				390.79	390.71	97.46	390.71	97.46	88.08	22.54	0.00	0.00
Saluran Pammase				272.47	272.47	100.00	272.47	100.00	0.00	0.00	0.00	0.00
Total				663.26	663.18	99.99	663.18	99.99	128.62	19.40	0.00	0.00

Name of Wua	Tertiary Blok	Total (Ha)	Luar Bangk (Ha)	Irrigated (%)	Total Irrigated (Ha)	%	Total Non-irrigated (Ha)		
							Paddy	%	
Campaga	Mg 1 Ki	11.14	0.38	3.41	11.14	100.00	0.00	0.00	
Batang Kaluku	Mg 2 Ki	20.01	0.13	0.65	20.01	100.00	0.00	0.00	
Lompo Batua	Mg 3 Ka	19.48	0.00	0.00	19.48	100.00	0.00	0.00	
Sajeneva	Mg 3 Ki	15.50	0.00	0.00	15.50	100.00	0.00	0.00	
Kolasa	Mg 4 Ki	27.40	0.00	0.00	27.40	100.00	0.00	0.00	
Tangka Bata	Mg 4 Ki	42.80	0.00	0.00	42.80	100.00	0.00	0.00	
Bontolungga	Mg 6 Ki (Hulu)	21.33	0.54	2.52	21.33	100.00	0.00	0.00	
Bontobona	Mg 7 Ki (Hulu)	22.65	0.00	0.00	22.65	100.00	0.00	0.00	
Bajipamal	Mg 6 Ki (Hilir)	18.08	0.00	0.00	18.08	100.00	0.00	0.00	
Bontob	Mg 7 Ki (Hilir)	26.41	1.38	5.22	26.41	100.00	0.00	0.00	
Luwotota	Mg 7 Ki (Hilir)	37.51	0.00	0.00	37.51	100.00	0.00	0.00	
Saluran Majannang				390.79	7.38	1.89	390.79	100.00	0.00
Saluran Pammase				272.47	0.00	0.00	272.47	100.00	0.00
Total				663.26	13.41	2.02	663.26	100.00	0.00

Kind of Crops in Second Dry Season Planting (September - November, 2012) FWUA Sirannuang Bill-bill Irrigation System

Name of Wua	Tertiary Blok	Total (Ha)	Total Irrigated (Ha)	%	Non-irrigated										Total Non-irrigated (Ha)						
					Paddy (%)	Mung Beans (%)	Soybean (%)	Corn (%)	Vegetables (%)	Crop (%)	No Crop (%)										
Campaga	Mg 1 Ki	11.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Batangkaluku	Mg 2 Ki	20.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Lompo Batua	Mg 3 Ka	19.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Sajeneva	Mg 3 Ki	15.50	0.00	0.00	1.52	9.81	6.43	41.48	0.00	0.00	0.00	2.15	13.87	30.10	65.16	5.4	34.84	15.50			
Kolasa	Mg 4 Ki	27.40	0.00	0.00	1.32	6.28	13.8	65.65	0.00	0.00	0.00	0.00	35.12	71.93	5.9	28.07	21.02				
Tangka Bata	Mg 4 Ki	42.80	0.00	0.00	2.63	6.17	6.66	15.63	0.00	0.00	0.00	0.00	9.29	21.81	33.31	78.19	42.60				
Bontolungga	Mg 6 Ki (Hulu)	21.33	0.00	0.00	0.72	3.21	10.95	50.82	0.00	0.00	0.00	0.87	4.04	0.00	22.54	105.81	41.50				
Bontobona	Mg 7 Ki (Hulu)	22.65	0.00	0.00	1.06	3.20	17.98	52.58	0.00	0.00	0.85	2.95	0.00	19.89	89.21	8.84	30.77	28.73			
Bajipamal	Mg 6 Ki (Hilir)	18.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Bontob	Mg 7 Ki (Hilir)	26.41	0.00	0.00	11.06	21.43	0.00	2.9	5.62	1.5	2.91	15.46	29.95	36.16	70.95	51.62	26.41				
Luwotota	Mg 7 Ki (Hilir)	37.51	0.00	0.00	1.25	3.21	8.87	22.98	0.00	0.00	0.00	0.72	25.91	27.78	74.09	35.11	37.51				
Saluran Majannang				390.79	0.00	0.00	13.82	3.54	138.76	35.40	0.00	0.00	6.13	17.21	3.65	193.28	41.51	228.53	59.47	390.79	
Saluran Pammase				272.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total				663.26	0.00	0.00	35.15	5.30	328.60	49.54	14.13	2.19	9.99	1.45	3.85	0.58	393.32	58.994	271.94	41.00	663.26

Kind of Crops in Second Dry Season Planting (September - November, 2012) Wua Renggang Bill-bill Irrigation System



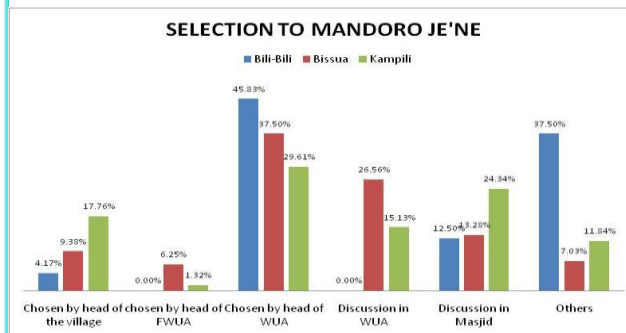
PROFILE OF WATER MASTERS OF BILI-BILI IRRIGATION SYSTEM

Dorothea Agnes Rampisela, Ratna Maruddin Bulaeng and Dwi Ratnasari

Introduction

Distribution of irrigation water of Bili-Bili, Bissua, and Kampili Irrigation Areas' WUAs are regulated by a water master. Currently, there are 304 persons currently serving as a water master,

A water master is typically appointed in a WUA meeting, with the following prerequisites: diligent, fair, and responsible over his office in maintaining availability of water for other farmers. Some are appointed by Heads of WUA or Heads of Villages. Most of the custodians are over 30 years old, with primary school education.

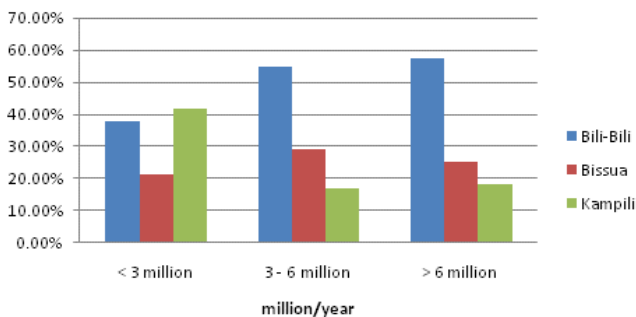


Income

Almost all water masters are also farmers, with a total of net income of IDR 3 – 5 million annually.



Average Income



Duties of a Water master

A water master's work area is at the same subvillage as his domicile. His work area usually does not exceed 25ha. Therefore, it is common for a WUA to employ more than one custodians. The custodian is responsible for distributing water, repairing canals, and collecting dues. His dedication to fair distribution of water not out of obeisance to an authority figure, but out of his personal sense of responsibility of his duties as a water master. The water distribution usually places higher priority on downstream plots, and lower priority on unstream plots.

Water masters receive payment in form of 'inkind'. Dues are typically paid during harvesting in the form of unhulled rice grains (one bucket per one rice plot). The collected dues are to be shared with other WUA board members

Payment