

**Japan International Cooperation Agency (JICA)**

**Ministry of Settlement and Regional Infrastructure (MOSRI)  
The Republic of Indonesia**

**THE STUDY  
ON  
COMPREHENSIVE RECOVERY PROGRAM  
OF  
IRRIGATION AGRICULTURE**

**VOLUME-5**

**ANNEX-II (3/3)**

**Priority List  
of  
Irrigation Schemes  
for  
Rehabilitation  
(South Sulawesi Province)**

**February 2004**

**Nippon Koei Co., Ltd.**

AFA
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04-18
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### Irrigation Scheme

Name of Scheme	Registered Area (Ha)	Subject Area (Ha)
1. Bayang-Bayang	5,030	ST 4,121
2. Bontomanai	3,976	ST 3,297
3. Bettu	1,817	ST 1,802
4. Bontonyeleng	1,096	ST 1,079
5. Jenemarrung	1,052	ST 975
6. Pamukulu	4,526	T 4,480
7. Aparang I	1,049	ST 1,049
8. Aparang Hulu	1,094	ST 1,094
9. Bantimurung	6,513	T 5,717
10. Lekopancing	3,626	T 2,483
11. Padaelo	2,958	T 2,462
12. Leang Lonrong	1,229	T 1,229
13. Palakka	4,633	T 3,260
14. Pattiro	4,970	T 4,739
15. Unyi	1,310	T 1,136
16. Jalling	1,777	T 1,301
17. Lanca	1,084	ST 676
18. Sanrego	9,457	T 5,676
19. Salobunne	1,386	T 1,296
20. Leworeng	2,258	T 2,187
21. Tinco Kiri	2,620	T 2,620
22. Cillallang	1,113	ST 1,113
23. Alekarajae	1,253	ST 1,253
24. Bulucenrana	5,999	T 5,583
25. Bulutimorang	5,692	T 4,950
26. Kalosi	1,004	T 838
27. Padang Sappa	12,588	T 10,889
28. Bajo	7,000	ST 6,462
29. Pagang Alipan	1,200	ST 795
30. Makawa	1,775	NT 1,000
31. Lamasi Kanan	5,485	T 5,170
32. Maloso, Sekka	2,991	T 2,357
33. Lakejo	1,265	T 960
34. Gamo-Gamo	4,820	T 4,743
35. Kanjiro	1,491	ST 1,301
36. Bone-Bone	2,754	T 2,625
37. Kalaena Kanan I	6,615	T 6,332
38. Kalaena Kiri	4,671	T 3,536
39. Kalaena Kanan II	5,077	T 3,787
40. Kalaena (Rt. Bendung)	2,730	T 2,154
41. Kuri-Kuri, Kasambi	3,000	ST 3,000

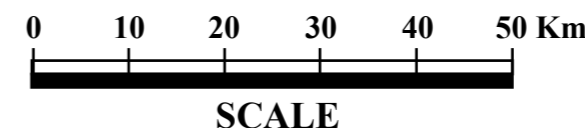
T : Technical Irrigation  
 ST : Semi-Technical Irrigation  
 NT : Non-Technical Irrigation

### LEGEND

- Capital City of Province
- Capital Town of District
- Municipal City
- Provincial Boundary
- District Boundary
- Provincial Road
- River
- Irrigation Scheme
- Technical Irrigation
- Semi-Technical Irrigation
- Non-Technical Irrigation



### Study Area: South Sulawesi Province



The Study on Comprehensive Recovery Program  
 of Irrigation Agriculture  
 Japan International Cooperation Agency

Location Map of Irrigation Schemes  
 in South Sulawesi Province

**THE STUDY  
ON  
COMPREHENSIVE RECOVERY PROGRAM  
OF  
IRRIGATION AGRICULTURE  
IN  
THE REPUBLIC OF INDONESIA**

**Volume-5**

**ANNEX-II (3/3)  
PRIORITY LIST OF THE IRRIGATION SCHEMES FOR REHABILITATION  
(South Sulawesi Province)**

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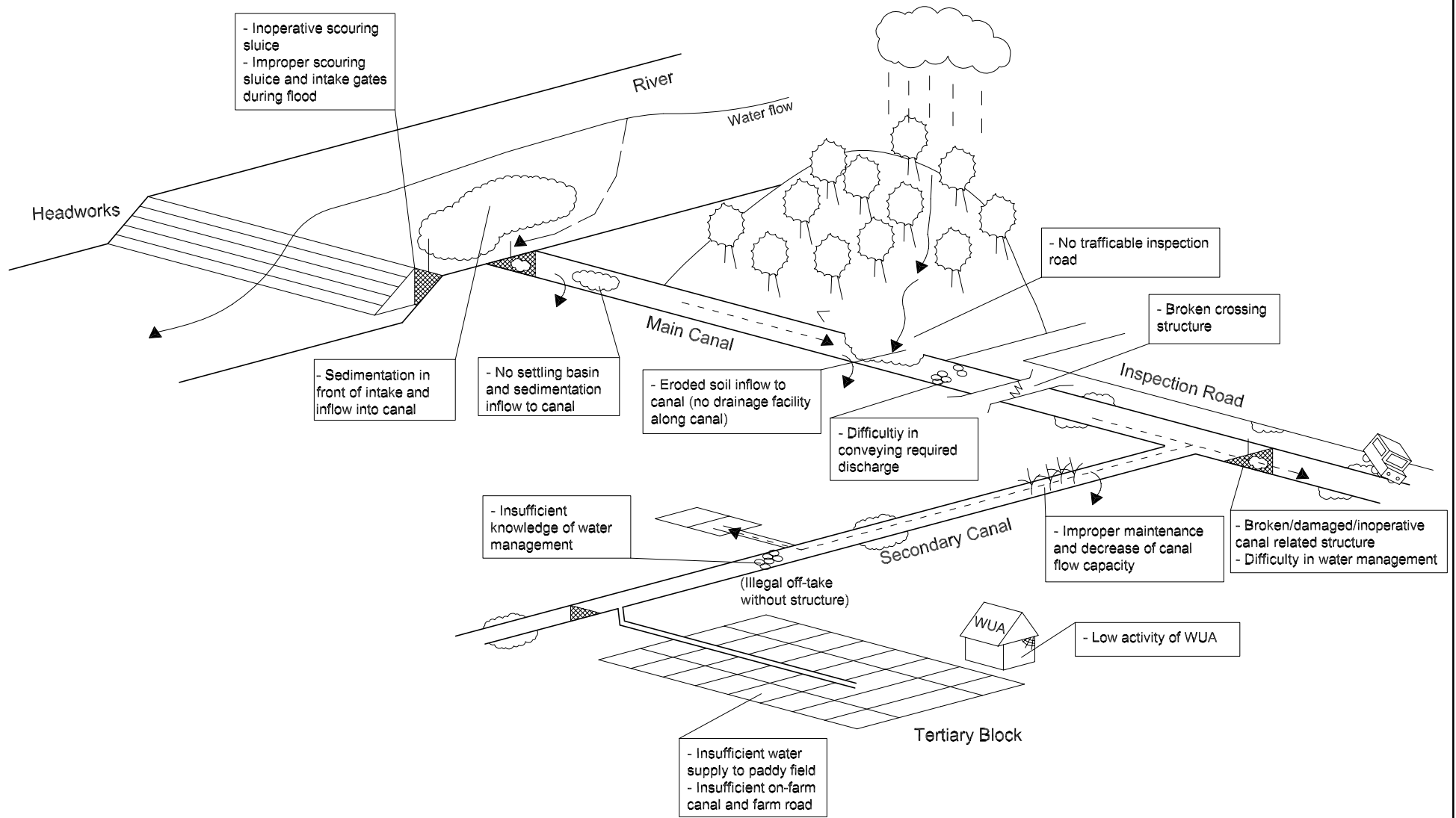
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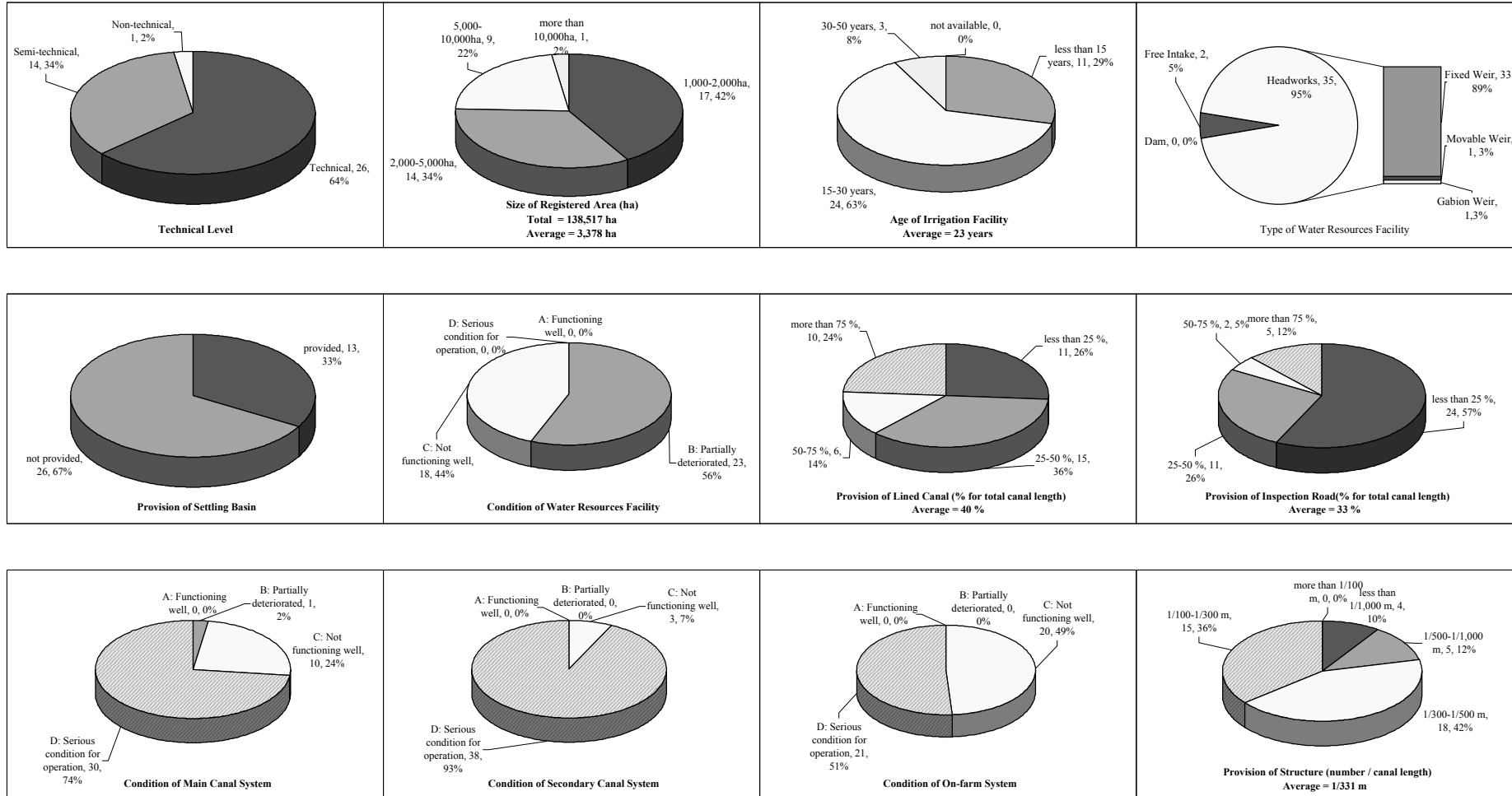
# ***PART-I***

## ***Present Condition of the Irrigation Schemes (Provincial Summary)***



Identified Common Problems on Irrigation System

## Provincial Summary of Irrigation Schemes (South Sulawesi Province)



Remarks: Explanation of graph shows 1) Classification, 2) Number of schemes, and 3) percentage.



**Present Condition of Water Resource Facility  
South Sulawesi Province**

No.	Irrigation Scheme	District	Technical Level <sup>1)</sup>	Registered Area (ha)	Age of the Facilities (years)	Catchment Area (km <sup>2</sup> )	Type of Facility	Type of Weir	Length of Weir (m)	Design Intake Discharge (m <sup>3</sup> /s)	No. of Scouring Sluice Gate	No. of Intake Gate	Provision of Settling Basin	Provision of Inspection Bridge	Condition	
1.	Bayang-Bayang	Bulukumba	ST	5,030	29	50	Free Intake	-	-	5.6	-	0	not provided	-	C	
2.	Bontomanai	Bulukumba	ST	3,976	5	57	Headworks	Fixed weir	50	6.0	3	4	provided	provided	C	
3.	Bettu	Bulukumba	ST	1,817	20	66	Headworks	Fixed weir	36	2.9	1	1	not provided	not provided	B	
4.	Bontonyeleng	Bulukumba	ST	1,096	13	68	Headworks	Fixed weir	40	2.0	2	2	not provided	not provided	B	
5.	Jenemarung	Takalar	ST	1,052	28	44	Headworks	Fixed weir	45	1.2	1	2	not provided	not provided	C	
6.	Pamakulu	Takalar	T	4,526	18	110	Headworks	Fixed weir	30	7.0	1	2	not provided	not provided	C	
7.	Aparang I	Sinjai	ST	1,049	28	111	Headworks	Fixed weir	46	1.4	1	1	not provided	not provided	B	
8.	Aparang Hulu	Sinjai	ST	1,094	18	49	Headworks	Fixed weir	13	1.3	1	1	not provided	not provided	C	
9.	Bantimurung	Maros	T	6,513	17	18	Headworks	Fixed weir	25	8.8	1	2	not provided	provided	C	
10.	Lekopancing	Maros	T	3,626	21	277	Headworks	Fixed weir	24	4.4	N/A	3	not provided	not provided	B	
11.	Padaelo	Pangkep	T	2,958	27	150	Headworks	Fixed weir	65	4.7	1	2	not provided	not provided	B	
12.	Leang Lonrong	Pangkep	T	1,229	15	31	Headworks	Fixed weir	8	0.9	2	4	not provided	not provided	B	
13.	Palakka	Bone	T	4,633	23	4,637	Headworks	Fixed weir	40	7.0	1	2	provided	not provided	B	
14.	Pattiro	Bone	T	4,970	76	143	Headworks	Fixed weir	37	8.1	1	2	not provided	not provided	C	
15.	Unyi	Bone	T	1,310	19	N/A	Headworks	Fixed weir	22	2.0	1	2	not provided	not provided	B	
16.	Jalling	Bone	T	1,777	18	N/A	Headworks	Fixed weir	21	2.7	1	1	not provided	not provided	B	
17.	Lanca	Bone	ST	1,084	11	-	Spring Water Intake	-	5	1.2	-	2	not provided	not provided	C	
18.	Sanrego	Bone	T	6,618	13	176	Headworks	Fixed weir	46	12.9	2	3	not provided	provided	B	
19.	Salobunne	Soppeng	T	1,386	74	44	Headworks	Fixed weir	25	2.5	1	1	not provided	not provided	C	
20.	Leworeng	Soppeng	T	2,258	9	112	Headworks	Fixed weir	32	1.8	1	2	not provided	not provided	C	
21.	Tinco Kiri	Soppeng	T	2,620	9	63	Headworks	Fixed weir	61	3.6	2	4	provided	not provided	B	
22.	Cillallang	Wajo	ST	1,113	35	58	Headworks	Movable weir	8	1.1	-	2	not provided	provided	C	
23.	Alekarajae	Sidrap	ST	1,253	28	63	Headworks	Fixed weir	18	1.5	1	1	not provided	not provided	B	
24.	Bulucenrana	Sidrap	T	5,999	55	514	Headworks	Fixed weir	81	8.6	1	3	not provided	not provided	C	
25.	Bulutimorang	Sidrap	T	5,692	9	74	Headworks	Fixed weir	30	7.4	1	2	provided	not provided	C	
26.	Kalosi	Pinrang	T	1,004	23	17	Headworks	Fixed weir	44	1.5	2	2	not provided	not provided	C	
27.	Padang Sappa	Luwu	T	12,588	18	783	Headworks	Fixed weir	106	15.1	5	3	provided	not provided	B	
28.	Bajo	Luwu	ST	7,000	33	316	Headworks	Fixed weir	62	8.4	1	2	provided	not provided	C	
29.	Pagang Alipan	Luwu	ST	1,200	26	115	Headworks	Fixed weir	36	2.4	1	1	provided	not provided	B	
30.	Makawa	Luwu	NT	1,775	32	108	Headworks	Fixed weir	60	3.1	1	1	not provided	not provided	C	
31.	Lamasi Kanan	Luwu	T	5,485	20	305	Headworks	Fixed weir	80	7.5	2	2	provided	not provided	C	
32.	Maloso, Sekka	Polmas	T	2,991	7	808	Free Intake	-	-	4.9	-	1	not provided	-	B	
33.	Lakejo	Polmas	T	1,265	17	39	Headworks	Fixed weir	36	3.0	1	1	not provided	not provided	B	
34.	Gamo-Gamo	Polmas	T	4,820	7	71	Headworks	Fixed weir	14	5.2	6	7	provided	provided	B	
35.	Kanjiro	Luwu Utara	ST	1,491	9	120	Headworks	Gabion weir	20	2.6	1	2	provided	not provided	C	
36.	Bone-Bone	Luwu Utara	T	2,754	20	45	Headworks	Fixed weir	40	3.8	1	2	provided	provided	B	
37.	Kalaena Kanan I	Luwu Utara	T	6,615	23	-	-	-	-	-	-	-	-	-	B	
38.	Kalaena Kiri	Luwu Utara	T	4,043	23	945	Headworks	2) Fixed weir	104	8.0	2	2	provided	provided	B	
39.	Kalaena Kanan II	Luwu Utara	T	5,077	23	-	-	-	-	-	-	-	-	-	B	
40.	Kalaena (Rt. Bendung)	Luwu Utara	T	2,730	23	1,070	Headworks	2) Fixed weir	104	19.3	2	3	provided	provided	B	
41.	Kuri-Kuri, Kasambi	Luwu Utara	ST	3,000	10	-	Headworks	Fixed weir	40	2.9	1	1	not provided	not provided	B	
<b>Total</b>				<b>138,517</b>												
<b>Average</b>				<b>3,378</b>	<b>23</b>	<b>299</b>			<b>42</b>							
<b>Itemized Total</b>			T : 26 ST : 14 NT : 1				dam : 0 headworks : 35 free intake : 2 spring water intake : 1	fixed weir : 33 movable weir : 1 gabion weir : 1				provided : 13 not provided : 26	provided : 8 not provided : 29	A : 0 B : 23 C : 18 D : 0		

Note: 1) : T: Technical, ST: Semi-technical, NT: Non-technical  
2) : Water is supplied from Kalaena headworks.  
N/A : no information was available  
Condition: A: Functioning well, B: Partially deteriorated, C: Not functioning well, D: Serious condition for operation  
Source: Inventory Survey Works for the Study on Comprehensive Recovery Program of Irrigation Agriculture

**Present Condition of Irrigation Canal  
South Sulawesi Province**

No.	Irrigation Scheme	District	Technical Level <sup>1)</sup>	Registered Area (ha)	Age of the Facilities (years)	Main Canal					Secondary Canal					On-farm
						Lined Length (m)	Unlined Length (m)	No. of Related Structures	Length of Inspection Road (m)	Condition	Lined Length (m)	Unlined Length (m)	No. of Related Structures	Length of Inspection Road (m)	Condition	Condition
1.	Bayang-Bayang	Bulukumba	ST	5,030	29	3,265	2,735	14	0	D	0	33,810	25	0	D	D
2.	Bontomanai	Bulukumba	ST	3,976	5	1,587	5,213	30	0	D	9,886	7,702	66	0	D	D
3.	Bettu	Bulukumba	ST	1,817	20	1,007	0	1	0	D	11,220	0	51	0	D	D
4.	Bontonyeleng	Bulukumba	ST	1,096	13	4,394	0	11	0	D	4,528	0	10	0	D	D
5.	Jenemarrung	Takalar	ST	1,052	28	634	0	2	0	D	1,977	7,143	21	0	D	D
6.	Pamukulu	Takalar	T	4,526	18	7,509	9,790	101	17,299	C	15,292	21,539	121	36,831	D	C
7.	Aparang I	Sinjai	ST	1,049	28	3,542	250	8	0	D	2,650	5,548	19	0	D	D
8.	Aparang Hulu	Sinjai	ST	1,094	18	1,755	200	11	0	D	2,873	3,000	13	0	D	D
9.	Bantimurung	Maros	T	6,513	17	870	13,130	68	11,000	D	35,650	5,100	122	16,000	C	D
10.	Lekopancing	Maros	T	3,626	21	5,057	699	38	0	D	20,061	8,334	133	18,361	D	C
11.	Padaelo	Pangkep	T	2,958	27	3,000	230	15	3,230	C	5,000	16,679	85	17,453	D	C
12.	Leang Lonrong	Pangkep	T	1,229	15	3,248	4,831	37	0	D	0	0	0	0	D	C
13.	Palakka	Bone	T	4,633	23	11,092	2,923	87	7,297	D	15,230	4,174	101	7,350	D	C
14.	Pattiro	Bone	T	4,970	76	9,708	2,900	36	5,335	D	14,804	22,595	97	2,509	D	C
15.	Unyi	Bone	T	1,310	19	9,053	0	45	0	D	5,734	1,500	26	0	D	C
16.	Jalling	Bone	T	1,777	18	13,516	0	75	7,150	C	0	3,950	5	0	D	C
17.	Lanca	Bone	ST	1,084	11	0	0	0	0	D	1,506	8,127	51	0	D	D
18.	Sanrego	Bone	T	6,618	13	4,000	7,490	24	11,490	D	2,488	52,605	339	13,467	D	D
19.	Salobunne	Soppeng	T	1,386	74	3,436	0	16	0	D	8,503	2,032	30	0	D	C
20.	Leworeng	Soppeng	T	2,258	9	835	0	2	736	B	22,149	0	54	5,336	C	C
21.	Tinco Kiri	Soppeng	T	2,620	9	2,075	1,461	9	0	D	0	25,073	20	0	D	D
22.	Cillallang	Wajo	ST	1,113	35	2,533	3,849	10	0	D	0	0	0	0	D	D
23.	Alekarajae	Sidrap	ST	1,253	28	3,396	3,400	18	0	D	0	4,823	12	0	D	D
24.	Bulucenrana	Sidrap	T	5,999	55	6,614	2,315	15	6,895	C	14,772	18,874	79	0	D	C
25.	Bulutimorang	Sidrap	T	5,692	9	1,909	0	2	1,909	C	14,981	30,586	71	0	D	D
26.	Kalosi	Pinrang	T	1,004	23	1,116	0	3	0	D	7,732	600	10	0	D	D
27.	Padang Sappa	Luwu	T	12,588	18	3,867	6,297	29	1,676	D	5,156	42,804	134	4,776	D	C
28.	Bajo	Luwu	ST	7,000	33	500	1,600	5	0	D	0	47,275	8	0	D	D
29.	Pagang Alipan	Luwu	ST	1,200	26	375	1,281	13	1,656	D	3,785	2,224	33	0	D	D
30.	Makawa	Luwu	NT	1,775	32	1,761	1,539	14	0	D	1,231	2,229	25	0	D	D
31.	Lamasi Kanan	Luwu	T	5,485	20	11,009	1,870	62	11,279	D	0	32,928	73	5,700	D	C
32.	Maloso, Sekka	Polmas	T	2,991	7	6,714	0	1	6,714	C	0	18,723	23	0	D	D
33.	Lakejo	Polmas	T	1,265	17	402	0	1	0	D	7,307	1,400	24	0	D	D
34.	Gamo-Gamo	Polmas	T	4,820	7	300	770	2	1,070	C	3,614	26,376	43	7,389	D	C
35.	Kanjiro	Luwu Utara	ST	1,491	9	3,278	2,673	41	2,077	C	3,649	4,280	36	2,500	D	C
36.	Bone-Bone	Luwu Utara	T	2,754	20	9,771	7,207	58	16,978	C	1,405	5,017	15	6,422	D	C
37.	Kalaena Kanan I	Luwu Utara	T	6,615	23	1,371	4,989	34	6,360	D	14,687	25,184	108	35,245	D	C
38.	Kalaena Kiri	Luwu Utara	T	4,043	23	2,500	14,578	52	7,689	D	1,000	16,306	59	10,500	D	C
39.	Kalaena Kanan II	Luwu Utara	T	5,077	23	0	14,533	28	14,533	D	0	23,168	63	0	D	C
40.	Kalaena (Rt. Bendung)	Luwu Utara	T	2,730	23	11,331	0	29	11,331	C	15,006	40	35	15,046	C	C
41.	Kuri-Kuri, Kasambi	Luwu Utara	ST	3,000	10	9	7,416	2	0	D	0	769	2	0	D	C
<b>Total</b>				<b>138,517</b>		<b>158,339</b>	<b>126,169</b>	<b>1,049</b>	<b>153,704</b>		<b>273,876</b>	<b>532,517</b>	<b>2,242</b>	<b>204,885</b>		
<b>Average</b>				<b>3,378</b>	<b>23</b>	<b>3,862</b>	<b>3,077</b>	<b>26</b>	<b>3,749</b>		<b>6,680</b>	<b>12,988</b>	<b>55</b>	<b>4,997</b>		
Itemized Total			T : 26							A : 0					A : 0	
			ST : 14							B : 1					B : 0	
			NT : 1							C : 10					C : 20	
										D : 30					D : 21	

Note: 1) T: Technical, ST: Semi-technical, NT: Non-technical

Condition: A: Functioning well, B: Partially deteriorated, C: Not functioning well, D: Serious condition for operation

Source: Inventory Survey Works for the Study on Comprehensive Recovery Program of Irrigation Agriculture

**Present Ratio of Irrigation Facility Provision  
South Sulawesi Province**

No.	Irrigation Scheme	District	Technical Level <sup>1)</sup>	Registered Area (ha)	Age of the Facilities (years)	Density of Canal (m/ha)			Lined Canal Provision Ratio			Inspection Road Provision Ratio			Structure Provision Ratio (m/nos)			
						MC	SC	Total	MC	SC	Total	MC	SC	Total	MC	SC	Total	
1.	Bayang-Bayang	Bulukumba	ST	5,030	29	1.5	8.2	9.7	54%	0%	8%	0%	0%	0%	429	1,352	1,021	
2.	Bontomanai	Bulukumba	ST	3,976	5	2.1	5.3	7.4	23%	56%	47%	0%	0%	0%	227	266	254	
3.	Bettu	Bulukumba	ST	1,817	20	0.6	6.2	6.8	100%	100%	100%	0%	0%	0%	1,007	220	235	
4.	Bontonyeleng	Bulukumba	ST	1,096	13	4.1	4.2	8.3	100%	100%	100%	0%	0%	0%	399	453	425	
5.	Jenemarrung	Takalar	ST	1,052	28	0.7	9.4	10.0	100%	22%	27%	0%	0%	0%	317	434	424	
6.	Pamukulu	Takalar	T	4,526	18	3.9	8.2	12.1	43%	42%	42%	100%	100%	100%	171	304	244	
7.	Aparang I	Sinjai	ST	1,049	28	3.6	7.8	11.4	93%	32%	52%	0%	0%	0%	474	431	444	
8.	Aparang Hulu	Sinjai	ST	1,094	18	1.8	5.4	7.2	90%	49%	59%	0%	0%	0%	178	452	326	
9.	Bantimurung	Maros	T	6,513	17	2.4	7.1	9.6	6%	87%	67%	79%	39%	49%	206	334	288	
10.	Lekopancing	Maros	T	3,626	21	2.3	11.4	13.8	88%	71%	74%	0%	65%	54%	151	213	200	
11.	Padaelo	Pangkep	T	2,958	27	1.3	8.8	10.1	93%	23%	32%	100%	81%	83%	215	255	249	
12.	Leang Lonrong	Pangkep	T	1,229	15	6.6	0.0	6.6	40%	No Canal	40%	0%	No Canal	0%	218	No Canal	218	
13.	Palakka	Bone	T	4,633	23	4.3	6.0	10.3	79%	78%	79%	52%	38%	44%	161	192	178	
14.	Pattiro	Bone	T	4,970	76	2.7	7.9	10.6	77%	40%	49%	42%	7%	16%	350	386	376	
15.	Unyi	Bone	T	1,310	19	8.0	6.4	14.3	100%	79%	91%	0%	0%	0%	201	278	229	
16.	Jalling	Bone	T	1,777	18	10.4	3.0	13.4	100%	0%	77%	53%	0%	41%	180	790	218	
17.	Laoca	Bone	ST	1,084	11	0.0	14.3	14.3	No Canal	16%	16%	No Canal	0%	0%	No Canal	189	189	
18.	Sanrego	Bone	T	6,618	13	2.0	9.7	11.7	35%	5%	10%	100%	24%	37%	479	163	183	
19.	Salobunne	Soppeng	T	1,386	74	2.7	8.1	10.8	100%	81%	85%	0%	0%	0%	215	351	304	
20.	Leworeng	Soppeng	T	2,258	9	0.4	10.1	10.5	100%	100%	100%	88%	24%	26%	418	410	410	
21.	Tinco Kiri	Soppeng	T	2,620	9	1.3	9.6	10.9	59%	0%	7%	0%	0%	0%	393	1,254	987	
22.	Cillallang	Wajo	ST	1,113	35	5.7	0.0	5.7	40%	No Canal	40%	0%	No Canal	0%	638	No Canal	638	
23.	Alekarajae	Sidrap	ST	1,253	28	5.4	3.8	9.3	50%	0%	29%	0%	0%	0%	378	402	387	
24.	Bulucenrana	Sidrap	T	5,999	55	1.6	6.0	7.6	74%	44%	50%	77%	0%	16%	595	426	453	
25.	Bulutimorang	Sidrap	T	5,692	9	0.4	9.2	9.6	100%	33%	36%	100%	0%	4%	955	642	650	
26.	Kalosi	Pinrang	T	1,004	23	1.3	9.9	11.3	100%	93%	94%	0%	0%	0%	372	833	727	
27.	Padang Sappa	Luwu	T	12,588	18	0.9	4.4	5.3	38%	11%	16%	16%	10%	11%	350	358	357	
28.	Bajo	Luwu	ST	7,000	33	0.3	7.3	7.6	24%	0%	1%	0%	0%	0%	420	5,909	3,798	
29.	Pagang Alipan	Luwu	ST	1,200	26	2.1	7.6	9.6	23%	63%	54%	100%	0%	22%	127	182	167	
30.	Makawa	Luwu	NT	1,775	32	3.3	3.5	6.8	53%	36%	44%	0%	0%	0%	236	138	173	
31.	Lamasi Kanan	Luwu	T	5,485	20	2.5	6.4	8.9	85%	0%	24%	88%	17%	37%	208	451	339	
32.	Maloso, Sekka	Polmas	T	2,991	7	2.8	7.9	10.8	100%	0%	26%	100%	0%	26%	6,714	814	1,060	
33.	Lakejo	Polmas	T	1,265	17	0.4	9.1	9.5	100%	84%	85%	0%	0%	0%	402	363	364	
34.	Gamo-Gamo	Polmas	T	4,820	7	0.2	6.3	6.5	28%	12%	13%	100%	25%	27%	535	697	690	
35.	Kanjiro	Luwu Utara	ST	1,491	9	4.6	6.1	10.7	55%	46%	50%	35%	32%	33%	145	220	180	
36.	Bone-Bone	Luwu Utara	T	2,754	20	6.5	2.4	8.9	58%	22%	48%	100%	100%	100%	293	428	321	
37.	Kalaena Kanan I	Luwu Utara	T	6,615	23	1.0	6.3	7.3	22%	37%	35%	100%	88%	90%	187	369	326	
38.	Kalaena Kiri	Luwu Utara	T	4,043	23	4.8	4.9	9.7	15%	6%	10%	45%	61%	53%	328	293	310	
39.	Kalaena Kanan II	Luwu Utara	T	5,077	23	3.8	6.1	10.0	0%	0%	0%	100%	0%	39%	519	368	414	
40.	Kalaena (Rt. Bendung)	Luwu Utara	T	2,730	23	5.3	7.0	12.2	100%	100%	100%	100%	100%	100%	391	430	412	
41.	Kuri-Kuri, Kasambi	Luwu Utara	ST	3,000	10	2.5	0.3	2.7	0%	0%	0%	0%	0%	0%	3,713	385	2,049	
<b>Total</b>				<b>138,517</b>														
<b>Average of the province</b>				<b>3,378</b>	<b>23</b>	<b>2.3</b>	<b>6.6</b>	<b>9.0</b>	<b>56%</b>	<b>34%</b>	<b>40%</b>	<b>54%</b>	<b>25%</b>	<b>33%</b>	<b>271</b>	<b>360</b>	<b>331</b>	
Itemized Total					T : 26													
					ST : 14													
					NT : 1													

Note: 1): T: Technical, ST: Semi-technical, NT: Non-technical  
MC: Main Canal, SC: Secondary Canal

Source: Inventory Survey Works for the Study on Comprehensive Recovery Program of Irrigation Agriculture

**Summary of Existing Condition and Development Plan  
South Sulawesi Province**

No.	Irrigation Scheme	District	Existing Condition											Development Plan									
			Technical Level <sup>1)</sup>	Registered Area (ha)	Age of Facility as of year 2003 (years)	Water Resources Facility			Canal and Related Facility			Terminal Facility and On Farm		Subject Area (ha)	Water Resources Facility		Canal and Related Facility			Terminal Facility and On Farm			
						Facility	Settling Basin	Condition	MC length (km)	SC length (km)	Nos. of Related Structures (nos.)	Condition			Grade of Rehabilitation	Settling Basin	Grade of Rehabilitation		MC length (km)	SC length (km)	Nos. of Related Structures (nos.)	Land/On-farm Development (ha)	
												MC	SC				MC	SC				Potential Area	Non-Potential Area
1	Bayang-Bayang	Bulukumba	ST	5,030	29	Free Intake	not provided	C	6,000	33,810	39	D	D	4,121	RG3	new construction	RG4	RG4	5,412	33,269	41	3,582	539
2	Bontomanai	Bulukumba	ST	3,976	5	Headworks	provided	C	6,800	17,588	96	D	D	3,297	RG3	large rehabili.	RG4	RG4	6,208	17,518	104	3,149	148
3	Bettu	Bulukumba	ST	1,817	20	Headworks	not provided	B	1,007	11,220	52	D	D	1,802	RG2	new construction	RG4	RG4	1,108	13,464	70	1,802	-
4	Bontonyeleng	Bulukumba	ST	1,096	13	Headworks	not provided	B	4,394	4,528	21	D	D	1,079	RG2	new construction	RG4	RG4	4,833	5,434	27	1,079	-
5	Jenemarrang	Takalar	ST	1,052	28	Headworks	not provided	C	0,634	9,120	23	D	D	975	RG3	new construction	RG4	RG4	0,697	10,944	31	975	-
6	Pamukulu	Takalar	T	4,526	18	Headworks	not provided	C	17,299	36,831	222	C	D	4,480	RG3	new construction	RG3 & RG4	RG4	17,299	36,831	256	4,480	-
7	Aparang I	Sinjai	ST	1,049	28	Headworks	not provided	B	3,792	8,198	27	D	D	1,049	RG2	new construction	RG4	RG4	4,171	9,838	35	1,049	-
8	Aparang Hulu	Sinjai	ST	1,094	18	Headworks	not provided	B	1,955	5,873	24	D	D	1,094	RG3	new construction	RG4	RG4	2,151	7,048	31	941	153
9	Bantimurung	Maros	T	6,513	17	Headworks	not provided	C	14,000	40,750	190	D	C	5,717	RG3	new construction	RG4	RG3 & RG4	12,320	35,860	195	5,717	-
10	Lekopancing	Maros	T	3,626	21	Headworks	not provided	B	5,756	28,395	171	D	D	2,483	RG2	new construction	RG4	RG4	3,914	19,309	137	2,483	-
11	Padaelo	Pangkep	T	2,958	27	Headworks	not provided	B	3,230	21,679	100	C	D	2,462	RG2	new construction	RG4	RG4	2,681	17,994	98	2,462	-
12	Leang Lonrong	Pangkep	T	1,229	15	Headworks	not provided	B	8,079	0,000	37	D	D	1,229	RG2	new construction	RG4	RG4	8,079	-	41	1,229	-
13	Palakka	Bone	T	4,633	23	Headworks	provided	B	14,015	19,404	188	D	D	3,260	RG2	minor rehabili.	RG4	RG4	9,811	13,583	152	3,260	-
14	Pattiro	Bone	T	4,970	76	Headworks	not provided	C	12,608	37,399	133	D	D	4,739	RG4	new construction	RG4	RG4	12,608	37,399	156	4,739	-
15	Uinyi	Bone	T	1,310	19	Headworks	not provided	B	9,053	7,234	71	D	D	1,136	RG2	new construction	RG4	RG4	7,876	6,294	70	1,136	-
16	Julling	Bone	T	1,777	18	Headworks	not provided	B	13,516	3,950	80	C	D	1,301	RG2	new construction	RG3 & RG4	RG4	9,867	2,884	65	1,301	-
17	Lanca	Bone	ST	1,084	11	Spring Water Intake	not provided	C	0,000	9,633	51	D	D	676	RG3	new construction	RG4	RG4	-	7,167	43	676	-
18	Santego	Bone	T	6,618	13	Headworks	not provided	B	11,490	55,093	363	D	D	5,676	RG2	new construction	RG4	RG4	9,881	47,380	373	5,676	-
19	Salobunne	Soppeng	T	1,386	74	Headworks	not provided	C	3,436	10,535	46	D	D	1,296	RG4	new construction	RG4	RG4	3,436	10,535	54	1,296	-
20	Leworeng	Soppeng	T	2,258	9	Headworks	not provided	C	0,835	22,149	56	B	C	2,187	RG3	new construction	RG2	RG3 & RG4	0,835	22,149	67	2,187	-
21	Tinco Kiri	Soppeng	T	2,620	9	Headworks	provided	B	3,536	25,073	29	D	D	2,620	RG2	minor rehabili.	RG4	RG4	3,536	25,073	34	2,620	-
22	Cillallang	Wajo	ST	1,113	35	Headworks	not provided	C	6,382	0,000	10	D	D	1,113	RG3	new construction	RG4	RG4	7,020	-	12	201	912
23	Alekarajae	Sidrap	ST	1,253	28	Headworks	not provided	B	6,796	4,823	30	D	D	1,253	RG2	new construction	RG4	RG4	7,476	5,788	38	1,253	-
24	Bulucenrana	Sidrap	T	5,999	55	Headworks	not provided	C	8,929	33,646	94	C	D	5,583	RG4	new construction	RG4	RG4	8,929	33,646	111	5,583	-
25	Bulatimorang	Sidrap	T	5,692	9	Headworks	provided	C	1,909	45,567	73	C	D	4,950	RG3	large rehabili.	RG3 & RG4	RG4	1,661	39,643	76	4,950	-
26	Kalosi	Pinrang	T	1,004	23	Headworks	not provided	C	1,116	8,332	13	D	D	838	RG3	new construction	RG4	RG4	0,926	6,916	13	838	-
27	Padang Sappa	Luwu	ST	12,588	18	Headworks	provided	B	10,164	47,960	163	D	D	10,889	RG2	minor rehabili.	RG4	RG4	8,843	41,725	168	4,881	6,008
28	Bajo	Luwu	ST	7,000	33	Headworks	provided	C	2,100	47,275	13	D	D	6,462	RG3	replacement	RG4	RG4	2,310	56,730	91	6,462	-
29	Pagang Alipan	Luwu	ST	1,200	26	Headworks	provided	B	1,656	6,009	46	D	D	795	RG2	minor rehabili.	RG4	RG4	1,202	4,759	40	795	-
30	Makawa	Luwu	NT	1,775	32	Headworks	not provided	C	3,300	3,460	39	D	D	1,000	RG3	minor construction	RG4	RG4	2,218	2,906	31	1,000	-
31	Lamasi Kanan	Luwu	T	5,485	20	Headworks	provided	C	12,879	32,928	135	D	D	5,170	RG2	large rehabili.	RG4	RG4	12,879	32,928	156	4,772	398
32	Maloso, Sekka	Polmas	T	2,991	7	Free Intake	not provided	B	6,714	18,723	24	C	D	2,357	RG3	new construction	RG3 & RG4	RG4	5,304	14,791	47	2,357	-
33	Lakejo	Polmas	T	1,265	17	Headworks	not provided	B	0,402	8,707	25	D	D	960	RG2	new construction	RG4	RG4	0,306	6,617	23	960	-
34	Gamo-Gamo	Polmas	T	4,820	7	Headworks	provided	B	1,070	29,990	45	C	D	4,743	RG2	replacement	RG3 & RG4	RG4	1,070	29,990	54	4,443	300
35	Kanjiro	Luwu Utara	ST	1,491	9	Headworks	provided	C	5,951	7,929	77	C	D	1,301	RG3	replacement	RG3 & RG4	RG4	5,695	8,238	85	1,301	-
36	Bone-Bone	Luwu Utara	T	2,754	20	Headworks	provided	B	16,978	6,422	73	C	D	2,625	RG2	large rehabili.	RG4	RG4	16,978	6,422	82	2,625	-
37	Kalaena Kanan I	Luwu Utara	T	6,615	23	-	-	B	6,360	39,871	142	D	D	6,332	RG2	-	RG4	RG4	6,360	39,871	167	6,332	-
38	Kalaena Kiri	Luwu Utara	T	4,043	23	Headworks	provided	B	17,078	17,306	111	D	D	3,536	RG2	minor rehabili.	RG4	RG4	14,858	15,056	111	3,536	-
39	Kalaena Kanan II	Luwu Utara	T	5,077	23	-	-	B	14,533	23,168	91	D	D	3,787	RG2	-	RG4	RG4	10,900	17,376	80	3,787	-
40	Kalaena (Ri. Bendung)	Luwu Utara	T	2,370	23	Headworks	provided	B	11,331	15,046	64	C	C	2,154	RG2	minor rehabili.	RG4	RG4	8,951	11,886	58	2,154	-
41	Kuri-Kuri, Kasambi	Luwu Utara	ST	3,000	10	Headworks	not provided	B	7,425	0,769	4	D	D	3,000	RG2	new construction	RG4	RG4	8,168	21,679	119	995	2,005

Note: 1) T: Technical, ST: Semi-technical, NT: Non-technical  
2) Water will be supplied from integrated headworks for Panca Arga, Serbangan, and Silau Bonto schemes.  
3) Water will be supplied from integrated headworks for Sungai Silau and Sijambi schemes.  
Condition: A: Functioning well, B: Partially deteriorated, C: Not functioning well, D: Serious condition for operation  
Grade of rehabilitation: RG1: No rehabilitation, RG2: Minor rehabilitation, RG3: Large scale rehabilitation, RG4: Replacement or new construction

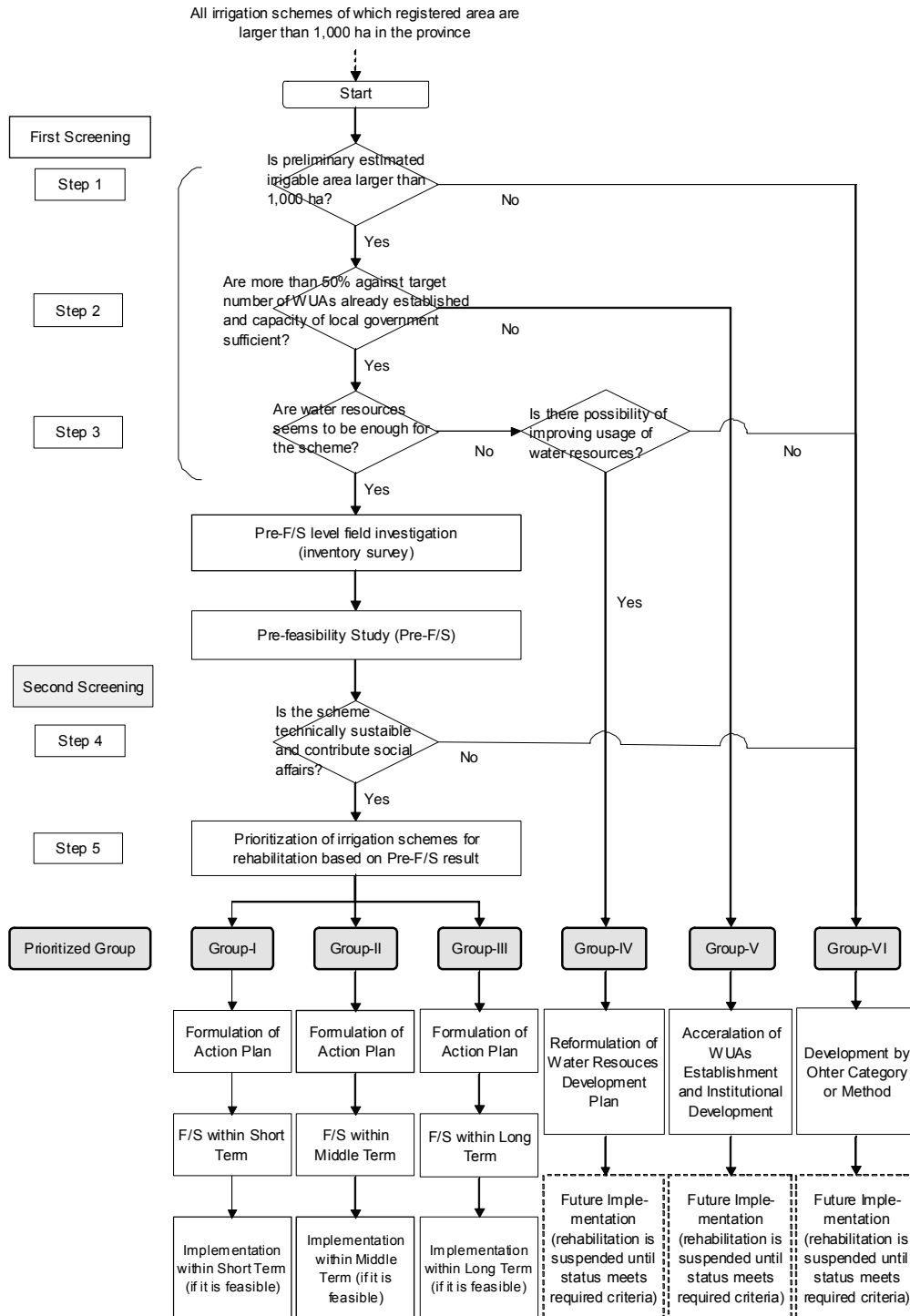
# ***PART-II***

## ***Method and Result of Prioritization of Irrigation Schemes for Rehabilitation***

# METHOD AND PROCESS FLOW OF PRIORITIZATION

## General Flow

General flow of prioritization of irrigation schemes for rehabilitation is shown below and detail descriptions of the flow are presented in following sections.



## **First Screening**

### **Step-1**

- 1.1 Collection of data on existing irrigation schemes with a registered area of more than 1,000 ha.
- 1.2 If the area of both the registered area and the estimated area were more than 1,000 ha proceeded to Step-2. If an estimated area was less than 1,000 ha, such scheme has been categorized into Group-VI.

### **Step-2**

- 2.1 Evaluation of capacities of WUA of each irrigation schemes and related district governments.
- 2.2 If more than 50% against target number of WUAs has been already established as well as the post of head of water resources and irrigation service office has been fulfilled by the third or higher rank officer, proceeded to Step-3 (1). On the other hand, if more than 50% against target number of WUAs has not been established or the said post has been vacant or fulfilled by the fourth rank officer, the scheme has been categorized into Group-V.

### **Step-3**

- 3.1 Information on water resources and irrigable area of the scheme furnished by the Dinas PSDA/project office has been adopted for the determination of the possibility for water supply for the scheme.
- 3.2 If the water resources was considered to be sufficient for the scheme according to such information, an inventory survey and pre-F/S have been carried out.
- 3.3 If the water resources were considered to be insufficient for the scheme according to the information, proceeded to Step-3 (2).
- 3.4 In case that there was a possibility of reformulation of water resources development plan, the scheme has been categorized into Group-IV. On the other hand, if there was no possibility of reformulation of water resources development plan, the scheme has been categorized into Group-VI.

## **Second Screening**

### **Step-4**

4.1 If there are such problems as low technical sustainability (high construction cost and low economic feasibility) and less contribution to the society, such scheme has been categorized into Group-VI.

## **Prioritization by Weighted Scoring Method**

### **Step-5**

5.1 Evaluation indicators for prioritization consist of issues of: (a) irrigation, (b) agricultural productivity, (c) society, and (d) economic and financial impacts. Weight of indicators are as follows and detail is shown in page 2-4 “Evaluation Indicators for Weighted Scoring”.

<b>Evaluation Indicators for Weighted Scoring</b>		
	<b>Evaluation Indicator</b>	<b>Weighted Score</b>
<b>1.</b>	<b>Issue of Irrigation Indicator</b>	<b>50</b>
1.1	Utilization of irrigation potential	(10)
1.2	Urgency of rehabilitation	(25)
1.3	Sustainability	(15)
<b>2.</b>	<b>Issue of Agriculture Productivity</b>	<b>20</b>
2.1	Current cropping intensity	(10)
2.2	Current unit yield of paddy	(10)
<b>3.</b>	<b>Issue of Society</b>	<b>15</b>
3.1	Number of beneficiaries	(7.5)
3.2	Provision of social infrastructure	(7.5)
<b>4.</b>	<b>Issue of Economic and Financial Impact</b>	<b>15</b>
4.1	Feasibility (Pre-F/S level EIRR)	(7.5)
4.2	Agriculture return per hectare	(7.5)

5.2 Based on the comprehensive examination of the above evaluation indicators in pre-F/S, priority of the schemes to be rehabilitated has been determined and listed.

## **Priority**

Based on the priority list thus prepared, recommendation of implementation procedure is made as follows:

- Group-I: Recommended as the first priority
- Group-II: Recommended as the second priority
- Group-III: Recommended as the third priority
- Group-IV: Recommended to reformulate water resources development plan
- Group-V: Recommended to accelerate WUA establishment and to empower



district government officials concerned

Group-VI: Recommended to formulate development method by other categories

The priority list classified into Groups-I to VI is presented in page 2-5 “Priority List of Irrigation Schemes for Rehabilitation”.

### Evaluation Indicators for Weighted Scoring

Issue for Evaluation	Full Score	Evaluation Index	Weight	Weighted Score	Situation for High Priority
<b>1 Issue of Irrigation System</b>	<b>50.0</b>				
1.1 Rate of Utilization of Irrigation Potential (= present irrigation paddy area / irrigated paddy area with project x 100)	10.0	(1) Less than 50 % (2) 50 - 69 % (3) 70 - 100 %	1.0 0.8 0.5	10.0 8.0 5.0	Severe problem on irrigation program achievement.
1.2 Urgency of Rehabilitation	25.0				Severe problem on irrigation facilities
1.2.1 Function of Water Resources Facility	10.0	(1) Serious condition for operation (Evaluation: D) (2) Not functioning well (Evaluation: C) (3) Partially deteriorated (Evaluation: B) (4) Functioning well (Evaluation: A)	1.0 0.8 0.6 0.4	10.0 8.0 6.0 4.0	
1.2.2 Function of Main Canal System	7.0	(1) Serious condition for operation (Evaluation: D) (2) Not functioning well (Evaluation: C) (3) Partially deteriorated (Evaluation: B) (4) Functioning well (Evaluation: A)	1.0 0.8 0.6 0.4	7.0 5.6 4.2 2.8	
1.2.3 Function of Secondary Canal System	5.0	(1) Serious condition for operation (Evaluation: D) (2) Not functioning well (Evaluation: C) (3) Partially deteriorated (Evaluation: B) (4) Functioning well (Evaluation: A)	1.0 0.8 0.6 0.4	5.0 4.0 3.0 2.0	
1.2.4 Function of On-farm System	3.0	(1) Serious condition for operation (Evaluation: D) (2) Not functioning well (Evaluation: C) (3) Partially deteriorated (Evaluation: B) (4) Functioning well (Evaluation: A)	1.0 0.8 0.6 0.4	3.0 2.4 1.8 1.2	
1.3 Sustainability of Irrigation System	15.0				Severe problem on sustainability
1.3.1 Age of the Facility	7.5	(1) More than 50 years (2) 30 - 49 years (3) 15 - 29 years (4) Less than 15 years	1.0 0.8 0.6 0.4	7.5 6.0 4.5 3.0	
1.3.2 Technical Level	7.5	(1) Non-technical level (2) Semi-technical level (3) Technical level	1.0 0.8 0.5	7.5 6.0 3.8	
<b>2 Issue of Agricultural Productivity</b>	<b>20.0</b>				
2.1 Current Cropping Intensity of Paddy (= annual cropped area of paddy / subject area x 100)	10.0	(1) Less than 100 % (2) 100 - 149 % (3) 150 - 199 % (4) More than 200 %	1.0 0.8 0.6 0.4	10.0 8.0 6.0 4.0	Severe problem on agriculture (low productivity)
2.2 Current Unit Yield of Paddy (= weighted average unit yield of irrigated & rainfed paddy in the scheme)	10.0	(1) Less than 60 % of planned target yield (2) 60 - 79 % of planned target yield (3) 80 - 100 % of planned target yield	1.0 0.8 0.5	10.0 8.0 5.0	Severe problem on agriculture (low productivity)
<b>3 Issue of Society</b>	<b>15.0</b>				Severe social problem
3.1 Contribution to Regional Economy (Current Number of Beneficiaries)	7.5	(1) Less than 30 % of with project beneficiaries (2) 30 - 59 % of with project beneficiaries (3) 60 - 89 % of with project beneficiaries (4) More than 90 % of with project beneficiaries	1.0 0.8 0.6 0.4	7.5 6.0 4.5 3.0	
3.2 Provision of Social Infrastructure (Current ratio of Inspection Road Provision)	7.5	(1) Less than 40 % of total canal length of main & secondary canal (2) 40 - 59 % of total canal length of main & secondary canal (3) 60 - 79 % of total canal length of main & secondary canal (4) 80 - 100 % of total canal length of main & secondary canal	1.0 0.8 0.6 0.4	7.5 6.0 4.5 3.0	
<b>4 Issue of Economic and Financial Impact</b>	<b>15.0</b>				High economic and financial impact
4.1 Feasibility (Pre-F/S level EIRR)	7.5	(1) More than 20 % (2) 15 - 19 % (3) 10 - 14 % (4) Less than 10 %	1.0 0.8 0.6 0.4	7.5 6.0 4.5 3.0	
4.2 Rate of Increase of Agricultural Return per ha (= planned annual gross return per ha / current annual gross return per ha x 100)	7.5	(1) More than 200 % (2) 150 - 199 % (3) Less than 150 %	1.0 0.8 0.6	7.5 6.0 4.5	
<b>TOTAL</b>	<b>100.0</b>				

## Priority List of Irrigation Schemes for Rehabilitation (South Sulawesi Province)

Irrigation Scheme	Utilization of Irrigation Potential	Function of Water Resources Facility	Function of Main Canal	Function of Secondary Canal	Function of On-farm	Factor of Deterioration by Year of Construction	Technical Level	Current Cropping Intensity	Current Unit Yield of Paddy	Contribution to Regional Economy	Provision of social infrastructure	EIRR	Rate of Increase of Gross Agricultural Return	Total Score	Ranking	Classified Group	
1 Bayang-Bayang	Group V (Accerallation of WUAs establishment)															Group V	
2 Bontomanai	Group V (Accerallation of WUAs establishment)															Group V	
3 Bettu	Group V (Accerallation of WUAs establishment)															Group V	
4 Bontonyeleng	Group V (Accerallation of WUAs establishment)															Group V	
5 Jenemarrung	Group VI (Subject area is less than 1,000 ha)															Group VI	
6 Pamukulu	(3)	(2)	(2)	(1)	(2)	(3)	(3)	(2)	(2)	(4)	(4)	(3)	(1)	68.3	16	Group II	
7 Aparang I	(3)	(3)	(1)	(1)	(1)	(3)	(2)	(3)	(3)	(4)	(1)	(4)	(3)	65.5	19	Group III	
8 Aparang Hulu	(3)	(2)	(1)	(1)	(1)	(3)	(2)	(3)	(3)	(4)	(1)	(3)	(3)	69.0	12	Group II	
9 Bantimurung	(3)	(2)	(1)	(2)	(1)	(3)	(3)	(3)	(3)	(4)	(2)	(3)	(3)	64.3	21	Group III	
10 Lekopancing	(3)	(3)	(1)	(1)	(2)	(3)	(3)	(2)	(3)	(4)	(2)	(2)	(2)	67.7	17	Group II	
11 Padaelo	(3)	(3)	(2)	(1)	(2)	(3)	(3)	(2)	(2)	(3)	(4)	(1)	(1)	70.8	4	Group I	
12 Leang Lonrong	(3)	(3)	(1)	(1)	(2)	(3)	(3)	(2)	(3)	(4)	(1)	(2)	(2)	69.2	8	Group I	
13 Palakka	(3)	(3)	(1)	(1)	(2)	(3)	(3)	(2)	(3)	(4)	(1)	(2)	(2)	69.2	8	Group I	
14 Pattiro	(3)	(2)	(1)	(1)	(2)	(1)	(3)	(3)	(3)	(4)	(1)	(4)	(2)	69.2	8	Group I	
15 Unyi	(3)	(3)	(1)	(1)	(2)	(3)	(3)	(3)	(3)	(4)	(1)	(3)	(3)	64.2	22	Group III	
16 Jalling	(3)	(3)	(2)	(1)	(2)	(3)	(3)	(2)	(3)	(4)	(1)	(3)	(2)	66.3	18	Group III	
17 Lanca	Group VI (Subject area is less than 1,000 ha)															Group VI	
18 Sanrego	(3)	(3)	(1)	(1)	(1)	(4)	(3)	(3)	(2)	(3)	(1)	(3)	(2)	69.3	7	Group I	
19 Salobunne	(3)	(2)	(1)	(1)	(2)	(1)	(3)	(3)	(3)	(4)	(1)	(3)	(2)	70.7	6	Group I	
20 Leworeng	(3)	(2)	(3)	(2)	(1)	(4)	(3)	(3)	(3)	(4)	(1)	(1)	(3)	64.5	20	Group III	
21 Tinco Kiri	(3)	(3)	(1)	(1)	(1)	(4)	(3)	(3)	(3)	(4)	(1)	(3)	(3)	63.3	24	Group III	
22 Cillallang	(1)	(2)	(1)	(1)	(1)	(2)	(2)	(2)	(2)	(1)	(1)	(1)	(1)	91.0	1	Group I	
23 Alekarajac	Group V (Accerallation of WUAs establishment)															Group V	
24 Bulucenrana	(3)	(2)	(2)	(1)	(2)	(1)	(3)	(3)	(3)	(3)	(1)	(3)	(2)	70.8	4	Group I	
25 Bulotimorang	(3)	(2)	(2)	(1)	(1)	(4)	(3)	(2)	(3)	(4)	(1)	(2)	(2)	68.9	13	Group II	
26 Kalosi	Group VI (Subject area is less than 1,000 ha)															Group VI	
27 Padang Sappa	(2)	(3)	(1)	(1)	(2)	(3)	(3)	(1)	(2)	(2)	(1)	(3)	(2)	78.7	2	Group I	
28 Bajo	Group V (Accerallation of WUAs establishment)															Group V	
29 Pagang Alipan	Group VI (Subject area is less than 1,000 ha)															Group VI	
30 Makawa	Group V (Accerallation of WUAs establishment)															Group V	
31 Lamasi Kanan	(3)	(2)	(1)	(1)	(2)	(3)	(3)	(3)	(2)	(3)	(2)	(3)	(3)	69.2	8	Group I	
32 Maloso, Sekka	(3)	(3)	(2)	(1)	(1)	(4)	(3)	(3)	(3)	(3)	(1)	(3)	(3)	63.4	23	Group III	
33 Lakejo	Group VI (Subject area is less than 1,000 ha)															Group VI	
34 Gamo-Gamo	(1)	(3)	(2)	(1)	(2)	(4)	(3)	(2)	(2)	(2)	(1)	(2)	(2)	77.3	3	Group I	
35 Kanjiro	(3)	(2)	(2)	(1)	(2)	(4)	(2)	(3)	(2)	(4)	(1)	(3)	(3)	68.5	15	Group II	
36 Bone-Bone	Group V (Accerallation of WUAs establishment)															Group V	
37 Kalaena Kanan I	Group V (Accerallation of WUAs establishment)															Group V	
38 Kalaena Kiri	(3)	(3)	(1)	(1)	(2)	(3)	(3)	(3)	(2)	(3)	(2)	(3)	(2)	68.7	14	Group II	
39 Kalaena Kanan II	Group V (Accerallation of WUAs establishment)															Group V	
40 Kalaena (Rt. Bendung)	(3)	(3)	(2)	(2)	(2)	(3)	(3)	(3)	(2)	(3)	(4)	(2)	(3)	63.3	24	Group III	
41 Kuri-Kuri, Kasambi	Group V (Accerallation of WUAs establishment)															Group V	
Average														69.3			
Itemized Total	(1)	2	0	15	22	9	3	0	1	0	1	18	3	3	Group I :	11	
	(2)	1	11	9	3	16	1	4	9	10	2	4	6	12	Group II :	6	
	(3)	22	14	1	0	0	14	21	15	15	7	0	14	10	Group III :	8	
	(4)	0	0	0	0	0	7	0	0	0	15	3	2	0	Group IV :	0	
																Group V :	11
																Group VI :	5

Source: JICA Study Team for the Study on Comprehensive Recovery Program of Irrigation Agriculture

Group I: First priority group (Ranking 1 - 9)

Group II: Second priority group (Ranking 10 - 17)

Group III: Third priority group (Ranking 18 - 25)

Group IV: Reformulation of water resources development plan

Group V: Accerallation of WUAs establishment

Group VI: Development by other category or method