

Tables

Table A-1.1.1 Administrative, Demographic and Socio-economic Features by Project District and Province in 2001: South Sulawesi

I. Administrative & Demographic Features

Province/District	Land Area		No. of Administrative Units		Population & Households											
					Population				Density (per km ²)	Urban Population		Rural Population		Households		Tranmigrant Household in 2001
	(km ²)	(%)	Sub-district	Village	Male	Female	Total	Growth Rate		(No.)	(%)	(No.)	(%)	Households No.	Family Size	
201 Bulukumba	1,155	2	10	125	170,936	183,034	353,970	0.46 %	306	49,018	14	303,401	86	83,552	4.2	-
202 Takalar	567	1	7	78	107,537	124,641	232,178	1.09 %	409	32,137	14	197,581	86	52,000	4.5	-
203 Sinjai	820	1	8	68	96,937	108,486	205,423	0.53 %	251	38,930	19	165,455	81	42,608	4.8	-
204 Maros	1,619	3	12	103	132,196	143,352	275,548	1.28 %	170	51,438	19	220,678	81	60,800	4.5	-
205 Pangkep	1,112	2	12	101	126,768	138,522	265,290	0.67 %	239	37,310	14	226,255	86	59,072	4.5	-
206 Bone	4,559	7	27	372	310,686	341,060	651,746	0.58 %	143	89,863	14	558,226	86	144,704	4.5	-
207 Soppeng	1,359	2	6	67	101,448	117,495	218,943	- 0.28 %	161	40,200	18	179,305	82	53,792	4.1	-
208 Wajo	2,506	4	14	176	170,021	187,721	357,742	0.01 %	143	73,684	21	284,036	79	83,157	4.3	-
209 Sidrap	1,883	3	11	103	114,418	124,508	238,926	0.23 %	127	56,492	24	181,927	76	55,680	4.3	100
210 Pinrang	1,962	3	12	103	154,531	157,593	312,124	0.43 %	159	54,635	18	256,198	82	69,998	4.5	-
211 Luwu	2,157	3	16	216	202,644	201,287	403,931	1.47 %	187	102,268	26	295,863	74	86,048	4.7	460
212 Polmas	4,782	8	18	253	218,167	233,429	451,596	1.10 %	94	88,367	20	358,398	80	100,867	4.5	-
213 Luwu Utara	15,513	25	19	270	227,306	214,961	442,267	2.47 %	29	39,111	9	392,569	91	99,200	4.5	-
214 Other Districts	22,368	36	103	1,191	1,716,605	1,765,503	3,482,108	n.a.	156	1,557,679	45	1,870,654	55	803,968	4.3	2,285
Province Total	62,362	100	275	3,226	3,850,200	4,041,592	7,891,792	1.16 %	127	2,311,132	30	5,490,546	70	1,795,446	4.4	2,845
Indonesia 2/	1,890,754		4,918	70,460	106,332,251	105,670,749	212,003,000	1.49 %	112	85,380,627	42	115,861,372	58	55,041,000	3.9	

II. Socio-economic Features

Province/District	Working Population & Occupation							GRDP in 2001 5/				Farm Economy (in 1996)					Population under Poverty Line ('00) (%)
	Working Population 3/		Working Population per Family	Proportion of Working Population by Sector (%) 4/				Agriculture Sector (Rp. million)	Non-agriculture Sector (Rp. million)	Per District (Rp. million)	Per Capita (Rp.000)	Estimated Annual Family		Annual Per Capita Expenditure			
	(No.)	(%)		Agriculture	Industry	Others	Total					Income (Rp.000)	Expenditure (Rp.000)	Food (Rp.000)	Non-food (Rp.000)	Total (Rp.000)	
201 Bulukumba	233,957	66.4	2.8	65	65	32	100	650,314	324,487	974,801	2,754	No data available	2,084	342	150	492	18.9
202 Takalar	151,494	65.9	2.9	60	60	32	100	278,436	263,491	541,927	2,334		2,228	339	160	499	9.4
203 Sinjai	131,581	64.4	3.1	77	77	23	100	362,551	169,561	532,112	2,590		1,757	278	87	364	19.1
204 Maros	175,943	64.3	2.9	56	56	40	100	618,438	278,044	896,482	3,253		2,377	358	166	524	11.7
205 Pangkep	170,690	64.8	2.9	58	58	37	100	280,962	933,342	1,214,304	4,577		2,645	378	211	589	19.7
206 Bone	401,832	61.3	2.8	72	72	25	100	1,320,047	657,467	1,977,514	3,034		2,385	349	180	529	26.9
207 Soppeng	153,400	69.9	2.8	72	72	26	100	397,475	301,385	698,860	3,192		2,748	392	283	675	12.7
208 Wajo	245,371	68.6	3.0	59	59	32	100	746,621	689,756	1,436,377	4,015		2,146	356	143	499	13.3
209 Sidrap	160,193	67.2	2.9	61	61	34	100	483,393	349,744	833,137	3,487		2,073	333	150	483	5.5
210 Pinrang	197,584	63.6	2.8	64	64	33	100	909,293	397,619	1,306,912	4,187		2,544	359	211	570	14.8
211 Luwu	244,670	61.5	2.9	64	64	34	100	491,829	419,023	910,852	2,255		2,390	359	150	509	31.8
212 Polmas	276,725	61.9	2.8	74	74	21	100	691,822	407,508	1,099,330	2,434		2,054	356	103	459	14.0
213 Luwu Utara	269,266	62.4	2.8	75	75	23	100	1,266,476	2,279,067	3,545,543	8,017		n.a.	n.a.	n.a.	n.a.	12.7
214 Other Districts	2,265,432	65.8	2.8	55	55	42	100	2,340,872	9,463,114	11,803,986	3,390		3,075	410	290	700	15.4
Province Total	5,078,138	65.1	2.9	62	62	35	100	10,838,529	16,933,608	27,772,137	3,519	9,537	1,448	1,028	2,476	18.2	
Indonesia 2/	135,426,402	63.9	2.5	47	8	45	100	246,298,200	1,203,099,900	1,449,398,100	6,837						

1/: Figures in 2002, if not stated otherwise 2/: Figures in 2001 based on Statistik Indonesia 2002, BPS Indonesia 3/: Estimated based on: population of age group 15 - 64 x 1.0 + age group ≥ 65 x 0.5

4/: Proportion of working population of aged 10 years and over by working sector during the previous week; Survei Sosial Ekonomi Nasional, 2001

5/: Pendapatan Regional Sulawesi Selatan Menurut Kabupaten/Kota 2001, BPS Sulawesi Selatan

Source: Sulawesi Selatan Dalam Angka (2002), BPS Sulawesi Selatan & Karakteristik Penduduk Sulawesi Selatan, Hasil Sensus Penduduk 2000, BPS Sulawesi Selatan

Table A-1.3.1 Number and Area of Irrigation Schemes in South Sulawesi

District/Municipal	Irrigation Scheme and Potential Area											
	Technical Irrigation Scheme		Semi-technical Irrigation Scheme		Non-technical Irrigation Scheme		Government Scheme Sub-total		Village Irrigation Scheme		Total	
	No.	Area (ha)	No.	Area (ha)	No.	Area (ha)	No.	Area (ha)	No.	Area (ha)	No.	Area (ha)
1 Selayar	0	0	0	0	0	0	0	0	3	300	3	300
2 Bulukumba	0	0	19	16,804	5	1,148	24	17,952	62	8,952	85	26,904
3 Bantaeng	0	0	20	6,194	0	0	20	6,194	89	11,130	109	17,324
4 Jeneponto	1	7,004	10	3,579	0	0	11	10,583	37	7,202	48	17,785
5 Takalar	2	11,131	1	1,052	1	481	4	12,664	11	2,615	15	15,279
6 Gowa	2	11,623	7	4,824	2	1,061	11	17,508	93	15,075	103	32,583
7 Sinjai	0	0	12	6,697	0	0	12	6,697	85	11,612	97	18,309
8 Maros	4	11,586	5	1,649	0	0	9	13,235	66	8,518	75	21,753
9 Pangkep	3	12,802	3	1,250	0	0	6	14,052	33	4,455	39	18,507
10 Barru	0	0	3	2,367	2	233	5	2,600	28	4,100	33	6,700
11 Bone	6	21,031	21	7,876	3	0	30	28,907	118	19,854	145	48,761
12 Soppeng	6	14,779	3	1,010	5	282	14	16,071	106	8,657	116	24,728
13 Wajo	2	10,659	1	1,821	7	558	10	13,038	17	2,627	24	15,665
14 Sidrap	7	31,142	5	3,875	2	0	14	35,017	43	7,194	54	42,211
15 Pinrang	9	43,885	4	1,460	2	150	15	45,495	54	5,560	69	51,055
16 Enrekang	0	0	0	0	11	1,467	11	1,467	46	4,804	57	6,271
17 Luwu	4	17,355	1	7,000	4	2,837	9	27,192	147	29,424	156	56,366
18 Tana Toraja	0	0	8	1,261	1	0	9	1,261	60	8,262	68	9,676
19 Polmas	5	21,950	7	3,067	5	822	17	25,839	145	12,919	160	38,758
20 Majene	0	0	0	0	3	566	3	566	14	1,612	17	2,178
21 Mamuju	0	0	1	200	2	664	3	864	26	7,444	29	8,308
22 Luwu Utara	6	22,710	1	995	6	0	13	23,705	0	0	7	23,705
23 Makasar	0	0	0	0	0	0	0	0	4	525	4	525
24 Parepare	0	0	0	0	0	0	0	0	0	0	0	0
Total	57	237,657	132	72,981	61	10,269	250	320,907	1,287	182,841	1,513	503,651

Source: Informasi Kinerja Daerah Irigasi, Dinas Pengairan Sulawesi Selatan

Table A-1.3.2 Classification of Government Irrigation Schemes by Size in South Sulawesi

District/Municipal	Class of Size														
	0 - 500 ha					500 - 1,000 ha					More than 500 ha				
	T (No.)	ST (No.)	NT (No.)	Total (No.)	Total Area (ha)	T (No.)	ST (No.)	NT (No.)	Total (No.)	Total Area (ha)	T (No.)	ST (No.)	NT (No.)	Total (No.)	Total Area (ha)
1 Selayar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Bulukumba	0	9	3	12	2,919	0	7	0	7	4,859	0	4	0	4	10,174
3 Bantaeng	0	16	0	16	3,280	0	4	0	4	2,914	0	0	0	0	0
4 Jeneponto	0	10	0	10	3,579	0	0	0	0	0	1	0	0	1	7,004
5 Takalar	0	0	1	1	483	0	0	0	0	0	2	1	0	3	12,181
6 Gowa	0	4	1	5	1,689	0	2	1	3	1,781	1	1	0	2	14,038
7 Sinjai	0	6	0	6	1,479	0	4	0	4	3,040	0	2	0	2	2,178
8 Maros	0	5	0	5	1,438	2	0	0	2	1,658	2	0	0	2	10,139
9 Pangkep	0	3	0	3	1,250	0	0	0	0	0	3	0	0	3	12,802
10 Barru	0	0	2	2	233	0	3	0	3	2,367	0	0	0	0	0
11 Bone	0	16	0	16	4,346	0	5	0	5	3,530	6	0	0	6	21,031
12 Soppeng	0	2	1	3	792	2	1	0	3	2,307	4	0	0	4	12,972
13 Wajo	0	1	3	4	759	0	0	0	0	0	2	1	0	3	12,279
14 Sidrap	0	0	0	0	480	0	3	0	3	2,142	7	1	0	8	32,395
15 Pinrang	0	5	1	6	1,610	0	0	0	0	0	9	0	0	9	43,885
16 Enrekang	0	0	11	11	1,467	0	0	0	0	0	0	0	0	0	0
17 Luwu	0	0	2	2	726	0	0	1	1	861	4	1	1	6	25,355
18 Tana Toraja	0	8	0	8	1,414	0	0	0	0	0	0	0	0	0	0
19 Polmas	0	5	3	8	2,349	1	2	0	3	2,460	4	0	0	4	21,030
20 Majene	0	0	3	3	566	0	0	0	0	0	0	0	0	0	0
21 Mamuju	0	1	2	3	864	0	0	0	0	0	0	0	0	0	0
22 Luwu Utara	0	0	0	0	0	0	1	0	1	995	6	0	0	6	22,710
23 Makasar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Parepare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	91	33	124	31,723	5	32	2	39	28,914	51	11	1	63	260,173

Source: Informasi Kinerja Daerah Irigasi, Dinas Pengairan Sulawesi Selatan

Remarks : T; Technical irrigation scheme, ST; Semi-technical irrigation scheme, NT; Non-technical irrigation scheme

Table A-1.4.1 Agro-demographic Conditions by Project District and Province: South Sulawesi

(Unit: ha & %)

Province/District	Conditions in 1993 (based on 1993 Agriculture Census)														Estimated Current Conditions in 2001							
	Total Household	Farm Household		Farm Household Use Land	Farm Household Having Activities in					Farm Household by Land Control Size 1/		Land Tenure Status of Cultivated Land (ha)				Total Household (No.)	Estimated Farm Household (No.) 2/	Total Farm Land (ha) 3/	Total Paddy Field (ha) 3/	Per Farm Household		
		No.	%		Paddy/ Palawija	Horti-culture	Estate Crops	Livestock	Farm Laborer	< 0.5 ha	≥ 0.5 ha	Own Land	Rented-out	Rented-in	Total					Farm Land (ha) 4/	Paddy Field (ha) 4/	
	No.	%																				
301 Bulukumba	No.	74,596	56,665	76	54,898	47,434	16,516	32,652	21,563	8,778	13,192	41,706	51,284	7,297	11,976	63,260	83,552	63,468	61,340	22,320	0.97	0.35
	% to Total F. H. 5/		100		97	84	29	58	38	15	24	76	81		19	100						
302 Takalar	No.	45,870	28,982	63	25,657	22,977	7,429	1,317	11,579	12,821	11,433	14,224	14,668	3,038	7,165	21,833	52,000	32,855	30,832	16,436	0.94	0.50
	% to Total F. H. 5/		100		89	79	26	5	40	44	45	55	67		33	100						
303 Sinjai	No.	37,055	29,649	80	28,471	25,682	7,775	19,538	18,935	1,966	4,706	23,765	34,395	2,472	4,617	39,012	42,608	34,092	34,471	14,183	1.01	0.42
	% to Total F. H. 5/		100		96	87	26	66	64	7	17	83	88		12	100						
304 Maros	No.	47,700	34,839	73	33,893	30,545	6,381	5,585	14,442	9,696	12,701	21,192	24,758	2,431	7,258	32,016	60,800	44,407	55,873	25,993	1.26	0.59
	% to Total F. H. 5/		100		97	88	18	16	41	28	37	63	77		23	100						
305 Pangkep	No.	52,273	32,632	62	28,807	23,282	3,088	3,426	12,705	8,895	12,426	16,381	21,143	2,218	8,757	29,900	59,072	36,876	31,786	16,189	0.86	0.44
	% to Total F. H. 5/		100		88	71	9	10	39	27	43	57	71		29	100						
306 Bone	No.	130,675	97,188	74	94,972	86,967	18,296	30,809	47,927	17,327	17,340	77,632	88,923	7,060	22,461	111,384	144,704	107,622	187,293	88,449	1.74	0.82
	% to Total F. H. 5/		100		98	89	19	32	49	18	18	82	80		20	100						
307 Soppeng	No.	51,670	35,410	69	35,295	28,464	6,707	16,931	8,971	10,318	6,653	28,642	29,818	3,683	11,301	41,119	53,792	36,864	58,854	24,802	1.60	0.67
	% to Total F. H. 5/		100		100	80	19	48	25	29	19	81	73		27	100						
308 Wajo	No.	79,359	55,570	70	53,889	43,476	13,932	19,123	14,072	8,492	8,037	45,852	57,056	7,313	21,228	78,284	83,157	58,229	137,017	86,123	2.35	1.48
	% to Total F. H. 5/		100		97	78	25	34	25	15	15	85	73		27	100						
309 Sidrap	No.	48,440	30,606	63	30,366	24,974	6,833	8,715	6,911	4,938	8,045	22,321	24,769	3,876	13,304	38,073	55,680	35,180	65,657	47,862	1.87	1.36
	% to Total F. H. 5/		100		99	82	22	28	23	16	26	74	65		35	100						
310 Pinrang	No.	61,813	40,282	65	38,531	30,385	7,194	14,686	8,023	12,736	8,291	30,240	36,797	6,852	18,042	54,839	69,998	45,616	80,075	46,215	1.76	1.01
	% to Total F. H. 5/		100		96	75	18	36	20	32	22	78	67		33	100						
311 Luwu	No.	146,881	111,662	76	108,882	74,913	20,972	64,872	28,761	17,070	17,556	91,326	137,284	8,219	15,922	153,206	86,048	65,415	74,201	38,386	1.13	0.59
	% to Total F. H. 5/		100		98	67	19	58	26	15	16	84	90		10	100		0				
312 Polmas	No.	83,232	60,914	73	58,237	44,929	10,378	35,509	10,480	10,089	21,396	36,841	42,571	2,841	9,392	51,963	100,867	73,820	105,301	27,167	1.43	0.37
	% to Total F. H. 5/		100		96	74	17	58	17	17	37	63	82		18	100						
313 Luwu Utara	No.	Included in Luwu															99,200	72,600	71,719	34,420	0.99	0.47
	% to Total F. H. 5/																					
314 Other Districts	No.	611,787	320,113	52	310,019	278,583	74,382	120,429	106,122	53,208	120,990	189,029	231,721	21,355	47,544	279,265	803,968	433,310	459,769	140,820	1.06	0.32
	% to Total F. H. 5/		100		97	87	23	38	33	17	39	61	83		17	100						
Province Total	No.	1,471,351	934,512	64	901,917	762,611	199,883	373,592	310,491	176,334	262,766	639,151	795,187	78,655	198,967	994,154	1,795,446	1,140,357	1,454,188	629,365	1.28	0.55
	% to Total F. H. 2/		100		97	82	21	40	33	19	29	71	80		20	100						

1/: No. of farmer households by size of farmlands under control (luas lahan yang dikuasai)

2/: Estimated --- proportion (%) of farm households to total households in 1993 x total households in 2001

3/: Total farm land or paddy field in province or project districts (source: Table 3.1.1.2 Agricultural Land Use)

4/: Total farm land /No. of farm households estimated or total paddy field /No. of farm households estimated

5/: Proportion (%) to total farm households

Source: Sensus Pertanian 1993, BPS, Propinsi Sulawesi Selatan

Table A-1.4.2 Agricultural Land Use by Project District and Province in 2001: South Sulawesi

(Unit: ha & %)

Province/District	Paddy Field										Paddy Field	Non-paddy Farm Land			Total Farm Land	
	Irrigated Paddy Field					Non-irrigated Paddy Field						Total	Home Garden 1/	Dry Land/ Garden 2/		Upland Field 3/
	Technical	Semi-technical	Non-technical	Village Irrigation	Sub-total	Rainfed Field	Tidal Irrigation	Others	Sub-total							
301 Bulukumba	ha	0	7,102	8,097	5,291	20,490	1,830	0	0	1,830	22,320	22,320	3,384	30,421	5,215	61,340
	%	0	32	36	24	92	8	0	0	8	100	36	6	50	9	100
302 Takalar	ha	7,556	640	480	365	9,041	7,395	0	0	7,395	16,436	16,436	5,491	8,905	-	30,832
	%	46	4	3	2	55	45	0	0	45	100	53	18	29	0	100
303 Sinjai	ha	0	2,253	4,589	3,483	10,325	3,858	0	0	3,858	14,183	14,183	3,203	13,636	3,449	34,471
	%	0	16	32	25	73	27	0	0	27	100	41	9	40	10	100
304 Maros	ha	6,491	1,254	2,152	3,070	12,967	13,026	0	0	13,026	25,993	25,993	9,276	13,689	6,915	55,873
	%	25	5	8	12	50	50	0	0	50	100	47	17	25	12	100
305 Pangkep	ha	5,289	1,508	407	1,957	9,161	7,028	0	0	7,028	16,189	16,189	6,201	8,362	1,034	31,786
	%	33	9	3	12	57	43	0	0	43	100	51	20	26	3	100
306 Bone	ha	13,675	3,740	4,661	19,050	41,126	46,633	690	0	47,323	88,449	88,449	17,809	81,035	-	187,293
	%	15	4	5	22	46	53	1	0	54	100	47	10	43	0	100
307 Soppeng	ha	12,644	2,731	2,145	3,198	20,718	4,084	0	0	4,084	24,802	24,802	2,647	28,960	2,445	58,854
	%	51	11	9	13	84	16	0	0	16	100	42	4	49	4	100
308 Wajo	ha	9,536	1,117	300	11,098	22,051	64,072	0	0	64,072	86,123	86,123	9,039	25,517	16,338	137,017
	%	11	1	0	13	26	74	0	0	74	100	63	7	19	12	100
309 Sidrap	ha	30,316	3,765	753	4,830	39,664	8,198	0	0	8,198	47,862	47,862	4,047	11,976	1,772	65,657
	%	63	8	2	10	83	17	0	0	17	100	73	6	18	3	100
310 Pinrang	ha	36,748	852	2,070	3,754	43,424	2,791	0	0	2,791	46,215	46,215	9,097	21,645	3,118	80,075
	%	80	2	4	8	94	6	0	0	6	100	58	11	27	4	100
311 Luwu	ha	15,069	7,982	7,157	5,576	35,784	2,602	0	0	2,602	38,386	38,386	13,634	15,573	6,608	74,201
	%	39	21	19	15	93	7	0	0	7	100	52	18	21	9	100
312 Polmas	ha	7,242	1,574	2,307	10,330	21,453	5,714	0	0	5,714	27,167	27,167	5,257	44,616	28,261	105,301
	%	27	6	8	38	79	21	0	0	21	100	26	5	42	27	100
313 Luwu Utara	ha	10,422	1,806	3,070	9,025	24,323	10,097	0	0	10,097	34,420	34,420	10,244	18,785	8,270	71,719
	%	30	5	9	26	71	29	0	0	29	100	48	14	26	12	100
314 Other Districts	ha	15,296	13,150	15,682	27,096	71,224	69,596	0	0	69,596	140,820	140,820	47,417	206,659	64,873	459,769
	%	11	9	11	19	51	49	0	0	49	100	31	10	45	14	100
Province Total	ha	170,284	49,474	53,870	108,123	381,751	246,924	690	0	247,614	629,365	629,365	146,746	529,779	148,298	1,454,188
	%	27	8	9	17	61	39	0	0	39	100	43	10	36	10	100

1/: Bangunan/pekarangan; 2/: Tegal/kebun; 3/: Ladang/huma

Source: Laporan Tahunan Dinas Tahun 2001, Dinas Petanian Tanaman Pangan dan Hortikultura, Sulawesi Selatan

Table A-1.4.3 Harvested Area and Production of Food Crops in 2001 by Project District and Province: South Sulawesi

Province/District	Paddy		Maize		Soybeans		Mungbeans		Groundnut		Others 1/		Total
	Harvested Area (ha)	Production (GKG t)	Harvested Area (ha)	Production (ton)	Harvested Area (ha)	Production (ton)	Harvested Area (ha)	Production (ton)	Harvested Area (ha)	Production (ton)	Harvested Area (ha)	Production (ton)	Harvested Area (ha)
301 Bulukumba	41,150	187,443	43,693	175,060	89	61	169	144	6,593	12,944	43,837	6,654	135,531
302 Takalar	21,960	115,438	4,309	14,178	725	1,714	5,365	4,124	445	1,421	920	9,822	33,724
303 Sinjai	21,203	96,886	11,805	37,311	164	149	-	-	3,337	4,659	1,791	15,805	38,300
304 Maros	39,204	214,956	2,829	4,841	457	621	2,078	2,606	2,371	2,986	6,157	76,371	53,096
305 Pangkep	22,016	113,942	353	1,014	180	224	723	683	455	618	326	2,976	24,053
306 Bone	111,107	517,339	46,407	109,564	34	46	9,048	11,781	11,017	14,400	1,424	13,414	179,037
307 Soppeng	33,671	179,067	5,479	13,922	1,019	1,642	921	854	2,284	3,627	206	1,157	43,580
308 Wajo	110,118	545,953	3,741	10,697	5,364	8,157	4,442	5,891	2,399	3,040	677	5,896	126,741
309 Sidrap	72,821	443,030	1,176	3,047	200	265	488	380	521	764	420	4,317	75,626
310 Pinrang	69,443	378,389	682	1,880	64	87	234	219	104	187	627	6,447	71,154
311 Luwu	57,156	242,601	654	2,341	10	19	128	103	246	423	450	5,303	58,644
312 Polmas	37,430	193,140	1,765	3,532	10	9	240	300	371	275	3,559	28,368	43,375
313 Luwu Utara	49,387	228,462	2,360	7,814	145	138	179	146	242	424	702	7,919	53,015
314 Other Districts	167,999	744,089	129,039	490,545	10,869	17,830	11,249	9,025	8,785	14,087	29,245	336,451	357,186
Province Total	854,665	4,200,735	254,292	875,746	19,330	30,962	35,264	36,256	39,170	59,855	49,240	551,510	1,251,961
%	68		20		2		3		3		4		100

1/: Cassava & sweat potatoes

Source: Laporan Tahunan Dinas Tahun 2001, Dinas Pertanian Tanaman Pangan dan Hortikultura, Sulawesi Selatan

Table A-1.4.4 Inventory on Agriculture Support Institutions and Farmers Organizations by Project District and Province in 2001: South Sulawesi

Province/District	Food Crops Agriculture Agencies	Food Crops Extension Agencies	Extension			Food Crops Research Institute	Plant Protection Center	Seed Production & Supply				Credit BRI Unit Desa (No.)	Farmer Organizations						
			BPPs (No.)	No. of PPLs				BBI	BBU	BBP	BPSB		KUD (No.)	KOPTAN	Kelompok Tani (KT)				
				PPSs	PPLs										Primary	Secondary	Middle	Advanced	Total
301 Bulukumba	District agriculture services office Food security office	Dinas	4	4	28			1 (palawija)	1 (hort.)	1 (paddy)		6	18	57	305	398	243	7	953
302 Takalar	District agriculture services office Food security office	Dinas	3	2	75			-	-	1 (paddy) 3		4	19	11	152	124	88	39	403
303 Sinjai	District agriculture services office Food security office	Dinas	8	2	54			-	-	1 (paddy) 2		6	13	13	356	286	78	6	726
304 Maros	District agriculture services office Food security office	KIPP	7	3	112	BPTP, RIMOC	○	1 (paddy)	-	1 (hort.)	○	6	15	54	160	285	101	9	555
305 Pangkep	District agriculture services office Food security office	Dinas	8	3	71			-	1 (paddy)	-		4	10	27	269	327	32	1	629
306 Bone	District agriculture services office Food security office	Dinas	27	2	213					1 (palawija)		5	39	164	759	1,037	519	112	2,427
307 Soppeng	District agriculture services office Food security office	Dinas	6	2	72			-	2 (paddy/ palawija)	-		5	15	15	178	106	151	80	515
308 Wajo	District agriculture services office Food security office	Dinas	10	2	121			-	1 (palawija)	2 (paddy) 1		4	29	21	387	518	296	5	1,206
309 Sidrap	District agriculture services office Food security office	Dinas	12	3	127				1 (paddy)	2 (paddy) 1		3	15	32	46	260	234	31	571
310 Pinrang	District agriculture services office Food security office	Dinas	9	6	60				1 (paddy)	1 (paddy) 1		3	33	50	194	444	131	5	774
311 Luwu	District agriculture services office Food security office	Dinas	23	7	204				1 (paddy)	2 (paddy) 4		4	56	5	669	412	28	2	1,111
312 Polmas	District agriculture services office Food security office	Dinas	14	6	166				1 (paddy)	1 (paddy) 3		1	17	9	480	568	206	32	1,286
313 Luwu Utara	District agriculture services office Food security office	Dinas	included in Luwu						1 (paddy)	2 (paddy)		2	included in Luwu	41	351	211	24	1	587
314 Other Districts	District agriculture services office Food security office	Dinas	70	23	808			1 (hort.)	9	7		35	163	193	1,512	2,054	739	83	4,388
Province/Province Total	Provincial Food Crops & Horticulture Agriculture Services Office Food Security Agency	Dinas	201	65	2,111			3	19	37		88	442	692	5,818	7,030	2,870	413	16,131

Source: Laporan Tahunan Dinas Tahun 2001, Dinas Pertanian Tanaman Pangan & Hortikultura, Sulawesi Selatan & office file of the Dinas

Table A-1.4.5 Inventory on Farm Machinery by District in 2000: South Sulawesi

Unit: Number

District	Hand Tractor	4 Wheel Tractor	Transplanter	Water Pump	Sprayer		Thresher		Paddy Dryer	Paddy Cleaner	Paddy Husker	Large Rice Mill	Small Rice Mill	RMU
					Hand	Motor	Pedal	Power						
1. Bulukumba	235	4	3	38	4,627	129	0	285	2,509	0	15	1	229	142
2. Takalar	664	22	0	712	1,172	3	18,622	73	32	1	0	1	0	354
3. Sinjai	78	13	0	44	2,090	1	0	824	16	0	0	0	0	425
4. Maros	1,182	35	0	661	8,209	0	3,983	41	157	12	0	0	0	716
5. Pangkep	503	44	10	206	4,498	0	146	69	19	1	29	1	1	217
6. Bone	2,327	0	0	285	8,377	24	1,955	2,283	1,045	0	0	19	85	1,109
7. Soppeng	900	2	4	169	7,164	0	4	163	9	12	0	40	17	538
8. Wajo	3,032	1	152	500	8,696	3	253	277	49	18	98	2	1	731
9. Sidrap	1,504		46	156	28,455	0	0	771	12	0	50	3	237	213
10. Pinrang	1,996	1	42	133	13,318	0	89	600	28	0	57	5	265	244
11. Luwu	798	0	268	26	36,930	0	41	178	9	1	26	3	7	314
12. Polmas	546	2	1	110	4,933	1,222	14	307	4	1	0	3	63	382
13. Luwu Utara	578	13	0	10	19,002	0	7,543	121	1	5	17	5	90	256
14. Other Districts	1,680	96	2,001	9,024	66,485	184	87	661	120	50	145	105	268	1,643
Province Total	16,023	233	2,527	12,074	213,956	1,566	32,737	6,653	4,010	101	437	188	1,263	7,284
Indonesia	97,033	4,013	24,038	188,860	1,757,280	21,253	348,436	40,173	6,238	35,063	17,982	6,716	28,778	45,402

Source: Alat-alat Pertanian Menurut Propinsi dan Kabupaten di Indonesia, 2000, BPS

Table A-1.4.6 Production Features of Vegetables, Fruits, Estate Crops and Livestock in 2001: South Sulawesi

Vegetables									
Commodity	Chilly	Long Beans	Tomato	Shallot	Cabbage	Chinese Cabbage	Leek	Potato	Red Beans
Harvested Area (ha)	23,340	5,060	4,380	3,350	2,640	2,640	2,520	2,303	2,230
Production (ton)	33,830	12,260	15,020	11,610	15,830	13,450	7,350	10,350	6,180
Fruits									
Commodity	Mango	Jambu	Jack Fruit	Duku	Rambutan	Citrus	Durian	Papaya	Banana
Production (ton)	72,500	15,400	15,100	11,100	6,900	11,200	5,400	8,100	92,300
Estate Crops by Smallholders									
Commodity	Cacao	Coffee	Cashew	Clove	Candlenut	Pepper	Coconut	Oil Palm	Cotton
Planted Area (ha)	247,620	91,520	75,510	50,140	53,670	17,980	193,290	30,310	4,360
Production (ton)	243,190	38,530	25,540	14,420	26,930	3,770	180,670	273,400	4,300
Estate Crops by Private Estates									
Commodity	Cacao	Coffee	Cashew	Coconut	-	-	-	-	-
Planted Area (ha)	2,150	3,640	1,200	2,990					
Production (ton)	1,940	450	170	160					
Livestock									
Kind	Cow	Buffalo	Horse	Goat/Sheep	Fowl Population			-	-
					Broiler	Domestic Hen	Duck		
Population	75,100	200,200	132,700	521,000	5,409,400	14,202,400	3,614,600		
No. Slaughtered	56,450	17,530	2,390	12,090	-	-	-		

Note: Rounded figures

Source: Sulawesi Selatan Dalam Angka, 2001

Table A-1.5.1 WUA Establishment and Performance in South Sulawesi

District/Municipal	No. of Gov't Irrigation Scheme	WUA Establishment		WUA Performance and Status								
		No. of WUA		Developed			Under Developing			Not Yet Developed		
		Target	Establ.	BBH	SBH	Total	BBH	SBH	Total	BBH	SBH	Total
1 Selayar	0	0	0	0	0	0	0	0	0	0	0	0
2 Bulukumba	24	199	91	0	0	0	33	0	33	58	0	58
3 Bantaeng	20	76	12	4	0	4	8	0	8	0	0	0
4 Jenepono	11	64	64	0	0	0	15	0	15	49	0	49
5 Takalar	4	132	55	0	5	5	16	32	48	2	0	2
6 Gowa	11	280	241	13	2	15	86	0	86	140	0	140
7 Sinjai	12	27	27	0	0	0	27	0	27	0	0	0
8 Maros	9	118	118	6	7	13	42	0	42	63	0	63
9 Pangkep	6	230	73	6	0	6	48	0	48	19	0	19
10 Barru	5	27	27	1	0	1	26	0	26	0	0	0
11 Bone	30	364	364	13	2	15	176	0	176	173	0	173
12 Soppeng	14	124	124	3	1	4	21	0	21	99	0	99
13 Wajo	10	124	89	0	1	1	60	0	60	16	12	28
14 Sidrap	14	346	86	0	0	0	15	8	23	63	0	63
15 Pinrang	15	535	459	52	1	53	359	0	359	47	0	47
16 Enrekang	11	15	15	0	0	0	13	0	13	2	0	2
17 Luwu	9	245	141	0	13	13	67	34	101	27	0	27
18 Tana Toraja	9	11	11	3	0	3	8	0	8	0	0	0
19 Polmas	17	114	92	7	1	8	72	0	72	12	0	12
20 Majene	3	9	9	0	0	0	2	0	2	7	0	7
21 Mamuju	3	13	13	0	0	0	7	0	7	6	0	6
22 Luwu Utara	13	249	113	3	0	3	82	0	82	28	0	28
23 Makasar	0	0	0	0	0	0	0	0	0	0	0	0
24 Parepare	0	0	0	0	0	0	0	0	0	0	0	0
Total	250	3,302	2,224	111	33	144	1,183	74	1,257	811	12	823

Remarks : SBH : Already registered in local court of justice BBH : Not yet registered in local court of justice

Table A-1.6.1 Financial Condition of District/Municipal Governments in South Sulawesi

District/Municipality	Per Capita Income and Revenues in Rupiah for 2001						Actual Receipts and Expenditures in million Rupiah for 2000				
	GRDP	Own Fiscal Capacity				DAU + Contin- gency	Total Receipt	Expenditures			Expenses for Water Resources & Irrigation Sector
		Own Source Revenue	Non-tax from Natural Resources	Share Taxes	Total			Total	Current	Develop- ment	
1 Selayar	2,404,859	12,164	14,974	26,069	53,207	683,173	28,999	28,060	22,057	6,003	195
2 Bulukumba	2,539,458	15,423	4,394	11,954	31,771	338,253	55,153	52,839	41,795	11,044	10
3 Bantaeng	2,281,716	19,433	9,829	20,033	49,295	405,555	31,168	30,255	19,258	10,997	182
4 Jeneponto	1,556,735	8,767	4,881	10,265	23,913	293,561	48,996	48,997	24,483	24,514	340
5 Takalar	2,095,974	13,156	6,757	15,711	35,624	440,228	44,071	40,527	30,637	9,890	0
6 Gowa	1,968,595	20,905	3,016	8,781	32,702	304,295	107,761	102,063	50,078	51,985	92
7 Sinjai	2,366,883	19,172	7,574	15,370	42,116	414,147	94,501	94,501	76,792	17,709	765
8 Maros	3,082,404	39,411	5,722	14,242	59,375	388,970	64,147	60,925	36,835	24,090	129
9 Pangkajene Kepulauan	3,926,235	50,613	5,874	14,050	70,537	375,609	69,315	69,029	37,808	31,221	20
10 Barru	2,388,711	19,841	10,246	27,250	57,337	556,838	45,761	43,598	24,817	18,781	509
11 Bone	2,776,550	8,943	2,390	8,668	20,001	261,493	114,270	108,685	72,330	36,355	125
12 Soppeng	2,904,150	12,978	7,098	23,048	43,124	417,486	49,632	49,235	37,451	11,784	40
13 Wajo	3,768,577	14,297	4,727	14,766	33,790	297,269	61,560	58,406	42,666	15,740	45
14 Sidenreng Rappang	3,079,619	24,242	6,588	27,228	58,058	353,484	52,749	52,207	33,096	19,111	144
15 Pinrang	3,745,405	18,281	5,000	19,813	43,094	375,666	76,483	76,048	37,606	38,442	0
16 Enrekang	2,093,776	16,987	15,252	21,676	53,915	469,762	37,080	35,006	22,143	12,863	77
17 Luwu	1,677,685	20,688	5,336	11,282	37,306	407,282	75,990	68,936	49,806	19,130	9
18 Tana Toraja	1,898,431	20,243	4,108	10,157	34,508	372,317	58,164	57,607	44,582	13,025	82
19 Polewali Mamasa	2,264,032	6,928	3,580	14,210	24,718	296,306	65,595	64,627	46,608	18,019	2,126
20 Majene	2,823,649	12,229	12,926	33,502	58,657	586,753	43,137	39,876	22,051	17,825	0
21 Mamuju	2,192,758	13,724	22,981	32,496	69,201	359,452	59,797	56,358	30,627	25,731	163
22 Luwu Utara	7,117,310	6,341	35,462	15,974	57,777	245,815	62,794	56,360	37,341	19,019	100
23 Kota Ujung Pandang	5,058,159	29,988	1,419	24,809	56,216	248,341	142,533	132,216	104,443	27,773	0
24 Kota Parepare	2,997,003	54,192	14,355	31,403	99,950	648,458	47,375	46,398	21,710	24,688	0
Consolidated Provincial Revenue/Total	3,449,618	31,261	8,819	22,830	62,910	376,750	1,537,031	1,472,759	967,020	505,739	5,153

Source: Actual Receipts and Expenditures of District/Municipality Government 1999/00 - 2000 by BPS and Decentralizing Indonesia by WB

Note: Due to the transition period of changing fiscal year, the term of fiscal year 2000 is 9 months starting from April 1 and ending at December 31, 2000.

Table A-2.3.1 Selected Irrigation Schemes: South Sulawesi

No.	Irrigation Scheme	District	Technical Level (*1)	Registered Area (ha)	Classification of Rehabilitation (*2)
1.	Bayang-Bayang	Bulukumba	ST	5,030	UPG
2.	Bontomanai	Bulukumba	ST	3,976	UPG
3.	Bettu	Bulukumba	ST	1,817	REH
4.	Bontonyeleng	Bulukumba	ST	1,096	UPG
5.	Jenemarrung	Takalar	ST	1,052	REH
6.	Pamukulu	Takalar	T	4,526	UPG
7.	Aparang 1	Sinjai	ST	1,049	REH
8.	Aparang Hulu	Sinjai	ST	1,094	UPG
9.	Bantimurung	Maros	T	6,513	REH
10.	Lekopancing	Maros	T	3,626	REH
11.	Padaelo	Pangkep	T	2,958	UPG
12.	Leang Lonrong	Pangkep	T	1,229	REH
13.	Palakka	Bone	T	4,633	REH
14.	Pattiro	Bone	T	4,970	UPG
15.	Unyi	Bone	T	1,310	REH
16.	Jalling	Bone	T	1,777	REH
17.	Lanca	Bone	ST	1,084	REH
18.	Sanrego	Bone	T	9,457	UPG
19.	Salobunne	Soppeng	T	1,386	REH
20.	Leworeng	Soppeng	T	2,258	REH
21.	Tinco Kiri	Soppeng	T	2,620	REH
22.	Cillallang	Wajo	ST	1,113	UPG
23.	Alekarajae	Sidrap	ST	1,253	REH
24.	Bulucenrana	Sidrap	T	5,999	UPG
25.	Bulutimorang	Sidrap	T	5,692	REH
26.	Kalosi	Pinrang	T	1,004	UPG
27.	Padang Sappa	Luwu	T	12,588	UPG
28.	Bajo	Luwu	ST	7,000	UPG
29.	Pagang Alipan	Luwu	ST	1,200	REH
30.	Makawa	Luwu	NT	1,775	UPG
31.	Lamasi Kanan	Luwu	T	5,485	UPG
32.	Maloso, Sekka	Polmas	T	2,991	UPG
33.	Lakejo	Polmas	T	1,265	REH
34.	Gamo-Gamo	Polmas	T	4,820	UPG
35.	Kanjiro	Luwu Utara	ST	1,491	UPG
36.	Bone-Bone	Luwu Utara	T	2,754	REH
37.	Kalaena Kanan I	Luwu Utara	T	6,615	UPG
38.	Kalaena Kiri	Luwu Utara	T	4,671	UPG
39.	Kalaena Kanan II	Luwu Utara	T	5,077	UPG
40.	Kalaena (Rt. Bendung)	Luwu Utara	T	2,730	UPG
41.	Kuri-Kuri, Kasambi	Luwu Utara	ST	3,000	UPG
	Total			141,984	UPG: 23 REH: 18

Remarks:

*1. T : Technical
ST : Semi Technical
NT : Non Technical

*2. UPG: Upgrading
REH: Rehabilitation

Table A-4.2.1 Existing Condition of Water Resource Facility: South Sulawesi

No.	Irrigation Scheme	District	Technical Level ¹⁾	Registered Area (ha)	Age of the Facilities (years)	Catchment Area (km ²)	Type of Facility	Type of Weir	Length of Weir (m)	Design Intake Discharge (m ³ /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.	Jenemarrung	Takalar	ST	1,052	28	44	Headworks	Fixed weir	45	1.2	1	2	not provided	not provided	C	
6.	Pamukulu	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	15	783	Headworks	Fixed weir	106	15.1	5	3	provided	not provided	B	
28.	Bajo	Luwu	ST	7,000	12	316	Headworks	Fixed weir	62	8.4	1	2	provided	not provided	C	
29.	Pagang Alipan	Luwu	ST	1,200	7	115	Headworks	Fixed weir	36	2.4	1	1	provided	not provided	B	
30.	Makawa	Luwu	NT	1,775	22	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	-	-	²⁾ -	-	-	-	-	-	-	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	-	-	²⁾ -	-	-	-	-	-	-	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	
Total				138,517												
Average				3,378	21	299			42							
Itemized Total			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

Table A-4.2.3 Existing Condition of Irrigation Scheme : 2-1. Canals and Related Structures, Canals Works: South Sulawesi

No.	Irrigation Scheme	District	Condition of Facility																									
			Main Canal										Secondary Canal															
			Canal					Inspection road		Evaluation of Condition	Canal					Inspection road		Evaluation of Condition										
			Length (m)			Lined		Earth	Total D		Length (m)	Condition	Length (m)			Lined			Earth	Total D	Length (m)	Condition						
Lined	Earth	Total	A	B	C	D	Lined	Earth	Total	A			B	C	D													
1.	Bayang-Bayang	Bulukumba	3,265	2,735	6,000			1,500	1,725	2,735	4,460	0		D	0	33,810	33,810					33,810	33,810	0		D		
2.	Bontomanai	Bulukumba	1,587	5,213	6,800		1,000	587		5,213	5,213	0		D	9,886	7,702	17,588		4,943	4,943			7,702	7,702	0		D	
3.	Bettu	Bulukumba	1,007	0	1,007			1,007			0	0		D	11,220	0	11,220			11,220				0	0		D	
4.	Bontonyeleng	Bulukumba	4,394	0	4,394			4,394			0	0		D	4,528	0	4,528			4,528				0	0		D	
5.	Jenemarrung	Takalar	0,634	0	0,634		634				0	0		D	1,977	7,143	9,120			1,977			7,143	7,143	0		D	
6.	Pamukulu	Takalar	7,509	9,790	17,299		3,000	4,509		9,790	9,790	17,299	B	C	15,292	21,539	36,831			15,292			21,539	21,539	36,831	C	D	
7.	Aparang I	Sinjai	3,542	250	3,792			3,542		0,250	0,250	0		D	2,650	5,548	8,198			2,650			5,548	5,548	0		D	
8.	Aparang Hulu	Sinjai	1,755	200	1,955			1,755			200	200	0		D	2,873	3,000	5,873			2,873			3,000	3,000	0		D
9.	Bantimurung	Maros	870	13,130	14,000			870		13,130	13,130	10,500	D	D	35,650	5,100	40,750			35,650			5,100	5,100	16,300	C	C	
10.	Lekopancing	Maros	5,057	699	5,756				4,057	699	4,756	0		D	20,061	8,334	28,395			6,000	14,061			8,334	22,395	17,037	D	D
11.	Padaelo	Pangkep	3,000	230	3,230					230	230	3,230	B	C	5,000	16,679	21,679			4,500	500			16,679	17,179	17,343	C	D
12.	Leang Lonrong	Pangkep	3,248	4,831	8,079			3,248		4,831	4,831	0		D	0	0	0			No provided					0		D	
13.	Palakka	Bone	11,092	2,923	14,015			7,792	3,300	2,923	6,223	7,008	C	D	15,230	4,174	19,404			10,730	4,500		4,174	8,674	0		D	
14.	Pattiro	Bone	9,708	2,900	12,608			3,000	6,708	2,900	9,608	5,043	C	D	14,804	22,595	37,399			4,000	10,804		22,595	33,399	1,870	D	D	
15.	Unyi	Bone	9,053	0	9,053				9,053		9,053	0		D	5,734	1,500	7,234			1,200	4,534		1,500	6,034	0		D	
16.	Jalling	Bone	13,516	0	13,516		4,000	8,000	1,516	0	1,516	5,406	C	C	0	3,950	3,950						3,950	3,950	0		D	
17.	Lanca	Bone	0	0	0			No provided							1,506	8,127	9,633				1,506			8,127	9,633	0		D
18.	Sanrego	Bone	4,000	7,490	11,490		4,000			7,490	7,490	11,490	B	D	2,488	52,605	55,093			2,488			52,605	52,605	11,019	C	D	
19.	Salobunne	Soppeng	3,436	0	3,436		1,700	1,736			0	0		D	8,503	2,032	10,535		6,000	2,503			2,032	2,032	0		D	
20.	Leworeng	Soppeng	835	0	835		835				0	752	B	B	22,149	0	22,149		17,000	5,149			0	0	4,430	C	C	
21.	Tinco Kiri	Soppeng	2,075	1,461	3,536		1,000	1,075		1,463	1,463	0		D	0	25,073	25,073						25,073	25,073	0		D	
22.	Cillallang	Wajo	2,533	3,849	6,382			1,300	1,233	3,849	5,082	0		D	0	0	0			No provided					0		D	
23.	Alekarajae	Sidrap	3,396	3,400	6,796				3,396	3,400	6,796	0		D	0	4,823	4,823						4,823	4,823	0		D	
24.	Bulucenrana	Sidrap	6,614	2,315	8,929		3,314	3,300		2,315	2,315	6,697	B	C	14,772	18,874	33,646		7,772	7,000			18,874	18,874	0		D	
25.	Bulotimorang	Sidrap	1,909	0	1,909		1,000	909		0	0	1,909	C	C	14,981	30,586	45,567		4,500	4,500	5,981		30,586	36,567	0		D	
26.	Kalosi	Pinrang	1,116	0	1,116		1,116				0	0		D	7,732	600	8,332		3,800	3,932			600	600	0		D	
27.	Padang Sappa	Luwu	3,867	6,297	10,164			3,867		6,297	6,297	1,525	C	D	5,156	42,804	47,960			5,156			42,804	42,804	4,796	D	D	
28.	Bajo	Luwu	0,500	1,600	1,601				0,500	1,600	1,601	0		D	0	47,275	47,275						47,275	47,275	0		D	
29.	Pagang Alipan	Luwu	375	1,281	1,656				375	1,281	1,656	1,656	D	D	3,785	2,224	6,009				3,785		2,224	6,009	0		D	
30.	Makawa	Luwu	1,761	1,539	3,300			200	1,561	1,539	3,100	0		D	1,231	2,229	3,460			100	1,131		2,229	3,360	0		D	
31.	Lamasi Kanan	Luwu	11,009	1,870	12,879			5,000	6,009	1,870	7,879	11,591	D	D	0	32,928	32,928						32,928	32,928	6,586	D	D	
32.	Maloso, Sekka	Polmas	6,714	0	6,714		3,714	3,000			0	6,714	C	C	0	18,723	18,723						18,723	18,723	0		D	
33.	Lakejo	Polmas	402	0	402			402			0	0		D	7,307	1,400	8,707		5,807	1,500			1,400	1,400	0		D	
34.	Gamo-Gamo	Polmas	300	770	1,070		300			770	770	1,070	B	C	3,614	26,376	29,990		1,800	1,816			26,376	26,376	5,998	D	D	
35.	Kanjiro	Luwu Utara	3,278	2,673	5,951			2,400	878	2,673	3,551	1,785	B	C	3,649	4,280	7,929			449	3,200		4,280	7,480	2,379	C	D	
36.	Bone-Bone	Luwu Utara	9,771	7,207	16,978		7,771	2,000		7,207	7,207	16,978	B	C	1,405	5,017	6,422		705	700			5,017	5,017	6,422	B	D	
37.	Kalaena Kanan I	Luwu Utara	1,371	4,989	6,360			1,371		4,989	4,989	6,360	B	D	14,687	25,184	39,871			14,687	25,184		25,184	50,368	31,897	C	D	
38.	Kalaena Kiri	Luwu Utara	2,500	14,578	17,078			750	1,750	14,578	16,328	6,831	C	D	1,000	16,306	17,306				1,000		16,306	17,306	10,384	D	D	
39.	Kalaena Kanan II	Luwu Utara	0	14,533	14,533					14,533	14,533	14,533	C	D	0	23,168	23,168						23,168	23,168	0		D	
40.	Kalaena (Rt. Bendung)	Luwu Utara	11,331	0	11,331			11,331			0	11,331	C	C	15,006	0	15,006			15,006				0	15,006	C	C	
41.	Kuri-Kuri, Kasambi	Luwu Utara	0	0	0			No system			0	0			0	0	0							0	0		D	
	Total		157,197	118,753	275,950		35,139	77,090	41,562	118,505	160,067	149,708			273,876	531,708	805,584		52,327	170,549	76,186	531,708	607,894	188,296				

Remarks:

T : Technical
ST : Semi Technical
NT : Non Technical

Condition of Facility:

A : Function well/no rehabilitation is needed.
B : Partially deteriorated, minor rehabilitation is needed.
C : Not functioning well and affecting the operation, large scale of rehabilitation is needed.
D : Serious condition for operation, replace and reconstruction is needed

A : 0
B : 1
C : 10
D : 28

A : 0
B : 0
C : 3
D : 38

Table A-4.2.4 Existing Condition of Irrigation Scheme : 2-2. Canals and Related Structures, Related Structures (1/2): South Sulawesi
• Main Canal

No.	Irrigation Scheme	District	Condition of Facility																												Total								
			Diversion (Main body only) (Bangunan Bagi)				Off-take (Bagi Sadap)				Box Culvert (Gorong-Gorong)				Drop/Chute (Terjunan)				Bridge (Jembatan)				Spillway (Pelimpah)				Cross Drain (Gorong ² Silang)					Others (Lain-lain)				Breakdown of Condition			
			A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D		A	B	C	D				
1.	Bayang-Bayang	Bulukumba			1																													0	7	7	0	14	
2.	Bontomanai	Bulukumba		3	7																													0	3	26	1	30	
3.	Bettu	Bulukumba			1																													0	0	1	0	1	
4.	Bontonyeleng	Bulukumba		3																														0	11	0	0	11	
5.	Jenemarrung	Takalar																																0	0	2	0	2	
6.	Pamukulu	Takalar			15	20																												0	0	75	26	101	
7.	Aparang 1	Sinjai			1																													0	0	8	0	8	
8.	Aparang Hulu	Sinjai			2																													0	0	10	1	11	
9.	Bantimurung	Maros			16																													0	0	68	0	68	
10.	Lekopancing	Maros			7	5																												0	0	30	8	38	
11.	Padaelo	Pangkep			1	7																												0	0	5	10	15	
12.	Leang Lotrong	Pangkep			9																													0	0	34	3	37	
13.	Palakka	Bone			9	8																												0	0	67	20	87	
14.	Pattiro	Bone			5	6																												0	0	14	22	36	
15.	Unyi	Bone			20																													0	0	44	1	45	
16.	Jalling	Bone			24																													0	0	75	0	75	
17.	Lanca	Bone																																0	0	0	0	0	
18.	Sanrego	Bone			5	2																												0	20	4	0	24	
19.	Salabunne	Soppeng				1																												0	0	16	0	16	
20.	Leworeng	Soppeng			2																													0	2	0	0	2	
21.	Tinco Kiri	Soppeng					3																											0	0	5	4	9	
22.	Cilellang	Wajo				8																												0	0	10	0	10	
23.	Alekarajae	Sidrap					2																											0	0	16	2	18	
24.	Bulucnrana	Sidrap				4																												0	0	15	0	15	
25.	Bulotimoreng	Sidrap				1																												0	0	2	0	2	
26.	Kalosi	Pinrang				2																												0	0	3	0	3	
27.	Padang Sappa	Luwu				4	3																											0	0	23	9	32	
28.	Bajo	Luwu					2																											0	0	0	5	5	
29.	Pagang Alipan	Luwu				4																												0	9	2	2	13	
30.	Makawa	Luwu					3																											0	0	10	4	14	
31.	Lamasi Kanan	Luwu					16	4																										0	0	47	15	62	
32.	Maloso, Sekka	Polmas				1																												0	1	0	0	1	
33.	Lakejo	Polmas					1																											0	0	1	0	1	
34.	Gamo-Gamo	Polmas				1																												0	2	0	0	2	
35.	Kanjiro	Luwu Utara				12																												0	29	0	12	41	
36.	Bone-Bone	Luwu Utara					1	14																										0	0	24	34	58	
37.	Kalaena Kanan I	Luwu Utara					3	6																										0	0	25	12	37	
38.	Kalaena Kiri	Luwu Utara					26	6																										0	0	41	11	52	
39.	Kalaena Kanan II	Luwu Utara					6	1																										0	0	25	3	28	
40.	Kalaena (Rt. Bendung)	Luwu Utara					8																											0	2	27	0	29	
41.	Kuri-Kuri, Kasambi	Luwu Utara					1	1																										0	0	1	1	2	
Total			0	31	202	92	0	13	115	40	0	10	46	9	0	8	82	29	0	19	202	19	0	4	10	3	0	1	55	9	0	0	51	5	0	86	763	206	1,055

Remarks:

T : Technical
ST : Semi Technical
NT : Non Technical

Condition of Facility:

A : Function well/no rehabilitation is needed.
B : Partially deteriorated, minor rehabilitation is needed.
C : Not functioning well and affecting the operation, large scale of rehabilitation is needed.
D : Serious condition for operation, replace and reconstruction is needed.

Table A-4.2.5 Existing Condition of Irrigation Scheme : 2-2. Canals and Related Structures, Related Structures (2/2): South Sulawesi
• Secondary Canal

No.	Irrigation Scheme	District	Condition of Facility																																Total																
			Diversion (Main body only) (Bangunan Bagi)				Off-take (Bagi Sadap)				Box Culvert (Gorong-Gorong)				Drop/Chute (Terjunan)				Bridge (Jembatan)				Spillway (Pelimpah)				Cross Drain (Gorong ² Silang)				Others (Lain-lain)					Breakdown of Condition															
			A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D																	
1.	Bayang-Bayang	Bulukumba			3							22																							0	0	3	22	25												
2.	Bontomanai	Bulukumba		6	18							16	1																						0	0	47	19	66												
3.	Bettu	Bulukumba			16							13																							0	0	51	0	51												
4.	Bontonyeleng	Bulukumba										2																							0	0	10	0	10												
5.	Jenemarrung	Takalar			1							2	5																						1	0	0	15	6	21											
6.	Pamukulu	Takalar			11							8	16																							2	0	0	105	16	121										
7.	Aparang I	Sinjai				1						7	2																							0	0	16	3	19											
8.	Aparang Hulu	Sinjai										4	1																							0	0	12	1	13											
9.	Bantimurung	Maros			17	1						16																								1	0	0	121	1	122										
10.	Lekopancing	Maros			25							60	1																							0	0	129	4	133											
11.	Padaelo	Pangkep			17	2						4	12																							2	0	0	66	19	85										
12.	Leang Lotrong	Pangkep																																			0	0	0	0	0										
13.	Palakka	Bone			20	16						2																									18	0	0	66	35	101									
14.	Pattiro	Bone			27	3						10	7																									3	0	0	65	32	97								
15.	Unyi	Bone			10							4	2																										1	0	0	23	3	26							
16.	Jalling	Bone			3							2																												0	0	5	0	5							
17.	Lanca	Bone			13	4						9	3																											1	0	0	32	19	51						
18.	Sanrego	Bone			10							61	2																											8	0	273	64	2	339						
19.	Salabunne	Soppeng			1	1						8																														0	0	29	1	30					
20.	Leworeng	Soppeng			2							20																													2	0	50	0	4	54					
21.	Tinco Kiri	Soppeng										16																															0	18	0	2	20				
22.	Cilellang	Wajo																																									0	0	0	0	0				
23.	Alekarajae	Sidrap										3	1																															0	0	11	1	12			
24.	Bulucnana	Sidrap			2							40	1																															9	0	0	78	1	79		
25.	Bulotimoreng	Sidrap			7	1						29																																1	0	0	70	1	71		
26.	Kalosi	Pinrang			1							3																																0	0	10	0	10			
27.	Padang Sappa	Luwu			6	1						18	12																																0	0	113	18	131		
28.	Bajo	Luwu				1																																						0	0	2	6	8			
29.	Pagang Alipan	Luwu			8							9																																0	25	0	8	33			
30.	Makawa	Luwu				3						6	1																															0	0	21	4	25			
31.	Lamasi Kanan	Luwu				19	3					19	2																																0	0	67	6	73		
32.	Maloso, Sekka	Polmas			4							11																																	0	23	0	0	23		
33.	Lakejo	Polmas				2	1					7	6																																1	0	0	13	11	24	
34.	Gamo-Gamo	Polmas			3							24																																		0	43	0	0	43	
35.	Kanjiro	Luwu Utara			6							6																																	0	22	0	14	36		
36.	Bone-Bone	Luwu Utara										5																																	0	0	15	0	15		
37.	Kalaena Kanan I	Luwu Utara				21						25	5																																1	0	0	90	15	105	
38.	Kalaena Kiri	Luwu Utara				33						17																																	1	1	0	0	57	2	59
39.	Kalaena Kanan II	Luwu Utara				16																																								0	0	63	0	63	
40.	Kalaena (Rt. Bendung)	Luwu Utara				17							1																																4	1	0	0	32	3	35
41.	Kuri-Kuri, Kasambi	Luwu Utara				1																																							1	0	0	1	1	2	
Total			0	33	294	61	0	86	400	107	0	25	110	14	0	158	266	47	0	72	312	30	0	6	26	7	0	65	64	5	0	9	30	9	0	454	1,502	280	2,236												

Remarks:

T : Technical
 ST : Semi Technical
 NT : Non Technical

Condition of Facility:

A : Function well/no rehabilitation is needed.
 B : Partially deteriorated, minor rehabilitation is needed.
 C : Not functioning well and affecting the operation, large scale of rehabilitation is needed.
 D : Serious condition for operation, replace and reconstruction is needed.

Table A-4.2.8 Present Agriculture Conditions in Target Schemes: South Sulawesi - 1/3

Irrigation Scheme	No. Technical Level	Bulukumba				Takalar		Sinjai		Maros		Pangke	Pangke	Bone		
		Bayang-Bayang	Bontomanai	Bettu	Bontonyeleng	Jenemarrung	Pamakulu	Aparang 1	Aparang Hulu	Bantimurung	Lekopancing	Paduelo	Leang Lonrong	Palakka	Pattiro	Unyi
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	ST	ST	ST	ST	ST	T	ST	ST	T	T	T	T	T	T	T	
1. Land Use																
1.1 Potential Area																
- Irrigated Paddy Field	ha	3,500	2,212	1,802	815	975	4,133	1,049	941	5,717	2,483	1,808	1,229	3,260	4,630	1,136
- Rainfed Paddy Field	ha	82	408	0	0	0	347	0	0	0	0	654	0	0	109	0
- Non-paddy Field	ha	0	1,059	0	264	0	0	0	0	0	0	0	0	0	0	0
Upland Field	ha				264											
Tree Crops Land	ha		530													
Uncultivated Land	ha		529													
Total	ha	3,582	3,679	1,802	1,079	975	4,480	1,049	941	5,717	2,483	2,462	1,229	3,260	4,739	1,136
1.2 Non-potential Area																
- Rainfed Paddy Field	ha	312	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- Non-paddy Field	ha	1,136	297	0	0	0	0	0	153	0	0	0	0	0	0	0
Upland Field	ha								153							
Tree Crops Land	ha	909	149													
Uncultivated Land	ha	227	148													
Total	ha	1,448	297	0	0	0	0	0	153	0	0	0	0	0	0	0
1.3 Target Area (1.1 + 1.2)	ha	5,030	3,976	1,802	1,079	975	4,480	1,049	1,094	5,717	2,483	2,462	1,229	3,260	4,739	1,136
1.4 Converted Land 1/	ha	0	0	15	17	77	46	0	0	796	1,143	496	0	1,373	231	174
1.5 Registered Area	ha	5,030	3,976	1,817	1,096	1,052	4,526	1,049	1,094	6,513	3,626	2,958	1,229	4,633	4,970	1,310
2. Cropping Pattern in Irrigated Area 1/	IB	IB	IB	IB	ID	IC	IB	IA	IB	IID	ID	ID	IIC	IIC	IIC	
3. Cropped Area/Cropping Intensity																
3.1 Cropped Area of Annual Crops																
1) Wet Season																
- Irrigated Paddy	ha	3,006	2,195	1,802	815	975	4,133	1,049	941	5,717	2,264	1,808	1,210	3,260	4,630	1,136
- Rainfed Paddy	ha	394	408				347					654			109	
- Palawija	ha				264				153							
Total	ha	3,400	2,603	1,802	1,079	975	4,480	1,049	1,094	5,717	2,264	2,462	1,210	3,260	4,739	1,136
2) Dry Season I																
- Irrigated Paddy	ha	2,593	2,212	1,802	749		1,332	1,049	941	5,156		567	582			
- Palawija	ha	230	82			200	292					131				
Total	ha	2,823	2,294	1,802	749	200	1,624	1,049	941	5,156	0	698	582	0	0	0
3) Dry Season II																
- Irrigated Paddy	ha										1,304			1,048	3,325	848
- Palawija	ha	376	1,200	700	332			74		700	73			296	105	266
Total	ha	376	1,200	700	332	0	0	74	0	700	1,377	0	0	1,344	3,430	1,114
4) Annual																
- Irrigated Paddy	ha	5,599	4,407	3,604	1,564	975	5,465	2,098	1,882	10,873	3,568	2,375	1,792	4,308	7,955	1,984
- Rainfed Paddy	ha	394	408	0	0	0	347	0	0	0	0	654	0	0	109	0
- Palawija	ha	606	1,282	700	596	200	292	74	153	700	73	131	0	296	105	266
Total	ha	6,599	6,097	4,304	2,160	1,175	6,104	2,172	2,035	11,573	3,641	3,160	1,792	4,604	8,169	2,250
3.2 Cropping Intensity of Annual Crops 3/																
1) Wet Season	%	68	65	100	100	100	100	100	100	100	91	100	98	100	100	100
2) Dry Season I	%	56	58	100	69	21	36	100	86	90	0	28	47	0	0	0
3) Dry Season II	%	7	30	39	31	0	0	7	0	12	55	0	0	41	72	98
4) Annual	%															
- Irrigated Paddy	%	111	111	200	145	100	122	200	172	190	144	96	146	132	168	175
- Rainfed Paddy	%	8	10	0	0	0	8	0	0	0	0	27	0	0	2	0
- Palawija	%	12	32	39	55	21	7	7	14	12	3	5	0	9	2	23
Total	%	131	153	239	200	121	136	207	186	202	147	128	146	141	172	198
3.3 Irrigation Performances 4/	%	175	253	224	265	121	138	207	200	202	147	131	146	141	174	198
4. Crop Yield & Production																
4.1 Crop Yield																
1) Wet Season																
- Irrigated Paddy	t/ha	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.0	4.5	4.5	4.0	4.5	4.5
- Rainfed Paddy	t/ha	2.5	2.5				2.5					2.5			2.5	
2) Dry Season I																
- Irrigated Paddy	t/ha	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.5		4.5	4.5			
3) Dry Season II																
- Irrigated Paddy	t/ha										4.0			4.0	4.0	4.5
4) Avg. Paddy Yield 5/	t/ha	3.9	3.9	4.0	4.0	4.0	3.9	4.0	4.0	4.5	4.0	4.1	4.5	4.0	4.3	4.5
4.2 Annual Crop Production																
1) Irrigated Paddy	ton	22,396	17,628	14,416	6,256	3,900	21,860	8,392	7,528	48,929	14,272	10,688	8,064	17,232	34,135	8,928
2) Rainfed Paddy	ton	985	1,020	0	0	0	868	0	0	0	0	1,635	0	0	273	0
3) Total Paddy	ton	23,381	18,648	14,416	6,256	3,900	22,728	8,392	7,528	48,929	14,272	12,323	8,064	17,232	34,408	8,928
4) Palawija	ton	1,515	897	1,750	1,490	160	730	52	383	490	183	328	0	740	263	213
No. of Beneficiaries	No.	4,469	1,764	2,600	930	782	3,996	1,587	1,960	10,514	5,242	4,730	2,137	1,304	2,572	710
Irrigated Field/Beneficiary	ha	0.78	1.25	0.69	0.88	1.25	1.03	0.66	0.48	0.54	0.47	0.38	0.58	2.50	1.80	1.60

1/: Area converted to other land uses (alih f/ 3/: Weighted annual average yield of irrigated & rainfed paddy

2/: Cropping patter: IA = paddy-paddy-fallow; IB = paddy-paddy-paddy/fallow; IC = paddy-paddy/palawija-fallow

IIA = paddy - fallow - paddy; IIB = paddy - palawija/fallow - paddy; IIC = paddy - fallow - paddy/palawija

ID & IID = other patterns 3/: Cropping intensity to Target Area

4/: Cropping intensity in irrigated field 5/: Weighted annual average yield of irrigated & rainfed paddy

Table A-4.2.8 Present Agriculture Conditions in Target Schemes: South Sulawesi - 2/3

Irrigation Scheme	No.	Bone - continued			Soppeng			Wajo	Sidrap			Pinrang	Luwu			
		Jalling	Lanca	Sanrego	Salobunne	Leworeng	Tinco Kiri	Cillalang	Alekarajae	Bulacnana	Bulutimorang	Kalosi	Padang Sappa	Bajo	Pagang Alpan	Makawa
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Technical Level	T	ST	T	T	T	T	ST	ST	T	T	T	T	ST	T	NT	
1. Land Use																
1.1 Potential Area																
- Irrigated Paddy Field	ha	1,301	676	4,751	1,296	2,187	2,620	201	1,253	4,618	4,950	751	4,881	5,466	795	880
- Rainfed Paddy Field	ha	0	0	925	0	0	0	0	0	965	0	0	0	996	0	120
- Non-paddy Field	ha	0	0	0	0	0	0	0	0	0	0	87	0	0	0	0
Upland Field	ha															
Tree Crops Land	ha															
Uncultivated Land	ha											87				
Total	ha	1,301	676	5,676	1,296	2,187	2,620	201	1,253	5,583	4,950	838	4,881	6,462	795	1,000
1.2 Non-potential Area																
- Rainfed Paddy Field	ha	0	0	0	0	0	0	912	0	0	0	0	2,000	0	0	0
- Non-paddy Field	ha	0	0	0	0	0	0	0	0	0	0	0	4,008	0	0	0
Upland Field	ha												4,008			
Tree Crops Land	ha															
Uncultivated Land	ha															
Total	ha	0	0	0	0	0	0	912	0	0	0	0	6,008	0	0	0
1.3 Target Area (1.1 + 1.2)	ha	1,301	676	5,676	1,296	2,187	2,620	1,113	1,253	5,583	4,950	838	10,889	6,462	795	1,000
1.4 Converted Land 1/	ha	476	408	1,094	90	71	0	0	0	416	742	166	1,699	538	405	775
1.5 Registered Area	ha	1,777	1,084	6,618	1,386	2,258	2,620	1,113	1,253	5,999	5,692	1,004	12,588	7,000	1,200	1,775
2. Cropping Pattern in Irrigated Area 1/																
		IIC	IIC	IIC	IIB	IIB	IIB	IIA	ID	IIB	IIA	IB	IIA	IIA	IA	IA
3. Cropped Area/Cropping Intensity																
3.1 Cropped Area of Annual Crops																
1) Wet Season																
- Irrigated Paddy	ha	1,301	676	4,751	1,058	1,880	2,605	125	1,253	4,311	2,782	751	4,711	5,466	795	810
- Rainfed Paddy	ha			925				912		965			2,000	996		120
- Palawija	ha										14		4,008			
Total	ha	1,301	676	5,676	1,058	1,880	2,605	1,037	1,253	5,276	2,796	751	10,719	6,462	795	930
2) Dry Season I																
- Irrigated Paddy	ha									99		442			647	600
- Palawija	ha				252	154	375		233			116				24
Total	ha	0	0	0	252	154	375	0	233	99	0	558	0	0	647	624
3) Dry Season II																
- Irrigated Paddy	ha	557	515	3,442	1,163	2,165	2,006	118		3,358	2,870		3,816	4,202		
- Palawija	ha	430	119	1,094			54	182	53	193		100	400	199		
Total	ha	987	634	4,536	1,163	2,165	2,060	300	53	3,551	2,870	100	4,216	4,401	0	0
4) Annual																
- Irrigated Paddy	ha	1,858	1,191	8,193	2,221	4,045	4,611	243	1,253	7,768	5,652	1,193	8,527	9,668	1,442	1,410
- Rainfed Paddy	ha	0	0	925	0	0	0	912	0	965	0	0	2,000	996	0	120
- Palawija	ha	430	119	1,094	252	154	429	182	286	193	14	216	4,408	199	0	24
Total	ha	2,288	1,310	10,212	2,473	4,199	5,040	1,337	1,539	8,926	5,666	1,409	14,935	10,863	1,442	1,554
3.2 Cropping Intensity of Annual Crops 3/																
1) Wet Season	%	100	100	100	82	86	99	93	100	95	56	90	98	100	100	93
2) Dry Season I	%	0	0	0	19	7	14	0	19	2	0	67	0	0	81	62
3) Dry Season II	%	76	94	80	90	99	79	27	4	64	58	12	39	68	0	0
4) Annual	%															
- Irrigated Paddy	%	143	176	144	171	185	176	22	100	139	114	142	78	150	181	141
- Rainfed Paddy	%	0	0	16	0	0	0	82	0	17	0	0	18	15	0	12
- Palawija	%	33	18	19	19	7	16	16	23	3	0	26	40	3	0	2
Total	%	176	194	180	191	192	192	120	123	160	114	168	137	168	181	155
3.3 Irrigation Performances 4/																
	%	176	194	192	191	192	192	121	123	168	114	188	175	177	181	160
4. Crop Yield & Production																
4.1 Crop Yield																
1) Wet Season																
- Irrigated Paddy	t/ha	4.0	4.0	4.5	4.0	4.5	4.5	4.0	4.0	4.5	3.5	4.5	4.0	4.0	4.0	4.0
- Rainfed Paddy	t/ha			2.5				2.5		2.5			2.5	2.5		2.5
2) Dry Season I																
- Irrigated Paddy	t/ha									5.0		4.0			4.0	4.0
3) Dry Season II																
- Irrigated Paddy	t/ha	4.0	4.0	4.5	4.5	4.5	5.0	4.0		5.0	4.0		4.5	4.5		
4) Avg. Paddy Yield 5/	t/ha	4.0	4.0	4.3	4.3	4.5	4.7	2.8	4.0	4.5	3.8	4.3	3.9	4.1	4.0	3.9
4.2 Annual Crop Production																
1) Irrigated Paddy	ton	7,432	4,764	36,869	9,466	18,203	21,753	972	5,012	36,685	21,217	5,148	36,016	40,773	5,768	5,640
2) Rainfed Paddy	ton	0	0	2,313	0	0	0	2,280	0	2,413	0	0	5,000	2,490	0	300
3) Total Paddy	ton	7,432	4,764	39,181	9,466	18,203	21,753	3,252	5,012	39,097	21,217	5,148	41,016	43,263	5,768	5,940
4) Palawija	ton	1,075	298	1,098	252	123	300	455	715	483	35	174	11,020	498	0	60
No. of Beneficiaries	No.	813	422	8,228	1,560	1,129	4,242	118	630	3,865	3,300	700	5,500	5,035	800	765
Irrigated Field/Beneficiary	ha	1.60	1.60	0.58	0.83	1.94	0.62	1.70	1.99	1.19	1.50	1.07	0.89	1.09	0.99	1.15

1/: Area converted to other land uses (alih f/3): Weighted annual average yield of irrigated & rainfed paddy

2/: Cropping patter: IA = paddy-paddy-fallow; IB = paddy-paddy-paddy/fallow; IC = paddy-paddy/palawija-fallow

IIA = paddy - fallow - paddy; IIB = paddy - palawija/fallow - paddy; IIC = paddy - fallow - paddy/palawija

ID & IID = other patterns 3/: Cropping intensity to Target Area

4/: Cropping intensity in irrigated field 5/: Weighted annual average yield of irrigated & rainfed paddy

Table A-4.2.8 Present Agriculture Conditions in Target Schemes: South Sulawesi - 3/3

Irrigation Scheme	District		Polmas				Luwu Utara						Overall Province	
	Luwu	Polmas	Polmas		Luwu Utara									
	Lamasi Kanan	Maloso, Sekka	Lakejo	Gamo-Gamo	Kanjiro	Bone-Bone	Kalaena Kanan I	Kalaena Kiri	Kalaena Kanan II	Kalaena (Rt. Bendung)	Kuri-Kuri, Kasambi			
No.	31	32	33	34	35	36	37	38	39	40	41			
Technical Level	T	T	T	T	ST	T	T	T	T	T	ST			
1. Land Use														
1.1 Potential Area														
- Irrigated Paddy Field	ha	4,290	1,911	960	2,371	1,198	2,625	5,746	2,959	3,072	1,823	995	100,266	81%
- Rainfed Paddy Field	ha	404	446	0	2,072	103	0	586	577	715	331	0	9,840	8%
- Non-paddy Field	ha	78	0	0	0	0	0	0	0	0	0	0	1,488	1%
Upland Field	ha												264	0%
Tree Crops Land	ha												530	0%
Uncultivated Land	ha	78											694	1%
Total	ha	4,772	2,357	960	4,443	1,301	2,625	6,332	3,536	3,787	2,154	995	111,594	90%
1.2 Non-potential Area														
- Rainfed Paddy Field	ha	398	0	0	300	0	0	0	0	0	0	2,005	5,927	5%
- Non-paddy Field	ha	315	0	0	0	0	0	0	0	0	0	0	5,909	5%
Upland Field	ha												4,161	3%
Tree Crops Land	ha	315											1,373	1%
Uncultivated Land	ha												375	0%
Total	ha	713	0	0	300	0	0	0	0	0	0	2,005	11,836	10%
1.3 Target Area (1.1 + 1.2)	ha	5,485	2,357	960	4,743	1,301	2,625	6,332	3,536	3,787	2,154	3,000	123,430	100%
1.4 Converted Land 1/	ha	0	634	305	77	190	129	283	507	1,290	576	0	15,087	-
1.5 Registered Area	ha	5,485	2,991	1,265	4,820	1,491	2,754	6,615	4,043	5,077	2,730	3,000	138,517	-
2. Cropping Pattern in Irrigated Area 1/														
IA	IA	IA	IA	IA	IIA	IIA	IA	IIA	IIA	IIA	IA			
3. Cropped Area/Cropping Intensity														
3.1 Cropped Area of Annual Crops														
1) Wet Season														
- Irrigated Paddy	ha	4,290	1,911	960	2,367	1,157	2,625	5,581	2,413	1,808	1,823	995	94,146	82%
- Rainfed Paddy	ha	802	446		2,372	103		586	577	715	331	2,005	15,767	14%
- Palawija	ha												4,439	4%
Total	ha	5,092	2,357	960	4,739	1,260	2,625	6,167	2,990	2,523	2,154	3,000	114,352	100%
2) Dry Season I														
- Irrigated Paddy	ha	3,647	1,911	761	2,310			5,731				995	34,126	91%
- Palawija	ha	160	89		515	21		117				401	3,392	9%
Total	ha	3,807	2,000	761	2,825	21	0	5,848	0	0	0	1,396	37,518	100%
3) Dry Season II														
- Irrigated Paddy	ha					1,157	2,005		2,403	1,808	1,823		39,933	85%
- Palawija	ha								115	143	66		7,270	15%
Total	ha	0	0	0	0	1,157	2,005	0	2,518	1,951	1,889	0	47,203	100%
4) Annual														
- Irrigated Paddy	ha	7,937	3,822	1,721	4,677	2,314	4,630	11,312	4,816	3,616	3,646	1,990	168,205	84%
- Rainfed Paddy	ha	802	446	0	2,372	103	0	586	577	715	331	2,005	15,767	8%
- Palawija	ha	160	89	0	515	21	0	117	115	143	66	401	15,101	8%
Total	ha	8,899	4,357	1,721	7,564	2,438	4,630	12,015	5,508	4,474	4,043	4,396	199,073	100%
3.2 Cropping Intensity of Annual Crops 3/														
1) Wet Season	%	93	100	100	100	97	100	97	85	67	100	100	93	
2) Dry Season I	%	69	85	79	60	2	0	92	0	0	0	47	30	
3) Dry Season II	%	0	0	0	0	89	76	0	71	52	88	0	38	
4) Annual	%													
- Irrigated Paddy	%	145	162	179	99	178	176	179	136	95	169	66	136	
- Rainfed Paddy	%	15	19	0	50	8	0	9	16	19	15	67	13	
- Palawija	%	3	4	0	11	2	0	2	3	4	3	13	12	
Total	%	162	185	179	159	187	176	190	156	118	188	147	161	
3.3 Irrigation Performances 4/	%	185	200	179	199	193	176	197	163	118	200	200	175	
4. Crop Yield & Production														
4.1 Crop Yield														
1) Wet Season														
- Irrigated Paddy	t/ha	4.0	4.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.5	4.0		
- Rainfed Paddy	t/ha	2.5	2.5		2.5	2.5		2.5	2.5	2.5	2.5	2.5		
2) Dry Season I														
- Irrigated Paddy	t/ha	4.0	5.0	4.5	4.5			4.0				4.0		
3) Dry Season II														
- Irrigated Paddy	t/ha					4.0	4.0		4.0	4.0	4.5			
4) Avg. Paddy Yield 5/	t/ha	3.9	4.5	4.2	3.7	3.7	4.0	3.9	3.8	3.8	4.3	3.2	4.1	
4.2 Annual Crop Production														
1) Irrigated Paddy	ton	31,748	18,155	7,265	19,863	8,678	18,520	45,248	19,264	14,464	16,407	7,960	707,909	
2) Rainfed Paddy	ton	2,005	1,115	0	5,930	258	0	1,465	1,443	1,788	828	5,013	39,418	
3) Total Paddy	ton	33,753	19,270	7,265	25,793	8,935	18,520	46,713	20,707	16,252	17,235	12,973	747,326	
4) Palawija	ton	400	223	0	515	21	0	117	115	143	66	401	27,781	
No. of Beneficiaries	No.	5,039	3,185	837	2,151	875	2,229	1,378	2,234	1,250	1,500	257	103,339	
Irrigated Field/Beneficiary	ha	0.85	0.60	1.15	1.10	1.37	1.18	4.17	1.32	2.46	1.22	3.87	0.97	

1/: Area converted to other land uses (alih fi 3/: Weighted annual average yield of irrigated & rainfed paddy

2/: Cropping patter: IA = paddy-paddy-fallow; IB = paddy-paddy-paddy/fallow; IC = paddy-paddy/palawija-fallow

IIA = paddy - fallow - paddy; IIB = paddy - palawija/fallow - paddy; IIC = paddy - fallow - paddy/palawija

ID & IID = other patterns 3/: Cropping intensity to Target Area

4/: Cropping intensity in irrigated field 5/: Weighted annual average yield of irrigated & rainfed paddy

Table A-4.2.10 Financial Crop Budget per Ha : South Sulawesi - 1/2 --- Paddy

Items	Unit	Unit Price (Rp000)	Rainfed Paddy				Irrigated Paddy								
			Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	
1. Gross Return															
Unit Yield	(t/ha)		2.5		3.5		4.0		4.5		5.0		5.5		6.0
Unit Price	(Rp.000/t)			1,300		1,300		1,300		1,300		1,300		1,300	
Gross Return	(Rp.000)			3,250		4,550		5,200		5,850		6,500		7,150	
2. Production cost				1,401		1,763		2,015		2,182		2,377		2,548	
2-1. Farm Inputs				294		483		571		652		759		844	
Seed 1/	(kg)		30	60	30	60	30	60	30	60	30	96	30	96	30
Fertilizers				184		348		418		499		570		655	
- Urea	(kg)	1.3	100	130	150	195	150	195	180	234	200	260	225	293	250
- SP36	(kg)	1.8	30	54	50	90	50	90	50	90	75	135	75	135	100
- KCl	(kg)	2.1	0	0	30	63	30	63	50	105	50	105	75	158	75
- ZA	(kg)	1.4	0	0	0	0	50	70	50	70	50	70	50	70	75
Agro chemicals				50		75		93		93		93		93	
- Insecticide (liquid)	(lit)	50	1.0	50	1.5	75	1.5	75	1.5	75	1.5	75	1.5	75	2.0
- Insecticide (powder)	(kg)	30													
- Rodenticide	(kg)	35					0.5	18	0.5	18	0.5	18	0.5	18	0.5
- Herbicide	(kg)	30													
2-2. Labour Costs				625		755		895		960		1,025		1,090	
Contracted Works															
- Transplanting 2/	(unit)		1	300	1	300	1	300	1	300	1	300	1	300	1
- Harvesting 3/	(unit)		10 %	325	10 %	455	10 %	520	10 %	585	10 %	650	10 %	715	10 %
Labour Requirements 4/															
- Hired Labor	(man-day)	15	0	0	0	0	5	75	5	75	5	75	5	75	5
- Family Labor	(man-day)		40		40		47		47		48		48		48
Total	(man-day)		40		40		52		52		53		53		53
2-3. Land Preparation				350		350		350		350		350		350	
- Machinery	(unit)		1	350	1	350	1	350	1	350	1	350	1	350	1
- Draft Animal	(unit)														
2-4. Field Transportation	(L.S.)		2 %	65	2 %	91	2 %	104	2 %	117	2 %	130	2 %	143	2 %
2-5. Misceraneous Expenses	(L.S.)		5 %	67	5 %	84	5 %	96	5 %	104	5 %	113	5 %	121	5 %
3. Net Return				2.5		3.5		4.0		4.5		5.0		5.5	
	Rp.000			1,849		2,787		3,185		3,668		4,123		4,602	
	%			57		61		61		63		63		64	
	Rounded			1,850		2,790		3,180		3,670		4,120		4,600	

1/: Seed price: Rainfed --- Rp. 2,000/kg; Irrigated field --- yield level < 5.0 Rp. 2,000; yield level ≥ 5.0 Rp. 3,200
 3/: Share harvesting (borogan) system assumed; cost 10 % of products

2/: Contract work for transplanting assumed --- Rp. 300,000/ha at financial price by 15 labourers
 4/: Hired Labour Requirements --- assumed to be 10% of total labour requirements in irrigated field

Table 4.2.10 Financial Crop Budget per Ha : South Sulawesi - 2/2 --- Palawija

Items	Unit	Unit Price (Rp000)	Maize						Groundnut						Soybeans				Mungbeans			
			Composit		Hybrid				Yield: 0.7 t/ha		Yield: 0.9 t/ha		Yield: 1.2 t/ha		Yield: 1.0 t/ha		Yield: 1.4 t/ha		Yield: 0.8 t/ha		Yield: 1.2 t/ha	
			Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)
1. Gross Return																						
Unit Yield	(t/ha)		2.5																			
Unit Price	(Rp.000/t)			1,000		1,000		1,000		4,400		4,400		4,400		2,700		2,700		3,400		3,400
Gross Return	(Rp.000)			2,500		4,000		5,000		3,080		3,960		5,280		2,700		3,780		2,720		4,080
2. Production cost				941		1,811		2,181		1,217		1,528		2,169		774		1,175		735		1,132
2-1. Farm Inputs				446		930		1,073		820		945		1,060		370		560		345		500
Seed 1/	(kg)		30	111	20	420	20	420	100	550	70	385	70	385	40	120	45	135	20	80	25	100
Fertilizers				285		383		500		190		408		493		175		350		265		350
- Urea	(kg)	1.3	150	195	150	195	200	260	50	65	75	98	100	130	25	33	50	65	25	33	50	65
- SP36	(kg)	1.8	50	90	75	135	75	135	50	90	75	135	75	135	50	90	100	180	100	180	100	180
- KCl	(kg)	2.1		0	25	53	50	105		0	50	105	75	158	25	53	50	105	25	53	50	105
- ZA	(kg)	1.4							25	35	50	70	50	70								
- PPC	(lit)	70																				
Agro chemicals				50		128		153		80		153		183		75		75		0		50
- Insecticide (liquid)	(lit)	50	1.0	50	1.0	50	1.5	75	1.0	50	1.5	75	1.5	75	1.5	75	1.5	75	0.0	0	1.0	50
- Insecticide (powder)	(kg)																					
- Rodenticide	(kg)	35			0.5	18	0.5	18		0.5	18	0.5	18									0
- Herbicide	(lit)	30			2.0	60	2.0	60	1.0	30	2.0	60	3.0	90								
2-2. Labour Costs				225		435		555		277		431		550		243		385		245		412
Contracted Works																						
- Planting																						
- Harvesting 2/			9 %	225	9 %	360	9 %	450	9 %	277	9 %	356	9 %	475	9 %	243	9 %	340	9 %	245	9 %	367
Labour Requirements																						
- Hired Labor	(man-day)	15	0	0	5	75	7	105	0	0	5	75	5	75	0	0	3	45	0	0	3	45
- Family Labor	(man-day)		57		63		63		53		55		60		58		65		55		61	
Total	(man-day)		57		68		70		53		60		65		58		68		55		64	
2-3. Land Preparation				0		0		0		0		0	1	350		0		0		0		0
- Machinery	(unit)												1	350								
- Draft Animal	(unit)																					
2-4. Field Transportation	(L.S.)		2 %	50	2 %	80	2 %	100	2 %	62	2 %	79	2 %	106	2 %	54	2 %	76	2 %	54	2 %	82
2-5. Shelling	(L.S.)	70,000/t		175		280		350								70		98		56		84
2-6. Misceraneous Expenses	(L.S.)		5 %	45	5 %	86	5 %	104	5 %	58	5 %	73	5 %	103	5 %	37	5 %	56	5 %	35	5 %	54
				2.5		5.0		5.0														
3. Net Return	Rp.000			1,559		2,189		2,819		1,863		2,432		3,111		1,926		2,605		1,985		2,948
	%			62		55		56		60		61		59		71		69		73		72
	Rounded	Rp.000		1,560		2,190		2,820		1,860		2,430		3,110		1,930		2,600		1,980		2,950

1/: Seed price: Composit --- Rp. 3,700/kg; hybrid --- 21,000/kg

2/: Share harvesting (brogan) system assumed; cost 9 % of products

Table A-4.2.11 Estimated Net Farm Income per Ha : South Sulawesi - 1/2

Irrigation Scheme		Crop	Cropping Intensity & Cropped Area						Net Return per Ha		Net Return per Ha of Farm (Rp. 000)
			Wet Season		Dry Season I		Dry Season II		(Rp. million)		
			Intensity (%)	Cropped Area (ha)	Intensity (%)	Cropped Area (ha)	Intensity (%)	Cropped Area (ha)	Wet Season	Dry Season	
1. Bayang-Bayang Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	86	0.86		0.00	74	0.74	3.18	3.18	
		Maize			4	0.04				1.56	
		Maize					11	0.11		1.56	5,322
2. Bontomanai Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	99	0.99	100	1.00		0.00	3.18	3.18	
		Groundnut				0.00	54	0.54		1.86	
		Palawija						0.00			7,333
3. Bettu Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	3.18	3.18	
		Maize				0.00	39	0.39		1.56	
		Palawija						0.00			6,968
4. Bontonyeleng Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	92	0.92		0.00	3.18	3.18	
		Maize				0.00	41	0.41		1.56	
		Palawija						0.00			6,745
5. Jenemarrung Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00		0.00	3.18		
		Mungbeans			21	0.21		0.00		1.98	
		Palawija						0.00			3,596
6. Pamukulu Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	32	0.32		0.00	3.18	3.18	
		Maize			5	0.05		0.00		1.56	
		Palawija						0.00			4,276
7. Aparang 1 Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	3.18	3.18	
		Groundnut				0.00	7	0.07		1.86	
		Palawija						0.00			6,490
8. Aparang Hulu Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	3.18	3.18	
		Palawija				0.00		0.00			
		Palawija						0.00			6,360
9. Bantimurung Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	90	0.90		0.00	3.67	3.67	
		Groundnut				0.00	12	0.12		1.86	
		Palawija						0.00			7,196
10. Lekopancing Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	91	0.91		0.00	53	0.53	3.18	3.18	
		Maize				0.00	3	0.03		1.56	
		Palawija						0.00			4,626
11. Padaelo Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	31	0.31		0.00	3.67	3.67	
		Palawija				0.00		0.00			
		Palawija						0.00			4,808
12. Leang Lonrong Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	97	0.97	47	0.47		0.00	3.67	3.67	
		Palawija				0.00		0.00			
		Palawija						0.00			5,285
13. Palakka Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	32	0.32	3.18	3.18	
		Maize				0.00	9	0.09		1.56	
		Palawija						0.00			4,338
14. Pattiro Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	72	0.72	3.67	3.18	
		Maize				0.00	2	0.02		1.56	
		Palawija						0.00			5,991
15. Unyi Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	75	0.75	3.67	3.67	
		Mungbeans				0.00	23	0.23		1.98	
		Palawija						0.00			6,878
16. Jalling Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	43	0.43	3.18	3.18	
		Maize				0.00	33	0.33		1.56	
		Palawija						0.00			5,062
17. Lanca Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	76	0.76	3.18	3.18	
		Maize				0.00	18	0.18		1.56	
		Palawija						0.00			5,878
18. Sanrego Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	72	0.72	3.67	3.67	
		Groundnut				0.00	19	0.19		1.86	
		Palawija						0.00			6,666
19. Salobunne Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	82	0.82		0.00	90	0.90	3.18	3.67	
		Soybeans			19	0.19		0.00		1.93	
		Palawija						0.00			6,277
20. Leworeng Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	86	0.86		0.00	99	0.99	3.67	3.67	
		Mungbeans			7	0.07		0.00		1.98	
		Palawija						0.00			6,928
21. Tinco Kiri Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	99	0.99		0.00	77	0.77	3.67	4.12	
		Groundnut			14	0.14		0.00		1.86	
		Groundnut					2	0.02		1.86	7,103
22. Cillallang Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	62	0.62		0.00	59	0.59	3.18	3.18	
		Palawija				0.00		0.00			
		Palawija						0.00			3,848
23. Alekarajae Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00		0.00	3.18		
		Maize			19	0.19		0.00		1.56	
		Maize					4	0.04		1.56	3,539

Table A-4.2.11 Estimated Net Farm Income per Ha : South Sulawesi - 2/2

Irrigation Scheme		Crop	Cropping Intensity & Cropped Area						Net Return per Ha		Net Return per Ha of Farm (Rp. 000)
			Wet Season		Dry Season I		Dry Season II		Wet Season	Dry Season	
			Intensity (%)	Cropped Area (ha)	Intensity (%)	Cropped Area (ha)	Intensity (%)	Cropped Area (ha)			
24. Bulucenrana Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	93	0.93	2	0.02	73	0.73	3.67	4.12	
		Palawija					0.00				
		Palawija						0.00			6,503
25. Bulutimorang Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	56	0.56			58	0.58	2.79	3.18	
		Palawija					0.00				
		Palawija						0.00			3,407
26. Kalosi Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	59	0.59		0.00	3.67	3.18	
		Palawija			15	0.15		0.00			
		Palawija					13	0.13			5,546
27. Padang Sappa Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	97	0.97			78	0.78	3.18	3.67	
		Palawija					0.00				
		Palawija						0.00			5,947
Land Use Holding Size (ha)	Rainfed Field 1 ha	Rainfed Paddy	100	1.00				0.00	1.85		
		Maize					20	0.20		1.56	
		Palawija						0.00			2,162
28. Bajo Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00			77	0.77	3.18	3.67	
		Palawija					0.00				
		Palawija						0.00			6,006
29. Pagang Alipan Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	81	0.81		0.00	3.18	3.18	
		Palawija					0.00				
		Palawija						0.00			5,756
30. Makawa Land Use Holding Size (ha)	Non-technical Irrigated Field 1 ha	Irrigated Paddy	92	0.92	68	0.68		0.00	3.18	3.18	
		Palawija					0.00				
		Palawija						0.00			5,088
31. Lamasi Kanan Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	85	0.85		0.00	3.18	3.18	
		Palawija					0.00				
		Palawija						0.00			5,883
32. Maloso, Sekka Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	3.67	4.12	
		Palawija					0.00				
		Palawija						0.00			7,790
33. Lakejo Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	79	0.79		0.00	3.18	3.67	
		Palawija					0.00				
		Palawija						0.00			6,079
34. Gamo-Gamo Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	97	0.97		0.00	3.18	3.67	
		Soybeans			2	0.02		0.00		1.93	
		Palawija						0.00			6,779
Land Use Holding Size (ha)	Rainfed Field 1 ha	Rainfed Paddy	100	1.00				0.00	1.85		
		Maize					20	0.20		1.56	
		Palawija						0.00			2,162
35. Kanjiro Land Use Holding Size (ha)	Semi-technical Irrigated Field 1 ha	Irrigated Paddy	97	0.97			97	0.97	2.79	3.18	
		Palawija					0.00				
		Palawija						0.00			5,791
36. Bone-Bone Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00			76	0.76	3.18	3.18	
		Palawija					0.00				
		Palawija						0.00			5,597
37. Kalaena Kanan I Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	97	0.97	100	1.00		0.00	3.18	3.18	
		Palawija					0.00				
		Palawija						0.00			6,265
38. Kalaena Kiri Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	82	0.82			81	0.81	3.18	3.18	
		Palawija					0.00				
		Palawija						0.00			5,183
39. Kalaena Kanan II Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	59	0.59			59	0.59	3.18	3.18	
		Palawija					0.00				
		Palawija						0.00			3,752
40. Kalaena (Rt.) Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00			100	1.00	3.67	3.67	
		Palawija					0.00				
		Palawija						0.00			7,340
41. Kuri-Kuri, Kasambi Land Use Holding Size (ha)	Technical Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	3.18	3.18	
		Palawija					0.00				
		Palawija						0.00			6,360
Land Use Holding Size (ha)	Rainfed Field 1 ha	Rainfed Paddy	100	1.00				0.00	2		
		Maize					20	0.20		1.56	
		Palawija						0.00			2,162
Average of	Irrigated Field Rainfed Field Overall										5,770
											2,162
											5,524

Table A-4.2.12 Summary Sheet for Results of Inventory Survey on Agriculture Support Services and Agricultural Constraints : South Sulawesi - 2/2

Irrigation Scheme	Technical Level	Registered Area (ha)	Irrigated Area (ha)	1. Agriculture Extension & Institutions										2. Marketing								3. Constraints *****													
														Paddy				Palawija																	
				1.1	1.2	1.3	1.4	1.5		1.6	1.7	1.8			2.1		2.2		2.3		2.4		3.1		3.2		3.3		3.4		3.5		3.6		
				PPLs	BPPs	KUD	KUD Mandiri	Farm Credit		Farm Inputs	Seed Procurement	Farmers Organizations			Practices		Channel		Channel		Rice Mills	Storage Facilities	Engineering		Agronomic		Paddy Marketing		Palawija / Vegetable Marketing		KT		Extension		
				1.5.1	1.5.2			KT	UPJA	KOP	1st	2nd	1st	2nd	1st	2nd			1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd					
22 Cillallang	ST	1,113	201	2	1	0	0	d	d	b	b		0	0	a	c	a	c	-	-	b	c	b	c	a	b	a	d	-	-	a	d	d	c	
23 Alekarajae	ST	1,253	1,253	1	1	1	0	a	a	a	a		0	0	a	b	a	c	b	a	b	c	a	d	b	c	d	b	a	d	a	c	a	c	
24 Bulucenrana	T	5,999	4,618	6	1	2	0	d	d	a	a		1	0	a	b	a	c	-	-	b	c	b	d	a	d	a	d	a	d	d	a	d	b	
25 Bulutimorang	T	5,692	4,950	5	0	1	0	d	d	a	b		0	0	a	b	a	c	a	b	b	c	a	b	a	b	a	b	-	-	c	d	a	c	
26 Kalosi	T	1,004	751	1	1	1	0	d	d	a	a		0	0	a	b	a	c	b	a	b	a	a	e	b	c	a	d	a	c	a	a	c		
27 Padang Sappa	T	12,588	4,881	8	1	7	2	b	b	a	a		0	12	a	c	a	c	-	-	b	a	a	d	b	c	d	b	g		d	c	c	b	
28 Bajo	ST	7,000	5,466	3	1	7	3	b	c	a	b		2	1	a	c	a	c	-	-	b	b	c	b	c	a	a	d	e	f	c	e	a	c	
29 Pagang Alipan	T	1,200	795	1	1	0	0	c	d	b	a		0	0	a	c	a	c	-	-	c	c	a	c	a	b	a	d	-	-	b	c	c	b	
30 Makawa	NT	1,775	880	1	1	1	0	c	d	a	a		0	0	a	c	a	c	-	-	b	b	c	f	a	b	b	a	-	-	d	a	c	d	
31 Lamasi Kanan	T	5,485	4,290	2	1	1	0	c	d	a	a		0	0	a	c	a	b	-	-	a	a	a	f	a	b	a	b	-	-	b	c	b	a	
32 Maloso, Sekka	T	2,991	1,911	1				d	d	a	a		0	0	a	b	a	d	a	b		a	a	b	b	c	a	b	a	b	c	a	a	c	
33 Lakejo	T	1,265	960	4	1	0	0	c	d	a	a		0	0	a	d	a	c	-	-	b	c	a	b	a	c	d	b	d	b	d	a	d	c	
34 Gamo-Gamo	T	4,820	2,371	2	1	2	0	d	d	a	a		0	0	a	b	a	d	a	b	b	a	a	b	b	c	a	b	a	b	c	a	a	c	
35 Kanjiro	ST	1,491	1,198	2	1	1	1	b	d	a	b		0	0	a	c	a	c	-	-	b	b	a	e	c	b	a	d	-	-	e	b	a	c	
36 Bone-Bone	T	2,754	2,625	4	2	4	1	a	a	a	a		0	1	a	c	a	c	a	b	b	c	b	d	b	c	a	c	a	b	c	b	c	b	
37 Kalaena Kanan I	T	6,615	5,746	8	1	1	0	d	d	a	c		0	4	a	c	a	c	a	b	b	a	b	a	a	b	a	b	-	-	c	b	b	a	
38 Kalaena Kiri	T	4,043	2,959	2	0	1	0	c	d	b	b		1	0	a	c	a	b	-	-	b	b	f	e	c	b	a	d	-	-	c	a	a	c	
39 Kalaena Kanan II	T	5,077	3,072	4	1	9	3	c	c	a	a		0	0	b	c	c	a	e		b	a	e	a	c	b	e	f	g	e	c	a	a	c	
40 Kalaena(Rt. Bendung	T	2,730	1,823	3	1	7	0	b	b	a	a		0	0	b	c	c	a	e		b	a	b	e	b	c	d	b	g	a	d	a	c	b	
41 Kuri-Kuri, Kasambi	ST	3,000	995	1	0	1	0	d	d	a	a		3	0	a	b	a	c	a	b		b	a	d	c	c	a	a	b	-	-	a	d	a	b

Inquiries and Coises for Answers Employed in the Inventory Survey

<p>1. Agriculture Extension & Institutions</p> <p>1.1 No. of PPLs working in the DI or deployed in sub-districts located in DI</p> <p>1.2 No. of BPPs providing extension services in the DI</p> <p>1.3 No. of KUDs in and around the DI</p> <p>1.4 No. of KUD Mandiri among KUDs in and around the DI</p> <p>1.5 Accessibility to farm credits in the DI</p> <p>1.5.1 Accessibility to farm credit by farmers in the DI</p> <p>a. No difficulty to receive farm credit</p> <p>b. Some difficulty to receive farm credit, but can get</p> <p>c. Very difficult to receive farm credit</p> <p>d. Almost no access to farm credit</p> <p>1.5.2 Coverage of farm credit in the DI</p> <p>a. Over 70 % of farmers supported by farm credit</p> <p>b. 40 - 70 % of farmers supported by farm credit</p> <p>1.6 Procurement of farm inputs (fertilizer/chemical)</p> <p>a. No difficulty to procure b. Some difficulty</p> <p>c. Very difficult</p> <p>1.7 Procurement of quality seeds</p> <p>a. No difficulty to procure b. Some difficulty</p> <p>c. Very difficult</p> <p>1.8 Farmers Organizations</p> <p>No. of Kelompok Tani formed in the DI</p> <p>No. of UPJA formed in the DI</p> <p>No. of KOPTAN formed in the DI</p>	<p>2. Marketing</p> <p>2.1 Prevailing Practices for Marketing of paddy</p> <p>a. Sold just after harvest at field</p> <p>b. Sold paddy after drying</p> <p>c. Sold after milling</p> <p>d. Sold after storing</p> <p>e. Other</p> <p>2.2 Prevailing marketing channel of paddy in DI</p> <p>a. Paddy (gabah) to collector/middlemen</p> <p>b. Paddy (gabah) to KUD</p> <p>c. Paddy (gabah) to rice mill</p> <p>d. Rice (beras) to collector/middlemen</p> <p>e. Other</p> <p>2.3 Prevailing marketing channel of palawija in DI</p> <p>a. Sold to collector/middlemen</p> <p>b. Sold at local market</p> <p>c. Sold to KUD</p> <p>e. Other</p> <p>2.4 Availability of Post-harvest Facilities</p> <p>Rice Mills a. Surplus b. Enough c. Not enough</p> <p>Storage Facilities a. Enough b. Not enough c. Not existing f. Other</p>	<p>3. Constraints ***** 1st = primary constraint 2nd = secondary constraint</p> <p>3.1 Engineering (Irrigation & Drainage)</p> <p>a. Water shortage at on-farm level in dry season</p> <p>b. Poor drainage</p> <p>c. Flooding</p> <p>d. Poor O&M at main & 2ry canals</p> <p>e. Poor O&M at tertiary level and below</p> <p>f. Other</p> <p>3.2 Agronomic</p> <p>a. Farmers not following recommended practices</p> <p>b. Rat</p> <p>c. Pest & diseases</p> <p>d. Other</p> <p>3.3 Paddy Marketing</p> <p>a. Low marketing prices</p> <p>b. Unstable marketing prices</p> <p>c. Limited market outlet</p> <p>d. Limited bargaining power of farmers</p> <p>e. Poor quality of products</p>	<p>3.4 Palawija & Vegetable Marketing</p> <p>a. Low marketing prices</p> <p>b. Unstable marketing prices</p> <p>c. Limited market outlet</p> <p>d. Limited bargaining power of farmers</p> <p>e. Poor quality of products</p> <p>f. Low competitiveness with other producing areas</p> <p>g. Other</p> <p>3.5 Farmer Organizations (<i>kelompok tani/KT</i>)</p> <p>a. Most members are not active</p> <p>b. Economic activities are limited</p> <p>c. Managerial capacity of KTs are limited</p> <p>d. No collaboration among KTs</p> <p>e. Other</p> <p>3.6 Extension</p> <p>a. Implementation of extension programs is limited</p> <p>b. Shortage of operation funds of PPLs</p> <p>c. Extension activities of PPLs are limited</p> <p>d. Capability & experiences of PPLs are limited</p> <p>e. Other</p>
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Table A-4.2.13 Current Condition of WUA in Study Area of South Sulawesi

District	Irrigation Scheme in Study Area	WUA Establishment			WUA Performance and Status					
		Target	Estab- lished	Realized Ratio (%)	Developed		Under Developing		Not Yet Developed	
					BBH	SBH	BBH	SBH	BBH	SBH
1	Bulukumba	57	14	25	0	0	14	0	0	0
2	Bontomanai	45	13	29	0	0	10	0	3	0
3	Bettu	21	8	38	0	0	8	0	0	0
4	Bontonyeleng	12	4	33	0	0	1	0	3	0
5	Takalar	10	10	100	0	0	10	0	0	0
6	Pamukulu	44	30	68	0	0	25	0	5	0
7	Sinjai	4	2	50	0	0	2	0	0	0
8	Aparang Hulu	5	4	80	0	0	3	0	1	0
9	Maros	65	51	78	0	0	51	0	0	0
10	Lekopancing	35	30	86	0	0	25	0	5	0
11	Pangkep	46	40	87	0	0	37	0	3	0
12	Leang Lonrong	19	17	89	0	0	17	0	0	0
13	Bone	58	50	86	0	0	42	0	8	0
14	Pattiro	63	51	81	0	0	50	0	1	0
15	Unyi	16	16	100	0	0	16	0	0	0
16	Jaling	22	20	91	0	2	6	0	12	0
17	Lanca	14	7	50	0	0	0	0	7	0
18	Sanrego	120	114	95	0	0	106	0	8	0
19	Soppeng	12	12	100	3	0	9	0	0	0
20	Leworeng	19	19	100	4	0	15	0	0	0
21	Tinco Kiri	22	22	100	18	0	4	0	0	0
22	Wajo	10	10	100	9	0	1	0	0	0
23	Sidrap	13	5	38	0	0	3	0	2	0
24	Bulucentrana	62	57	92	15	0	39	3	0	0
25	Bulutimorang	59	50	85	11	4	32	3	0	0
26	Pinrang	12	9	75	0	0	0	9	0	0
27	Luwu	103	82	80	0	0	82	0	0	0
28	Bajo	57	20	35	0	0	0	0	20	0
29	Pagang Alipan	10	8	80	0	0	4	0	4	0
30	Makawa	15	6	40	0	0	0	0	6	0
31	Lamasi Kanan	45	36	80	0	0	30	0	6	0
32	Polmas	13	9	69	0	0	5	0	4	0
33	Lakejo	6	4	67	0	0	3	0	1	0
34	Gamo-Gamo	21	21	100	0	0	21	0	0	0
35	Luwu Utara	16	10	63	0	0	10	0	0	0
36	Bone-Bone	29	13	45	0	0	13	0	0	0
37	Kalaena Kanan I	70	34	49	0	0	34	0	0	0
38	Kalaena Kiri	49	29	59	0	0	27	0	2	0
39	Kalaena Kanan II	53	25	47	0	0	24	0	1	0
40	Kalaena (Rt. Bendung)	29	16	55	0	0	10	0	6	0
41	Kuri-Kuri, Kasambi	0	0	0	0	0	0	0	0	0
Total		1,381	978	71	60	6	789	15	108	0

Remarks SBH : Already registered in local court of justice
BBH : Not yet registered in local court of justice

Table A-5.2.1 Summary: Existing Condition and Development Plan: South Sulawesi

No.	Irrigation Scheme	District	Existing Condition											Development Plan										
			Technical Level ¹⁾	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			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	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	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	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	D	1,079	RG2	new construction	RG4	RG4	4.833	5.434	27	1,079	-
5	Jenemarrung	Takalar	ST	1,052	28	Headworks	not provided	C	0.634	9.120	23	D	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	C	4,480	RG3	new construction	RG3 & RG4	RG4	17.299	36.831	256	4,480	-
7	Aparang 1	Sinjai	ST	1,049	28	Headworks	not provided	B	3.792	8.198	27	D	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	C	1.955	5.873	24	D	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	D	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	C	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	C	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	C	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	C	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	C	4,739	RG4	new construction	RG4	RG4	12.608	37.399	156	4,739	-
15	Unyi	Bone	T	1,310	19	Headworks	not provided	B	9.053	7.234	71	D	D	C	1,136	RG2	new construction	RG4	RG4	7.876	6.294	70	1,136	-
16	Jalling	Bone	T	1,777	18	Headworks	not provided	B	13.516	3.950	80	C	D	C	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	D	676	RG3	new construction	RG4	RG4	-	7.167	43	676	-
18	Sanrego	Bone	T	6,618	13	Headworks	not provided	B	11.490	55.093	363	D	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	C	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	D	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	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	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	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	C	5,583	RG4	new construction	RG4	RG4	8.929	33.646	111	5,583	-
25	Bulutimorang	Sidrap	T	5,692	9	Headworks	provided	C	1.909	45.567	73	C	D	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	D	838	RG3	new construction	RG4	RG4	0.926	6.916	13	838	-
27	Padang Sappa	Luwu	T	12,588	15	Headworks	provided	B	10.164	47.960	163	D	D	C	10,889	RG2	minor rehabili.	RG4	RG4	8.843	41.725	168	4,881	6,008
28	Bajo	Luwu	ST	7,000	12	Headworks	provided	C	2.100	47.275	13	D	D	D	6,462	RG3	replacement	RG4	RG4	2.310	56.730	91	6,462	-
29	Pagang Alipan	Luwu	ST	1,200	7	Headworks	provided	B	1.656	6.009	46	D	D	D	795	RG2	minor rehabili.	RG4	RG4	1.202	4.759	40	795	-
30	Makawa	Luwu	NT	1,775	22	Headworks	not provided	C	3.300	3.460	39	D	D	D	1,000	RG3	new 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	C	5,170	RG3	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	D	2,357	RG2	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	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	C	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	C	1,301	RG3	replacement	RG3 & RG4	RG4	5.695	8.278	85	1,301	-
36	Bone-Bone	Luwu Utara	T	2,754	20	Headworks	provided	B	16.978	6.422	73	C	D	C	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	C	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	C	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	C	3,787	RG2	-	RG4	RG4	10.900	17.376	80	3,787	-
40	Kalaena (Rt. Bendung)	Luwu Utara	T	2,730	23	Headworks	provided	B	11.331	15.046	64	C	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	C	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

Table A-5.2.2 Irrigation System Rehabilitation Cost of the Schemes: South Sulawesi

No.	Irrigation Scheme	District	Technical Level ¹⁾	Registered Area (ha)	Subject Area (ha)	Area Increment (ha)	Age of the Facilities (years)	Irrigation System Rehabilitation Cost (million Rp.)										Rehabilitation Cost per ha (US\$/ha)	
								Water Resources Facility			Irrigation Works			Drainage Works	On-Farm Development	Project Facilities	Total		
								Dam/Headworks	Settling Basin	Sub-total	Canals	Related Structures	Sub-total						
1.	Bayang-Bayang	Bulukumba	ST	5,030	4,121	-909	29	4,078	3,063	7,141	51,580	3,073	54,653	5,465	9,348	1,570	78,177	2,291	
2.	Bontomanai	Bulukumba	ST	3,976	3,297	-679	5	1,824	1,908	3,732	23,740	11,800	35,540	3,554	9,050	1,570	53,445	1,958	
3.	Bettu	Bulukumba	ST	1,817	1,802	-15	20	1,027	2,084	3,112	15,534	4,687	20,221	2,022	3,694	1,260	30,308	2,032	
4.	Bontonyeleng	Bulukumba	ST	1,096	1,079	-17	13	1,183	1,614	2,797	9,340	974	10,314	1,031	3,024	1,260	18,427	2,063	
5.	Jenemarrung	Takalar	ST	1,052	975	-77	28	1,280	1,497	2,777	10,633	1,182	11,815	1,181	1,999	1,260	19,032	2,358	
6.	Pamukulu	Takalar	T	4,526	4,480	-46	18	1,280	3,063	4,343	49,514	24,914	74,428	7,443	9,362	1,570	97,146	2,619	
7.	Aparang I	Sinjai	ST	1,049	1,049	0	28	1,047	1,614	2,661	15,225	1,893	17,118	1,712	2,150	1,260	24,901	2,867	
8.	Aparang Hulu	Sinjai	ST	1,094	1,094	0	18	1,096	1,614	2,710	8,046	1,543	9,589	959	2,713	1,260	17,232	1,903	
9.	Bantimurung	Maros	T	6,513	5,717	-796	17	1,824	4,442	6,266	52,140	18,552	70,692	7,069	11,720	2,590	98,337	2,078	
10.	Lekopancing	Maros	T	3,626	2,483	-1,143	21	1,318	2,084	3,403	24,569	8,451	33,020	3,302	5,090	1,570	46,385	2,256	
11.	Padaelo	Pangkep	T	2,958	2,462	-496	27	1,144	2,084	3,228	19,156	7,945	27,101	2,710	5,382	1,570	39,991	1,962	
12.	Leang Lonrong	Pangkep	T	1,229	1,229	0	15	1,454	2,759	4,213	11,620	3,018	14,638	1,464	2,519	1,260	24,095	2,368	
13.	Palakka	Bone	T	4,633	3,260	-1,373	23	1,144	766	1,910	27,391	17,402	44,794	4,479	6,683	1,570	59,436	2,202	
14.	Pattiro	Bone	T	4,970	4,739	-231	76	5,583	3,063	8,646	68,300	33,367	101,667	10,167	9,771	1,570	131,821	3,360	
15.	Unyi	Bone	T	1,310	1,136	-174	19	1,144	1,614	2,758	17,840	5,311	23,151	2,315	2,329	1,260	31,813	3,383	
16.	Jalling	Bone	T	1,777	1,301	-476	18	1,047	1,614	2,661	13,226	5,044	18,270	1,827	2,667	1,260	26,685	2,478	
17.	LANCA	Bone	ST	1,084	676	-408	11	1,270	1,497	2,767	6,233	3,336	9,569	957	1,386	1,260	15,938	2,848	
18.	Sanrego	Bone	T	6,618	5,676	-942	13	1,260	3,572	4,832	73,190	21,831	95,021	9,502	12,110	2,590	124,055	2,640	
19.	Salobunne	Soppeng	T	1,386	1,296	-90	74	3,571	1,614	5,186	14,656	4,497	19,153	1,915	2,657	1,260	30,171	2,812	
20.	Leworeng	Soppeng	T	2,258	2,187	-71	9	1,628	3,464	5,092	7,746	2,612	10,358	1,036	4,483	1,570	22,539	1,245	
21.	Tinco Kiri	Soppeng	T	2,620	2,620	0	9	1,376	625	2,001	29,057	1,938	30,995	3,100	5,371	1,570	43,037	1,984	
22.	Cillallang	Wajo	ST	1,113	1,113	0	35	1,172	2,876	4,049	10,316	1,195	11,511	1,151	2,749	1,260	20,720	2,249	
23.	Alekarajae	Sidrap	ST	1,253	1,253	0	28	1,027	1,614	2,642	16,987	2,313	19,299	1,930	2,569	1,260	27,700	2,670	
24.	Bulucenrana	Sidrap	T	5,999	5,583	-416	55	11,740	3,572	15,312	55,975	15,177	71,152	7,115	11,940	2,590	108,109	2,339	
25.	Bulutimorang	Sidrap	T	5,692	4,950	-742	9	814	1,531	2,345	39,994	5,398	45,393	4,539	10,148	1,570	63,995	1,562	
26.	Kalosi	Pinrang	T	1,004	838	-166	23	814	1,497	2,311	7,375	674	8,049	805	1,985	1,260	14,411	2,077	
27.	Padang Sappa	Luwu	T	12,588	10,889	-1,699	15	1,260	2,545	3,805	75,364	20,910	96,274	9,627	35,672	3,600	148,978	1,653	
28.	Bajo	Luwu	ST	7,000	6,462	-538	12	935	3,572	4,506	74,749	14,331	89,079	8,908	13,758	2,590	118,841	2,221	
29.	Pagang Alipan	Luwu	ST	1,200	795	-405	7	1,027	449	1,476	5,107	2,021	7,128	713	1,630	1,260	12,207	1,855	
30.	Makawa	Luwu	NT	1,775	1,000	-775	22	1,096	1,497	2,593	6,363	2,475	8,839	884	2,112	1,260	15,687	1,895	
31.	Lamasi Kanan	Luwu	T	5,485	5,170	-315	20	1,270	1,531	2,801	56,471	18,417	74,889	7,489	11,249	2,590	99,018	2,313	
32.	Maloso, Sekka	Polmas	T	2,991	2,357	-634	7	1,027	2,084	3,112	17,725	6,619	24,344	2,434	5,060	1,570	36,520	1,872	
33.	Lakejo	Polmas	T	1,265	960	-305	17	1,090	1,497	2,587	4,803	1,094	5,897	590	1,968	1,260	12,302	1,548	
34.	Gamo-Gamo	Polmas	T	4,820	4,743	-77	7	1,260	4,638	5,898	30,903	1,778	32,680	3,268	10,939	1,570	54,355	1,384	
35.	Kanjiro	Luwu Utara	ST	1,491	1,301	-190	9	635	1,614	2,249	12,758	4,894	17,652	1,765	2,720	1,260	25,646	2,381	
36.	Bone-Bone	Luwu Utara	T	2,754	2,625	-129	20	1,454	1,614	3,069	25,346	8,049	33,395	3,339	5,381	1,570	46,754	2,151	
37.	Kalaena Kanan I	Luwu Utara	T	6,615	6,332	-283	23	365	0	365	55,791	22,885	78,677	7,868	13,281	2,590	102,780	1,961	
38.	Kalaena Kiri	Luwu Utara	T	4,043	3,536	-507	23	552	766	1,319	42,280	14,383	56,664	5,666	7,545	1,570	72,763	2,486	
39.	Kalaena Kanan II	Luwu Utara	T	5,077	3,787	-1,290	23	218	0	218	34,711	8,546	43,257	4,326	8,130	1,570	57,501	1,834	
40.	Kalaena (Rt. Bendung)	Luwu Utara	T	2,730	2,154	-576	23	589	625	1,214	19,578	4,390	23,967	2,397	4,585	1,570	33,734	1,892	
41.	Kuri-Kuri, Kasambi	Luwu Utara	ST	3,000	3,000	0	10	1,090	2,554	3,644	33,142	12,625	45,767	4,577	7,178	1,570	62,736	2,526	
Total				138,517	121,527	-16,990			66,014	81,736	147,750	1,174,476	351,544	1,526,020	152,602	274,105	67,250	2,167,727	90,572
Average							21											2,155	
Rp. per ha									0.543	0.673	1.216	9.664	2.893	12.557	1.256	2.256	0.553	17.837	
Itemized Total			T : 26 ST : 14 NT : 1																

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

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

Table A-5.3.1 Agricultural Land Use Plan of the Subject Area: South Sulawesi

Irrigation Scheme	Technical Level 2/	Subject Area for Rehabilitation Plan										Increment (Land Use Changes; II - I)						
		I. Present/Before-project Status (ha)							II. With-project Status (ha)									
		A. Paddy field			Non Paddy Field (gross)				Total	Irrigated Paddy Field	Non-irrigable Land 3/	Total	Paddy Field			Non Paddy Field	Non-irrigable Land 3/	Total
		Irrigated Field	Rainfed Field	Sub-total	Upland Field	Un-cultivated Land	Sub-total	Irrigated Field					Rainfed Field	Sub-total				
1. Bayang-Bayang	ST	3,500	394	3,894	0	227	227	4,121	4,053	68	4,121	553	-394	159	-227	68	0	
2 Bontomanai	ST	2,212	408	2,620	0	677	677	3,297	3,094	203	3,297	882	-408	474	-677	203	0	
3 Bettu	ST	1,802	0	1,802	0	0	0	1,802	1,802	0	1,802	0	0	0	0	0	0	
4 Bontonyeleng	ST	815	0	815	264	0	264	1,079	1,000	79	1,079	185	0	185	-264	79	0	
5 Jenemarrung	ST	975	0	975	0	0	0	975	975	0	975	0	0	0	0	0	0	
6 Pamukulu	T	4,133	347	4,480	0	0	0	4,480	4,480	0	4,480	347	-347	0	0	0	0	
7 Aparang 1	ST	1,049	0	1,049	0	0	0	1,049	1,049	0	1,049	0	0	0	0	0	0	
8 Aparang Hulu	ST	941	0	941	153	0	153	1,094	1,048	46	1,094	107	0	107	-153	46	0	
9 Bantimurung	T	5,717	0	5,717	0	0	0	5,717	5,717	0	5,717	0	0	0	0	0	0	
10 Lekopancing	T	2,483	0	2,483	0	0	0	2,483	2,483	0	2,483	0	0	0	0	0	0	
11 Padaelo	T	1,808	654	2,462	0	0	0	2,462	2,462	0	2,462	654	-654	0	0	0	0	
12 Leang Lonrong	T	1,229	0	1,229	0	0	0	1,229	1,229	0	1,229	0	0	0	0	0	0	
13 Palakka	T	3,260	0	3,260	0	0	0	3,260	3,260	0	3,260	0	0	0	0	0	0	
14 Pattiro	T	4,630	109	4,739	0	0	0	4,739	4,739	0	4,739	109	-109	0	0	0	0	
15 Unyi	T	1,136	0	1,136	0	0	0	1,136	1,136	0	1,136	0	0	0	0	0	0	
16 Jalling	T	1,301	0	1,301	0	0	0	1,301	1,301	0	1,301	0	0	0	0	0	0	
17 Lanca	ST	676	0	676	0	0	0	676	676	0	676	0	0	0	0	0	0	
18 Sanrego	T	4,751	925	5,676	0	0	0	5,676	5,676	0	5,676	925	-925	0	0	0	0	
19 Salobunne	T	1,296	0	1,296	0	0	0	1,296	1,296	0	1,296	0	0	0	0	0	0	
20 Leworeng	T	2,187	0	2,187	0	0	0	2,187	2,187	0	2,187	0	0	0	0	0	0	
21 Tinco Kiri	T	2,620	0	2,620	0	0	0	2,620	2,620	0	2,620	0	0	0	0	0	0	
22 Cillallang	ST	201	912	1,113	0	0	0	1,113	1,113	0	1,113	912	-912	0	0	0	0	
23 Alekarajae	ST	1,253	0	1,253	0	0	0	1,253	1,253	0	1,253	0	0	0	0	0	0	
24 Bulucenrana	T	4,618	965	5,583	0	0	0	5,583	5,583	0	5,583	965	-965	0	0	0	0	
25 Bulutimorang	T	4,950	0	4,950	0	0	0	4,950	4,950	0	4,950	0	0	0	0	0	0	
26 Kalosi	T	751	0	751	0	87	87	838	812	26	838	61	0	61	-87	26	0	
27 Padang Sappa	T	4,881	2,000	6,881	4,008	0	4,008	10,889	9,687	1,202	10,889	4,806	-2,000	2,806	-4,008	1,202	0	
28 Bajo	ST	5,466	996	6,462	0	0	0	6,462	6,462	0	6,462	996	-996	0	0	0	0	
29 Pagang Alipan	T	795	0	795	0	0	0	795	795	0	795	0	0	0	0	0	0	
30 Makawa	ST	880	120	1,000	0	0	0	1,000	1,000	0	1,000	120	-120	0	0	0	0	
31 Lamasi Kanan	T	4,290	802	5,092	0	78	78	5,170	5,147	23	5,170	857	-802	55	-78	23	0	
32 Maloso, Sekka	T	1,911	446	2,357	0	0	0	2,357	2,357	0	2,357	446	-446	0	0	0	0	
33 Lakejo	T	960	0	960	0	0	0	960	960	0	960	0	0	0	0	0	0	
34 Gamo-Gamo	T	2,371	2,372	4,743	0	0	0	4,743	4,743	0	4,743	2,372	-2,372	0	0	0	0	
35 Kanjiro	T	1,198	103	1,301	0	0	0	1,301	1,301	0	1,301	103	-103	0	0	0	0	
36 Bone-Bone	T	2,625	0	2,625	0	0	0	2,625	2,625	0	2,625	0	0	0	0	0	0	
37 Kalaena Kanan I	T	5,746	586	6,332	0	0	0	6,332	6,332	0	6,332	586	-586	0	0	0	0	
38 Kalaena Kiri	T	2,959	577	3,536	0	0	0	3,536	3,536	0	3,536	577	-577	0	0	0	0	
39 Kalaena Kanan II	T	3,072	715	3,787	0	0	0	3,787	3,787	0	3,787	715	-715	0	0	0	0	
40 Kalaena (Rt.)	T	1,823	331	2,154	0	0	0	2,154	2,154	0	2,154	331	-331	0	0	0	0	
41 Kuri-Kuri, Kasambi	ST	995	2,005	3,000	0	0	0	3,000	3,000	0	3,000	2,005	-2,005	0	0	0	0	
Total		100,266	15,767	116,033	4,425	1,069	5,494	121,527	119,880	1,647	121,527	19,614	-15,767	3,847	-5,494	1,647	0	

1/: Tree crops lands are excluded from the subject area for rehabilitation plan 2/: Irrigation technical level before rehabilitation
3/: Assuming non-paddy field (gross) converted to irrigated paddy field (net) 70 % & non-irrigable area 30% including right-of-ways

Table A-5.3.2 Present Agriculture and Agriculture Plans of the Target Schemes: South Sulawesi - 1/6

District	Bulukumba												Takalar												Sinjai																									
	1. Bayang-Bayang				2. Bontomanai				3. Bettu				4. Bontonyeleng				5. Jenemarrung				6. Pamukulu				7. Aparang I																									
I. Present/Before Project	Irrigation Scheme																																																	
	1. Land Use												1. Land Use												1. Land Use																									
	Irrigated Paddy Field 3,500 ha Rainfed Paddy Field 394 ha Uncultivated Land 227 ha Subject Area 4,121 ha												Irrigated Paddy Field 2,212 ha Rainfed Paddy Field 408 ha Uncultivated Land 677 ha Subject Area 3,297 ha												Irrigated Paddy Field 1,802 ha Rainfed Paddy Field 332 ha Uncultivated Land 264 ha Subject Area 1,802 ha												Irrigated Paddy Field 815 ha Rainfed Paddy Field 332 ha Uncultivated Land 264 ha Subject Area 1,079 ha				Irrigated Paddy Field 975 ha Rainfed Paddy Field 347 ha Uncultivated Land 347 ha Subject Area 975 ha				Irrigated Paddy Field 4,133 ha Rainfed Paddy Field 347 ha Uncultivated Land 347 ha Subject Area 4,480 ha				Irrigated Paddy Field 1,049 ha Rainfed Paddy Field 347 ha Uncultivated Land 347 ha Subject Area 1,049 ha	
2. Cropped Area												2. Cropped Area												2. Cropped Area												2. Cropped Area														
- Irrigated Paddy ha 3,006 - Palawija 1/ ha 151 - Rainfed Paddy ha 394 - Palawija 2/ ha 79 Total ha 3,400												- Irrigated Paddy ha 2,195 - Palawija 1/ ha 527 - Rainfed Paddy ha 394 - Palawija 2/ ha 82 Total ha 2,823												- Irrigated Paddy ha 1,802 - Palawija 1/ ha 700 - Rainfed Paddy ha 408 - Palawija 2/ ha 82 Total ha 2,294												- Irrigated Paddy ha 815 - Palawija 1/ ha 332 - Rainfed Paddy ha 332 - Palawija 2/ ha 264 Total ha 1,079				- Irrigated Paddy ha 975 - Palawija 1/ ha 200 - Rainfed Paddy ha 200 - Palawija 2/ ha 69 Total ha 1,175				- Irrigated Paddy ha 4,133 - Palawija 1/ ha 223 - Rainfed Paddy ha 347 - Palawija 2/ ha 69 Total ha 4,480				- Irrigated Paddy ha 1,049 - Palawija 1/ ha 74 - Rainfed Paddy ha 347 - Palawija 2/ ha 69 Total ha 1,049		
3. Cropping Intensity 3/												3. Cropping Intensity 3/												3. Cropping Intensity 3/												3. Cropping Intensity 3/														
- Irrigated Paddy % 86 - Palawija 1/ % 4 In Irrigated Field % 86 - Rainfed Paddy % 100 - Palawija 2/ % 20 Overall to Subject Area % 83												- Irrigated Paddy % 99 - Palawija 1/ % 15 In Irrigated Field % 99 - Rainfed Paddy % 100 - Palawija 2/ % 20 Overall to Subject Area % 79												- Irrigated Paddy % 100 - Palawija 1/ % 54 In Irrigated Field % 100 - Rainfed Paddy % 100 - Palawija 2/ % 20 Overall to Subject Area % 36												- Irrigated Paddy % 100 - Palawija 1/ % 39 In Irrigated Field % 100 - Rainfed Paddy % 100 - Palawija 2/ % 31 Overall to Subject Area % 69				- Irrigated Paddy % 100 - Palawija 1/ % 21 In Irrigated Field % 100 - Rainfed Paddy % 100 - Palawija 2/ % 21 Overall to Subject Area % 121				- Irrigated Paddy % 100 - Palawija 1/ % 5 In Irrigated Field % 100 - Rainfed Paddy % 100 - Palawija 2/ % 5 Overall to Subject Area % 136						
4. Crop Yield												4. Crop Yield												4. Crop Yield												4. Crop Yield														
- Irrigated Paddy t/ha 4.0 - Palawija 1/ t/ha 2.5 - Rainfed Paddy t/ha 2.5 - Palawija 2/ t/ha 2.5												- Irrigated Paddy t/ha 4.0 - Palawija 1/ t/ha 0.7 - Rainfed Paddy t/ha 2.5 - Palawija 2/ t/ha 0.7												- Irrigated Paddy t/ha 4.0 - Palawija 1/ t/ha 2.5 - Rainfed Paddy t/ha 2.5 - Palawija 2/ t/ha 2.5												- Irrigated Paddy t/ha 4.0 - Palawija 1/ t/ha 0.8 - Rainfed Paddy t/ha 2.5 - Palawija 2/ t/ha 2.5				- Irrigated Paddy t/ha 4.0 - Palawija 1/ t/ha 0.7 - Rainfed Paddy t/ha 2.5 - Palawija 2/ t/ha 2.5										
5. Crop Production												5. Crop Production												5. Crop Production												5. Crop Production														
- Irrigated Paddy ton 12,024 - Palawija 1/ ton 378 - Rainfed Paddy ton 985 - Palawija 2/ ton 198 Total Paddy Production ton 13,009												- Irrigated Paddy ton 8,780 - Palawija 1/ ton 1,318 - Rainfed Paddy ton 1,020 - Palawija 2/ ton 57 Total Paddy Production ton 9,800												- Irrigated Paddy ton 7,208 - Palawija 1/ ton 840 - Rainfed Paddy ton 1,020 - Palawija 2/ ton 57 Total Paddy Production ton 7,208												- Irrigated Paddy ton 3,260 - Palawija 1/ ton 830 - Rainfed Paddy ton 830 - Palawija 2/ ton 660 Total Paddy Production ton 3,260				- Irrigated Paddy ton 3,900 - Palawija 1/ ton 160 - Rainfed Paddy ton 160 - Palawija 2/ ton 868 Total Paddy Production ton 3,900				- Irrigated Paddy ton 4,196 - Palawija 1/ ton 558 - Rainfed Paddy ton 868 - Palawija 2/ ton 173 Total Paddy Production ton 4,196						
6. Average. Paddy Yield 4/ t/ha												6. Average. Paddy Yield 4/ t/ha												6. Average. Paddy Yield 4/ t/ha												6. Average. Paddy Yield 4/ t/ha														
- - - - 3.9												- - - - 3.9												- - - - 4.0												- - - - 4.0				- - - - 3.9										
II. With Project	Irrigation Scheme																																																	
	1. Land Use												1. Land Use												1. Land Use												1. Land Use													
	Irrigated Paddy Field 4,053 ha Non-irrig. Land 68 ha Subject Area 4,121 ha												Irrigated Paddy Field 3,094 ha Non-irrig. Land 203 ha Subject Area 3,297 ha												Irrigated Paddy Field 1,802 ha Non-irrig. Land 91 ha Subject Area 1,802 ha												Irrigated Paddy Field 1,000 ha Non-irrig. Land 79 ha Subject Area 1,079 ha				Irrigated Paddy Field 975 ha Non-irrig. Land 195 ha Subject Area 975 ha				Irrigated Paddy Field 4,480 ha Non-irrig. Land 448 ha Subject Area 4,480 ha				Irrigated Paddy Field 1,049 ha Non-irrig. Land 448 ha Subject Area 1,049 ha	
2. Cropped Area												2. Cropped Area												2. Cropped Area												2. Cropped Area														
- Irrigated Paddy ha 4,053 - Palawija 1/ ha 608 Total ha 4,053												- Irrigated Paddy ha 3,094 - Palawija 1/ ha 619 Total ha 3,094												- Irrigated Paddy ha 1,802 - Palawija 1/ ha 901 Total ha 1,802												- Irrigated Paddy ha 1,000 - Palawija 1/ ha 500 Total ha 1,000				- Irrigated Paddy ha 975 - Palawija 1/ ha 195 Total ha 975				- Irrigated Paddy ha 4,480 - Palawija 1/ ha 448 Total ha 4,480						
3. Cropping Intensity 5/												3. Cropping Intensity 5/												3. Cropping Intensity 5/												3. Cropping Intensity 5/														
- Irrigated Paddy % 100 - Palawija 1/ % 15 - Palawija 1/ % 15 Total % 100												- Irrigated Paddy % 100 - Palawija 1/ % 20 - Palawija 1/ % 40 Total % 100												- Irrigated Paddy % 100 - Palawija 1/ % 50 - Palawija 1/ % 50 Total % 100												- Irrigated Paddy % 100 - Palawija 1/ % 50 - Palawija 1/ % 50 Total % 100				- Irrigated Paddy % 100 - Palawija 1/ % 20 - Palawija 1/ % 20 Total % 100										
4. Crop Yield												4. Crop Yield												4. Crop Yield												4. Crop Yield														
- Irrigated Paddy t/ha 5.0 - Palawija 1/ t/ha 5.0 - Palawija 1/ t/ha 1.2												- Irrigated Paddy t/ha 5.0 - Palawija 1/ t/ha 1.2 - Palawija 1/ t/ha 0.9												- Irrigated Paddy t/ha 5.0 - Palawija 1/ t/ha 5.0 - Palawija 1/ t/ha 5.0												- Irrigated Paddy t/ha 5.0 - Palawija 1/ t/ha 5.0 - Palawija 1/ t/ha 1.2				- Irrigated Paddy t/ha 5.0 - Palawija 1/ t/ha 5.0 - Palawija 1/ t/ha 1.2										
5. Crop Production												5. Crop Production												5. Crop Production												5. Crop Production														
- Irrigated Paddy ton 20,265 - Palawija 1/ ton 3,040 - Palawija 1/ ton 730 Total Paddy Production ton 20,265												- Irrigated Paddy ton 12,375 - Palawija 1/ ton 743 - Palawija 1/ ton 1,114 Total Paddy Production ton 12,375												- Irrigated Paddy ton 9,010 - Palawija 1/ ton 4,505 - Palawija 1/ ton 4,505 Total Paddy Production ton 9,010												- Irrigated Paddy ton 5,000 - Palawija 1/ ton 2,500 - Palawija 1/ ton 2,500 Total Paddy Production ton 5,000				- Irrigated Paddy ton 4,875 - Palawija 1/ ton 234 - Palawija 1/ ton 234 Total Paddy Production ton 4,875				- Irrigated Paddy ton 5,245 - Palawija 1/ ton 2,240 - Palawija 1/ ton 538 Total Paddy Production ton 5,245						
6. Average. Paddy Yield 4/ t/ha												6. Average. Paddy Yield 4/ t/ha												6. Average. Paddy Yield 4/ t/ha												6. Average. Paddy Yield 4/ t/ha														
- - - - 5.0												- - - - 5.0												- - - - 5.0												- - - - 5.0				- - - - 5.2										
Increment (With - Present)												Increment (With - Present)												Increment (With - Present)												Increment (With - Present)														
1. Land Use												1. Land Use												1. Land Use												1. Land Use														
Irrigated Paddy Field 553 ha Subject Area 0 ha												Irrigated Paddy Field 882 ha Subject Area 0 ha												Irrigated Paddy Field 0 ha Subject Area 0 ha												Irrigated Paddy Field 185 ha Subject Area 0 ha				Irrigated Paddy Field 0 ha Subject Area 0 ha				Irrigated Paddy Field 347 ha Subject Area 0 ha						
2. Cropped Area												2. Cropped Area												2. Cropped Area												2. Cropped Area														
- Paddy ha 653 - Others ha 0 Total ha 653												- Paddy ha 491 - Others ha 38 Total ha 491												- Paddy ha 0 - Others ha 201 Total ha 201												- Paddy ha 185 - Others ha -264 Total ha -79				- Paddy ha 0 - Others ha -200 Total ha -200				- Paddy ha 347 - Others ha 604 Total ha 604						
3. Cropping Intensity 5/												3. Cropping Intensity 5/												3. Cropping Intensity 5/												3. Cropping Intensity 5/														
- Paddy % 14 - Palawija % 0 Total % 14												- Paddy % 1 - Palawija % 20 Total % 1												- Paddy % 0 - Palawija % 11 Total % 11												- Paddy % 8 - Palawija % 9 Total % 17				- Paddy % 100 - Palawija % -21 Total % 79										
4. Paddy Production												4. Paddy Production												4. Paddy Production												4. Paddy Production														
- - - - 11,069												- - - - 9,197												- - - - 3,604												- - - - 3,744				- - - - 5,850										
5. Average. Paddy Yield 4/ t/ha												5. Average. Paddy Yield 4/ t/ha												5. Average. Paddy Yield 4/ t/ha												5. Average. Paddy Yield 4/ t/ha														
- - - - 1.1												- - - - 1.1												- - - - 1.0												- - - - 1.0				- - - - 1.0										

1/: Palawija in irrigated field 2/: Palawija in rainfed field and upland field 3/: Cropping intensity of crop in each land use category; Irr. Paddy Field, in rainfed field & upland field, respectively and overall to subject area
4/: Overall annual average paddy yield (annual paddy production ÷ annual total cropped area including rainfed paddy) 5/: Cropping intensity in irrigated field

Table A-5.3.2 Present Agriculture and Agriculture Plans of the Target Schemes: South Sulawesi - 2/6

District	Sinjai - continued				Maros								Pangkep								Bone																						
	8. Aparang Hulu				9. Bantimurung				10. Lekopancing				11. Padaelo				12. Leang Lonrong				13. Palakka				14. Pattiro																		
I. Present/Before Project	1. Land Use																																										
	Irrigation Scheme				Irr. Paddy Field				Irr. Paddy Field				Irr. Paddy Field				Irr. Paddy Field				Irr. Paddy Field				Irr. Paddy Field																		
	941 ha				5,717 ha				2,483 ha				1,808 ha				1,229 ha				3,260 ha				4,630 ha																		
	Subject Area 1,094 ha				Subject Area 5,717 ha				Subject Area 2,483 ha				Subject Area 2,462 ha				Subject Area 1,229 ha				Subject Area 3,260 ha				Subject Area 4,739 ha																		
2. Cropped Area	Wet Dry I Dry II Annual																																										
	941 941 0 1,882				5,717 5,156 700 10,873				2,264 1,304 3,568 10,873				1,808 567 2,375 1,210				1,229 582 1,792 3,260				1,048 4,308 4,630 3,325				7,955																		
	- Palawija 1/ ha 0 0 0 0				700 700 0 0				73 73 0 0				0 0 0 0				296 296 0 109				83 83 0 109																						
	- Rainfed Paddy ha 153 153 0 153				0 0 0 0				0 0 0 0				131 131 0 0				0 0 0 0				22 22 0 22																						
Total ha 1,094 941 0 2,035																				5,717 5,156 700 11,573				2,264 0 1,377 3,641				2,462 698 0 3,160				1,210 582 0 1,792				3,260 0 1,344 4,604				4,739 0 3,430 8,169			
3. Cropping Intensity 3/	Wet Dry I Dry II Annual																																										
	100 100 0 200				100 90 0 190				91 0 53 144				100 31 0 131				98 47 0 146				100 0 32 132				100 0 72 172																		
	- Palawija 1/ % 0 0 0 0				0 0 12 12				0 0 3 3				0 0 0 0				0 0 0 0				0 0 9 9				0 0 2 2																		
	- Rainfed Paddy % 100 100 0 200				100 90 12 202				91 0 55 147				100 31 131 100				98 47 146 100				100 0 41 141				100 0 74 174																		
Overall to Subject Area % 100 86 0 186																				100 90 12 202				91 0 55 147				100 28 0 128				98 47 0 146				100 0 41 141				100 0 72 172			
4. Crop Yield	Wet Dry I Dry II Annual																																										
	4.0 4.0 0 4.0				4.5 4.5 0.7 4.5				4.0 4.0 2.5 4.0				4.5 4.5 2.5 4.5				4.5 4.5 2.5 4.5				4.0 4.0 2.5 4.0				4.5 4.5 2.5 4.5																		
	- Palawija 1/ t/ha 0 0 0 0				0 0 0 0				0 0 0 0				0 0 0 0				0 0 0 0				0 0 0 0																						
	- Rainfed Paddy t/ha 2.5 2.5 0 2.5				0 0 0 0				0 0 0 0				0 0 0 0				0 0 0 0				0 0 0 0																						
Total Paddy Production ton 3,764 3,764 0 7,528																				25,727 23,202 0 48,929				9,056 0 5,216 14,272				9,771 2,552 0 12,323				5,445 2,619 0 8,064				13,040 0 4,192 17,232				21,108 0 13,300 34,408			
Palawija 2/: maize (composite) Palawija 1/: groundnut Palawija 1/: maize Palawija 2/: maize (composite) Palawija 1/: maize (composite) Palawija 1/ & 2/: maize (composite)																																											
- - - - 4.0 - - - - 4.5 - - - - 4.1 - - - - 4.5 - - - - 4.0 - - - - 4.3																																											
II. With Project	1. Land Use																																										
	Irr. Paddy Field 1,048 ha				Irr. Paddy Field 5,717 ha				Irr. Paddy Field 2,483 ha				Irr. Paddy Field 2,462 ha				Irr. Paddy Field 1,229 ha				Irr. Paddy Field 3,260 ha				Irr. Paddy Field 4,739 ha																		
	Non-irri. Land 46 ha				Non-irri. Land ha				Non-irri. Land ha				Non-irri. Land ha				Non-irri. Land ha				Non-irri. Land ha				Non-irri. Land ha																		
	Subject Area 1,094 ha				Subject Area 5,717 ha				Subject Area 2,483 ha				Subject Area 2,462 ha				Subject Area 1,229 ha				Subject Area 3,260 ha				Subject Area 4,739 ha																		
2. Cropped Area	Wet Dry I Dry II Annual																																										
	1,048 1,048 210 2,096				5,717 5,717 1,143 11,434				2,483 1,986 4,469 11,434				2,462 1,970 4,432 2,429				1,229 1,229 246 2,458				3,260 2,608 5,868 4,739				9,478																		
	- Palawija 1/ ha 210 210 0 210				1,143 1,143 0 248				248 248 0 248				0 0 0 0				246 246 0 246				948 948 0 948																						
	Total ha 1,048 1,048 210 2,306				5,717 5,717 1,143 12,577				2,483 2,483 5,214 12,577				2,462 2,462 0 4,924				1,229 1,229 246 2,704				3,260 0 3,260 6,520				4,739 1,896 4,739 11,374																		
3. Cropping Intensity 5/	Wet Dry I Dry II Annual																																										
	100 100 0 200				100 100 0 200				100 80 0 180				100 80 0 180				100 100 0 200				100 0 80 180				100 0 100 200																		
	- Palawija 1/ % 0 0 20 20				0 0 20 20				0 20 20 10				0 20 20 10				0 20 20 20				0 20 20 20																						
	- Rainfed Paddy % 100 100 0 200				100 100 20 220				100 100 20 220				100 100 0 200				100 100 20 220				100 0 100 200																						
Total % 100 100 20 220																				100 100 20 220				100 100 10 210				100 100 0 200				100 100 20 220				100 0 100 200							
4. Crop Yield	Wet Dry I Dry II Annual																																										
	5.0 5.0 0 5.0				5.5 5.5 1.2 5.5				5.0 5.0 1.2 5.0				5.5 5.5 5.0 5.5				5.5 5.5 5.0 5.5				5.0 5.0 5.0 5.0				5.0 5.0 5.0 5.0																		
	- Palawija 1/ t/ha 0 0 0 0				0 0 0 0				0 0 0 0				0 0 0 0				0 0 0 0				0 0 0 0																						
	- Rainfed Paddy t/ha 5.0 5.0 0 5.0				0 0 1.2 1.2				0 0 1.2 1.2				0 0 5.0 5.0				0 0 5.0 5.0				0 0 5.0 5.0																						
Palawija: maize (hybrid) Palawija: groundnut (intensive) Palawija: maize (hybrid) & mungbeans Palawija: maize (hybrid) Palawija: maize (hybrid) Palawija: maize (hybrid) & mungbeans																																											
5.240 5,240 0 10,480																				31,444 31,444 0 62,887				12,415 0 9,930 22,345				13,541 10,835 0 24,376				6,760 6,760 0 13,519				16,300 0 13,040 29,340				23,695 0 23,695 47,390			
- Palawija 1/ ton 0 0 1,050 1,050				0 0 1,372 1,372				0 2,485 2,485 0				2,460 0 2,460 0				0 1,230 1,230 0				0 3,260 3,260 0				4,740 0 4,740 1,138																			
- Rainfed Paddy ton 0 0 0 0				0 0 0 0				298 0 298 0				0 0 0 0				0 0 0 0				0 1,138 0 1,138																							
Total Average. Paddy Yield 4/ t/ha 5.0 - - - 5.5 - - - 5.0 - - - 5.5 - - - 5.0 - - - 5.0																																											
Increment (With - Present)																																											
1. Land Use																																											
Irr. Paddy Field 107 ha				Irr. Paddy Field 0 ha				Irr. Paddy Field 0 ha				Irr. Paddy Field 654 ha				Irr. Paddy Field 0 ha				Irr. Paddy Field 0 ha				Irr. Paddy Field 109 ha																			
Subject Area 0 ha				Subject Area 0 ha				Subject Area 0 ha				Subject Area 0 ha				Subject Area 0 ha				Subject Area 0 ha																							
2. Cropped Area	Wet Dry I Dry II Annual																																										
	107 107 0 214				0 561 0 561				219 0 682 901				0 1,403 0 1,403				19 647 0 666				0 1,560 1,560 0				1,414 1,414																		
	- Paddy ha 107 107 0 214				0 561 0 561				219 0 682 901				0 1,403 0 1,403				19 647 0 666				0 1,560 1,560 0																						
	- Others ha -153 0 210 57				0 443 443 0				248 424 672 0				361 361 0 722				246 246 0 492				356 356 0 712																						
Total ha -46 107 210 271																				0 561 443 1,004				219 248 1,106 1,573				0 1,764 0 1,764				19 647 246 912				0 1,916 1,916 0				1,896 1,309 3,205			
3. Cropping Intensity 5/	Wet Dry I Dry II Annual																																										
	0 0 0 0				0 10 0 10				9 0 27 36				0 49 0 49				2 53 0 54				0 48 0 48				0 28 0 28																		
	- Paddy % 0 0 0 0				0 10 0 10				9 0 27 36				0 49 0 49				2 53 0 54				0 48 0 48				0 28 0 28																		
	- Palawija % 0 0 20 20				0 8 8 8				10 17 27 0				20 20 0 20				20 20 0 20				11 11 0 40				-2 38 66																		
Total % 0 0 20 20																				10 8 18 9				10 45 67 0				69 69 2 53				74 0 59 59				0 40 26 0.7							
4. Paddy Production ton																																											
- - - 2,952				- - - 13,959				- - - 8,073				- - - 12,054				- - - 5,455				- - - 12,108				- - - 12,983																			
- - - 1.0				- - - 1.0				- - - 1.0				- - - 1.4				- - - 1.0				- - - 1.0				- - - 0.7																			

1/: Palawija in irrigated field 2/: Palawija in rainfed field and upland field 3/: Cropping intensity of crop in each land use category; Irr. Paddy Field, in rainfed field & upland field, respectively and overall to subject area
4/: Overall annual average paddy yield (annual paddy production ÷ annual total cropped area including rainfed paddy) 5/: Cropping intensity in irrigated field

Table A-5.3.2 Present Agriculture and Agriculture Plans of the Target Schemes: South Sulawesi - 3/6

District	Bone - continued												Soppeng																				
	15. Unyi				16. Jalling				17. Lanca				18. Sanrego				19. Salobunne				20. Leworeng				21. Tinco Kiri								
I. Present/Before Project	Irrigation Scheme		Bone - continued												Soppeng																		
	1. Land Use		Irr. Paddy Field 1,136 ha				Irr. Paddy Field 1,301 ha				Irr. Paddy Field 676 ha				Irr. Paddy Field 4,751 ha				Irr. Paddy Field 1,296 ha				Irr. Paddy Field 2,187 ha				Irr. Paddy Field 2,620 ha						
			Rainfed Paddy Field ha				Rainfed Paddy Field ha				Rainfed Paddy Field ha				Rainfed Paddy Field 925 ha				Rainfed Paddy Field ha				Rainfed Paddy Field ha				Rainfed Paddy Field ha						
		Uncultivated Land ha				Uncultivated Land ha				Uncultivated Land ha				Uncultivated Land ha				Uncultivated Land ha				Uncultivated Land ha				Uncultivated Land ha							
		Subject Area 1,136 ha				Subject Area 1,301 ha				Subject Area 676 ha				Subject Area 5,676 ha				Subject Area 1,296 ha				Subject Area 2,187 ha				Subject Area 2,620 ha							
2. Cropped Area		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual
- Irrigated Paddy		ha	1,136	848	1,984	1,301	557	1,858	676	515	1,191	4,751	8,193	1,058	1,163	2,221	1,880	2,165	4,045	2,605	2,006	4,611	2,060	375	54	429	0	0	0	0	0	0	0
- Palawija 1/		ha	266	266	430	430	0	0	119	119	0	925	908	908	252	252	154	154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- Rainfed Paddy		ha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- Palawija 2/		ha	0	0	0	0	0	0	0	0	0	185	185	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		ha	1,136	0	1,114	2,250	1,301	0	987	2,288	676	0	634	1,310	5,676	0	4,535	10,211	1,058	252	1,163	2,473	1,880	154	2,165	4,199	2,605	375	2,060	5,040	0	0	0
3. Cropping Intensity 3/		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual
- Irrigated Paddy		%	100	0	75	175	100	0	43	143	100	0	76	176	100	0	72	172	82	0	90	171	86	0	99	185	99	0	77	176	0	0	0
- Palawija 1/		%	0	0	23	23	0	0	33	33	0	0	18	18	0	0	19	19	0	0	19	0	7	0	7	0	14	2	16	0	0	0	0
In Irrigated Field		%	100	0	98	198	100	0	76	176	100	0	94	194	100	0	92	192	82	19	90	191	86	7	99	192	99	14	79	192	0	0	0
- Rainfed Paddy		%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- Palawija 2/		%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Overall to Subject Area		%	100	0	98	198	100	0	76	176	100	0	94	194	100	0	80	180	82	19	90	191	86	7	99	192	99	14	79	192	0	0	0
4. Crop Yield		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual
- Irrigated Paddy		t/ha	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.0	4.5	4.3	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
- Palawija 1/		t/ha	0.8	-	-	2.5	-	-	2.5	-	-	0.7	-	-	1.0	-	-	-	0.8	-	-	-	-	-	-	-	0.7	0.7	-	-	-	-	-
- Rainfed Paddy		t/ha	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Palawija 2/		t/ha	-	-	-	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Crop Production		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual
- Irrigated Paddy		ton	5,112	0	3,816	8,928	5,204	0	2,228	7,432	2,704	0	2,060	4,764	21,380	0	15,489	36,869	4,232	0	5,234	9,466	8,460	0	9,743	18,203	11,723	0	10,030	21,753	0	0	0
- Palawija 1/		ton	0	0	213	213	0	0	1,075	1,075	0	0	298	298	0	0	636	636	0	252	0	252	0	123	0	123	0	263	38	300	0	0	0
- Rainfed Paddy		ton	0	0	0	0	0	0	0	0	0	0	0	0	2,313	0	0	2,313	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- Palawija 2/		ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Paddy Production		ton	5,112	0	3,816	8,928	5,204	0	2,228	7,432	2,704	0	2,060	4,764	23,692	0	15,489	39,181	4,232	0	5,234	9,466	8,460	0	9,743	18,203	11,723	0	10,030	21,753	0	0	0
6. Average. Paddy Yield 4/ t/ha			-	-	4.5	-	-	-	4.0	-	-	-	4.0	-	-	-	4.3	-	-	-	4.3	-	-	-	4.5	-	-	-	-	-	-	-	4.7
II. With Project		Bone - continued												Soppeng																			
1. Land Use		Irr. Paddy Field 1,136 ha				Irr. Paddy Field 1,301 ha				Irr. Paddy Field 676 ha				Irr. Paddy Field 5,676 ha				Irr. Paddy Field 1,296 ha				Irr. Paddy Field 2,187 ha				Irr. Paddy Field 2,620 ha							
		Non-irri. Land ha				Non-irri. Land ha				Non-irri. Land ha				Non-irri. Land ha				Non-irri. Land ha				Non-irri. Land ha				Non-irri. Land ha							
		Subject Area 1,136 ha				Subject Area 1,301 ha				Subject Area 676 ha				Subject Area 5,676 ha				Subject Area 1,296 ha				Subject Area 2,187 ha				Subject Area 2,620 ha							
2. Cropped Area		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual
- Irrigated Paddy		ha	1,136	1,136	2,272	1,301	1,041	2,342	676	676	1,352	5,676	4,825	10,501	1,296	1,296	2,592	2,187	4,374	2,620	2,620	5,240	786	0	0	0	0	0	0	0	0	0	0
- Palawija 1/		ha	227	227	227	390	260	260	203	203	1,135	851	851	518	518	518	518	518	437	437	437	437	437	437	437	437	437	437	437	437	437	437	437
- Palawija 2/		ha	227	227	227	390	260	260	203	203	1,135	851	851	518	518	518	518	518	437	437	437	437	437	437	437	437	437	437	437	437	437	437	437
Total		ha	1,136	454	1,136	2,272	1,301	390	1,301	2,992	676	203	676	1,555	5,676	1,135	5,676	12,487	1,296	518	1,296	3,110	2,187	437	2,187	4,811	2,620	786	2,620	6,026	0	0	0
3. Cropping Intensity 5/		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual
- Irrigated Paddy		%	100	0	100	200	100	0	80	180	100	0	100	200	100	0	85	185	100	0	100	200	100	0	100	200	100	0	100	200	0	0	0
- Palawija 1/		%	0	20	0	20	0	0	20	20	0	0	30	30	0	0	15	15	40	0	40	40	20	0	20	20	30	0	30	30	0	0	0
- Palawija 2/		%	0	20	0	20	0	0	20	20	0	0	20	20	0	0	20	20	40	0	40	40	20	0	20	20	30	0	30	30	0	0	0
Total		%	100	40	100	240	100	30	100	230	100	30	100	230	100	20	100	220	100	40	100	240	100	20	100	220	100	30	100	230	0	0	0
4. Crop Yield		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual
- Irrigated Paddy		t/ha	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.0	5.5	5.3	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
- Palawija 1/		t/ha	5.0	-	-	5.0	-	-	5.0	-	5.0	-	-	-	1.2	-	-	-	1.4	-	-	-	1.2	-	-	-	1.2	-	-	-	-	-	-
- Palawija 2/		t/ha	1.2	-	-	1.2	-	-	1.2	-	5.0	-	-	-	5.0	-	-	-	1.4	-	-	-	1.2	-	-	-	1.2	-	-	-	-	-	-
5. Crop Production		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual
- Irrigated Paddy		ton	6,248	0	6,248	12,496	6,505	0	5,205	11,710	3,380	0	3,380	6,760	31,218	0	26,538	57,756	6,480	0	7,128	13,608	12,029	0	12,029	24,057	14,410	0	14,410	28,820	0	0	0
- Palawija 1/		ton	0	1,135	0	1,135	0	0	1,300	1,300	1,015	0	1,015	0	0	0	1,021	1,021	725	0	725	725	524	0	524	524	943	0	943	943	0	0	0
- Palawija 2/		ton	272	0	272	468	0	0	468	468	0	0	0	0	5,675	0	5,675	5,675	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6. Average. Paddy Yield 4/ t/ha			-	-	5.5	-	-	-	5.0	-	-	-	5.0	-	-	-	5.5	-	-	-	5.3	-											

Table A-5.3.2 Present Agriculture and Agriculture Plans of the Target Schemes: South Sulawesi - 4/6

District	Wajo				Sulawesi				Pinrang				Luwu																	
	22. Cillallang				23. Alekarajae				24. Bulucenrana				25. Bulutimorang				26. Kalosi				27. Padang Sappa				28. Bajo					
I. Present/Before Project	Irrigation Scheme																													
	Irrigated Paddy		201	ha	Irrigated Paddy		1,253	ha	Irrigated Paddy		4,618	ha	Irrigated Paddy		4,950	ha	Irrigated Paddy		751	ha	Irrigated Paddy		4,881	ha	Irrigated Paddy		5,466	ha		
	Rainfed Paddy		912	ha	Rainfed Paddy			ha	Rainfed Paddy		965	ha	Rainfed Paddy			ha	Rainfed Paddy			ha	Rainfed Paddy		2,000	ha	Rainfed Paddy		996	ha		
	Uncultivated Land			ha	Uncultivated Land			ha	Uncultivated Land			ha	Uncultivated Land			ha	Uncultivated Land		87	ha	Uncultivated Land		4,008	ha	Uncultivated Land			ha		
Subject Area		1,113 ha		Subject Area		1,253 ha		Subject Area		5,583 ha		Subject Area		4,950 ha		Subject Area		838 ha		Subject Area		10,889 ha		Subject Area		6,462 ha				
2. Cropped Area		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy		ha	125	118	243	1,253	243	1,253	4,311	99	3,358	7,768	2,782	2,870	5,652	751	442	1,193	4,711	3,816	8,527	5,466	4,202	9,668	2,000	996	199	996		
- Rainfed Paddy		ha	912	912	912	233	53	286	0	965	965	14	14	14	116	101	217	0	2,000	4,008	4,008	0	0	0	0	0	0	0		
- Palawija 1/		ha																												
- Palawija 2/		ha		182	182						193	193																		
Total		ha	1,037	0	300	1,337	1,253	233	53	1,539	5,276	99	3,551	8,926	2,796	0	2,870	5,666	751	558	101	1,410	10,719	0	4,216	14,935	6,462	0	4,401	10,863
3. Cropping Intensity 3/		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy		%	62	0	59	121	100	0	100	93	2	73	168	56	0	58	114	100	59	0	159	97	0	78	175	100	0	77	177	
- Palawija 1/		%	0	0	0	0	19	4	23	0	0	0	0	0	0	0	0	15	13	29	0	0	0	0	0	0	0	0	0	
- Rainfed Paddy		%	62	0	59	121	100	19	4	123	93	2	73	168	56	0	58	114	100	74	13	188	97	0	78	175	100	0	77	177
- Palawija 2/		%	100	0	100	100			100			100						100				100			100				100	
Overall to Subject Area		%	93	0	27	120	100	19	4	123	95	2	64	160	56	0	58	114	90	67	12	168	98	0	39	137	100	0	68	168
4. Crop Yield		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy		t/ha	4.0		4.0	4.0	4.0	4.0	4.5	5.0	5.0	4.7	3.5	4.0	3.8	4.5	4.0	4.3	4.0	4.5	4.2	4.0	4.5	4.2	4.0	4.5	4.2	4.5	4.2	
- Palawija 1/		t/ha				2.5	2.5						2.5					0.8	0.8											
- Rainfed Paddy		t/ha	2.5						2.5													2.5				2.5				
- Palawija 2/		t/ha			2.5						2.5										2.5					2.5				
5. Crop Production		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy		ton	500	0	472	972	5,012	0	5,012	19,400	495	16,790	36,685	9,737	0	11,480	21,217	3,380	1,768	0	5,148	18,844	0	17,172	36,016	21,864	0	18,909	40,773	
- Palawija 1/		ton	0	0	0	0	583	133	715	0	0	0	0	35	0	0	35	0	93	81	174	0	0	0	0	0	0	0	0	
- Rainfed Paddy		ton	2,280	0	2,280	0	0	0	2,413	0	0	0	2,413	0	0	0	0	0	0	0	0	5,000	0	0	5,000	2,490	0	2,490		
- Palawija 2/		ton	0	0	455	455	0	0	0	0	483	483	0	0	0	0	0	0	0	0	10,020	0	1,000	11,020	0	0	498	498		
Total Paddy Production		ton	2,780	0	472	3,252	5,012	0	5,012	21,812	495	16,790	39,097	9,737	0	11,480	21,217	3,380	1,768	0	5,148	23,844	0	17,172	41,016	24,354	0	18,909	43,263	
6. Average. Paddy Yield 4/ t/ha		Palawija 2/: maize (composite)				Palawija 1/: maize (composite)				Palawija 1/ & 2/: maize (composite)				Palawija 1/: maize (composite)				Palawija 1/: mungbeans				Palawija 2/: maize (composite)				Palawija 2/: maize (composite)				
II. With Project		Irrigated Paddy				Irrigated Paddy				Irrigated Paddy				Irrigated Paddy				Irrigated Paddy				Irrigated Paddy				Irrigated Paddy				
1. Land Use		Irrigated Paddy		1,113	ha	Irrigated Paddy		1,253	ha	Irrigated Paddy		5,583	ha	Irrigated Paddy		4,950	ha	Irrigated Paddy		812	ha	Irrigated Paddy		9,687	ha	Irrigated Paddy		6,462	ha	
Non-irrigated Land		Non-irrigated Land			ha	Non-irrigated Land			ha	Non-irrigated Land			ha	Non-irrigated Land			ha	Non-irrigated Land		26	ha	Non-irrigated Land		1,202	ha	Non-irrigated Land			ha	
Subject Area		Subject Area		1,113 ha		Subject Area		1,253 ha		Subject Area		5,583 ha		Subject Area		4,950 ha		Subject Area		838 ha		Subject Area		10,889 ha		Subject Area		6,462 ha		
2. Cropped Area		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy		ha	1,113		890	2,003	1,253	877	2,130	5,583		5,025	10,608	3,960		3,465	7,425	812	568		1,380	9,687		4,844	14,531	6,462		5,816	12,278	
- Palawija 1/		ha			223	223	188	188	376			558				495	495		162	162	324			969				646	646	
- Palawija 2/		ha			0	0	0	0	0			0			0	0		0	0	0			0				0	0	0	
Total		ha	1,113	0	1,113	2,226	1,253	188	1,065	5,583	0	5,583	11,166	3,960	0	3,960	7,920	812	730	162	1,704	9,687	0	5,813	15,500	6,462	0	6,462	12,924	
3. Cropping Intensity 5/		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy		%	100	0	80	180	100	0	70	170	100	0	90	190	80	0	70	150	100	70	0	170	100	0	50	150	100	0	90	190
- Palawija 1/		%	0	0	20	20	15	15	30	0	0	10	10	0	0	10	10	0	20	20	40	0	0	10	10	0	0	10	10	
- Palawija 2/		%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total		%	100	0	100	200	100	15	85	200	100	0	100	200	80	0	80	160	100	90	20	210	100	0	60	160	100	0	100	200
4. Crop Yield		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy		t/ha	5.0		5.0	5.0	5.0	5.0	5.5	5.5		5.5	5.5	4.5		5.0	4.7	5.5	5.0		5.3	5.0		5.5	5.2	5.0		5.5	5.2	
- Palawija 1/		t/ha			5.0		5.0	5.0				5.0				5.0					5.0			5.0				5.0		
- Palawija 2/		t/ha																												
5. Crop Production		Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy		ton	5,565	0	4,450	10,015	6,265	0	4,385	10,650	30,707	0	27,638	58,344	17,820	0	17,325	35,145	4,466	2,840	0	7,306	48,435	0	26,642	75,077	32,310	0	31,988	64,298
- Palawija 1/		ton	0	0	1,115	1,115	940	940	1,880	0	0	2,790	2,790	0	0	2,475	2,475	0	810	810	1,620	0	0	4,845	4,845	0	0	3,230	3,230	
- Palawija 2/		ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6. Average. Paddy Yield 4/ t/ha		Palawija: maize (hybrid)				Palawija: maize (hybrid)				Palawija: maize (hybrid)				Palawija: maize (hybrid)				Palawija: maize (hybrid)				Palawija: maize (hybrid)								
Increment (With - Present)		Irrigated Paddy		912	ha	Irrigated Paddy		0	ha	Irrigated Paddy		965	ha	Irrigated Paddy		0	ha	Irrigated Paddy		61	ha	Irrigated Paddy		4,806	ha	Irrigated Paddy		996	ha	
Subject Area		Subject Area		0 ha		Subject Area		0 ha		Subject Area		0 ha																		

Table A-5.3.2 Present Agriculture and Agriculture Plans of the Target Schemes: South Sulawesi - 5/6

District	Luwu												Polmas												Luwu Utara																			
	29. Pagang Alipan				30. Makawa				31. Lamasi Kanan				32. Maloso, Sekka				33. Lakejo				34. Gamo-Gamo				35. Kanjoro																			
I. Present/Before Project	1. Land Use																Irrigated Paddy Field 795 ha				Irrigated Paddy Field 880 ha				Irrigated Paddy Field 4,290 ha				Irrigated Paddy Field 1,911 ha				Irrigated Paddy Field 960 ha				Irrigated Paddy Field 2,371 ha				Irrigated Paddy Field 1,198 ha			
	Rainfed Paddy Field ha																Rainfed Paddy Field 120 ha				Rainfed Paddy Field 802 ha				Rainfed Paddy Field 446 ha				Rainfed Paddy Field ha				Rainfed Paddy Field 2,372 ha				Rainfed Paddy Field 103 ha							
	Uncultivated Land ha																Uncultivated Land ha				Uncultivated Land 78 ha				Uncultivated Land ha				Uncultivated Land ha				Uncultivated Land ha											
	Subject Area 795 ha																Subject Area 1,000 ha				Subject Area 5,170 ha				Subject Area 2,357 ha				Subject Area 960 ha				Subject Area 4,743 ha				Subject Area 1,301 ha							
2. Cropped Area																Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy ha																795	647		1,442	810	600		1,410	4,290	3,647		7,937	1,911	1,911		3,822	960	761		1,721	2,367	2,310		4,677	1,157	1,157		2,314	
- Palawija 1/ ha																			0				0				0				0				0				41				41	
- Rainfed Paddy ha																			0	120			120	802			802	446			446				0	2,372			2,372	103			103	
- Palawija 2/ ha																			0	24			24	160			160	89			89				0	474			474	21			21	
Total ha																795	647	0	1,442	930	624	0	1,554	5,092	3,807	0	8,899	2,357	2,000	0	4,357	960	761	0	1,721	4,739	2,825	0	7,564	1,260	21	1,157	2,438	
3. Cropping Intensity 3/																Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy %																100	81	0	181	92	68	0	160	100	85	0	185	100	100	0	200	100	79	0	179	100	97	0	197	97	0	0	97	
- Palawija 1/ %																0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	
In Irrigated Field %																100	81	0	181	92	68	0	160	100	85	0	185	100	100	0	200	100	79	0	179	100	99	0	199	97	0	0	97	
- Rainfed Paddy %																			100				100				100				100				100				100				100	
- Palawija 2/ %																			0	20	0	0	20	20	0	0	20	20	0	0	20	20	0	0	20	20	0	0	20	20	0	0	20	
Overall to Subject Area %																100	81	0	181	93	62	0	155	98	74	0	172	100	85	0	185	100	79	0	179	100	60	0	159	97	2	89	187	
4. Crop Yield																Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy t/ha																4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.5	5.0		4.8	4.0	4.5		4.2	4.0	4.0		4.2	3.5			3.8	
- Palawija 1/ t/ha																			-				-				-				-				-				-				-	
- Rainfed Paddy t/ha																			-	2.5			-	2.5			-	2.5			-				-	2.5			-	2.5			-	
- Palawija 2/ t/ha																			-	2.5			-	2.5			-	2.5			-				-	1.0			-	1.0			-	
5. Crop Production																Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy ton																3,180	2,588	0	5,768	3,240	2,400	0	5,640	17,160	14,588	0	31,748	8,600	9,555	0	18,155	3,840	3,425	0	7,265	9,468	10,395	0	19,863	4,050	0	4,628	8,678	
- Palawija 1/ ton																0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	0	0	41	0	0	0	0	
- Rainfed Paddy ton																0	0	0	0	300			300	2,005			2,005	1,115			1,115	0			0	5,930			5,930	258			258	
- Palawija 2/ ton																0	0	0	0	60			60	400			400	223			223	0			0	474			474	21			21	
Total Paddy Production ton																3,180	2,588	0	5,768	3,540	2,400	0	5,940	19,165	14,588	0	33,753	9,715	9,555	0	19,270	3,840	3,425	0	7,265	15,398	10,395	0	25,793	4,307	0	4,628	8,935	
6. Average. Paddy Yield 4/ t/ha																Palawija 2/: maize (composite)				Palawija 1/: maize (composite)				Palawija 1/: maize (composite)				Palawija 1/ & 2/: soybeans				Palawija 2/: soybeans												
																-	-	-	4.0	-	-	-	3.9	-	-	-	3.9	-	-	-	4.5	-	-	-	4.2	-	-	-	3.7	-	-	-	3.7	
II. With Project	1. Land Use																Irrigated Paddy Field 795 ha				Irrigated Paddy Field 1,000 ha				Irrigated Paddy Field 5,147 ha				Irrigated Paddy Field 2,357 ha				Irrigated Paddy Field 960 ha				Irrigated Paddy Field 4,743 ha				Irrigated Paddy Field 1,301 ha			
	Non-irrig. Land ha																Non-irrig. Land ha				Non-irrig. Land 23 ha				Non-irrig. Land ha				Non-irrig. Land ha				Non-irrig. Land ha											
	Subject Area 795 ha																Subject Area 1,000 ha				Subject Area 5,170 ha				Subject Area 2,357 ha				Subject Area 960 ha				Subject Area 4,743 ha				Subject Area 1,301 ha							
	2. Cropped Area																Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual
- Irrigated Paddy ha																795	795		1,590	1,000	800		1,800	5,147	4,375		9,522	2,357	2,121		4,478	960	864		1,824	4,743	2,846		7,589	1,301	260	1,301	2,602	
- Palawija 1/ ha																		239	239	200			200	772			772	236			236	96			96	474			474	260			260	
Total ha																795	795	239	1,829	1,000	1,000	0	2,000	5,147	5,147	0	10,294	2,357	2,357	236	4,950	960	960	96	2,016	4,743	3,794	0	8,537	1,301	260	1,301	2,862	
3. Cropping Intensity 5/																Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy %																100	100	0	200	100	80	0	180	100	85	0	185	100	90	0	190	100	90	0	190	100	100	0	160	100	0	0	100	
- Palawija 1/ %																0	0	30	30	0	20	0	20	0	15	0	15	0	10	0	10	0	10	0	10	0	10	0	10	0	20	0	20	
- Palawija 1/ %																			0				0				0		10	0	10		10	0	10		10	0	10		10	0	10	
Total %																100	100	30	230	100	100	0	200	100	100	0	200	100	100	10	210	100	100	10	210	100	80	0	180	100	20	100	220	
4. Crop Yield																Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Irrigated Paddy t/ha																5.0	5.0		5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.5	5.5		5.5	5.0	5.5		5.2	5.0	5.0		5.2	4.5			4.8	
- Palawija 1/ t/ha																			5.0				5.0				5.0				5.0				5.0				5.0				5.0	
- Palawija 2/ t/ha																			-				-				-				-				-				-				-	
5. Crop Production																Palawija: maize (hybrid)				Palawija: maize (hybrid)				Palawija: maize (hybrid)				Palawija: maize (hybrid) & mungbeans				Palawija: maize (hybrid) & mungbeans				Palawija: soybeans & maize (hybrid)				Palawija: maize (hybrid)				
- Irrigated Paddy ton																3,975	3,975	0	7,950	5,000	4,000	0	9,000	25,735	21,875	0	47,610	12,964	11,666	0	24,629	4,800	4,752	0	9,552	23,715	15,653	0	39,368	5,855	0	6,505	12,360	
- Palawija 1/ ton																0	0	1,195	1,195	1,000	0	1,000	3,860	0	3,860	1,180	0	1,180	480	0	480	0	0	0	0	664	0	664	1,300	0	1,300			
- Palawija 1/ ton																0	0	0	0	0	0	0	0	0	0	0	0	0	283	283	0	115	115	0	2,370	0	2,370	0	0	0	0			
Average. Paddy Yield 4/ t/ha																-	-	-	5.0	-	-	-	5.0	-	-	-	5.0	-	-	-	5.5	-	-	-	5.2	-	-	-	5.2	-	-	-	4.8	
Increment (With - Present)																Irrigated Paddy Field 0 ha				Irrigated Paddy Field 120 ha				Irrigated Paddy Field 857 ha				Irrigated Paddy Field 446 ha				Irrigated Paddy Field 0 ha				Irrigated Paddy Field 2,372 ha				Irrigated Paddy Field 103 ha				
Subject Area 0 ha																Subject Area 0 ha				Subject Area 0 ha				Subject Area 0 ha				Subject Area 0 ha				Subject Area 0 ha												
2. Cropped Area																Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Paddy ha																0	148	0	148	70	200	0	270	55	728	0	783	0	210	0	210	0	103	0	103	4	536	0	540	41	0	144	185	
- Others ha																0	0	239	239	0	176	0	176	0	612	0	612	0	147	236	383	0	96	96	192	0	433	0	433	0	239	0	239	
Total ha																0	148	239	387	70	376	0	446	55	1,340	0	1,395	0	357	236	593	0	199	96	295	4	969	0	973	41	239	144	424	
3. Cropping Intensity 5/																Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	Wet	Dry I	Dry II	Annual	
- Paddy %																0	19	0	19	8	12	0	20	0	0	0	0	0	-10	0	-10	0	11	0	11	0	-37	0	-37	3	0	3	7	
- Palawija %																0	0	30	30	0	20	0	20	0	15	0	15	0	10	10	20	0	10	10	20	0	18	0	18	0	20			

Table A-5.3.3 Determination of Target Cropping Intensity: South Sulawesi - 1/2

Irrigation Scheme	Present Cropping Intensity (%) 1/						Planned Cropping Intensity (%) 1/								Reference Data Used for Determination of Target Intensity Past Highest Record of Paddy Cropped Area & Intensity 2/		
	Crop	Wet	Dry I	Dry II	Annual		Crop	Wet	Dry I	Dry II	Annual		Increment		Wet	Dry I	Dry II
					%	ha					%	ha	%	ha			
1. Bayang-Bayang Irrigated area 3500 ----> 4053 ha	Paddy	86	74		160	5,599	Paddy	100	70		170	6,890	10	1,291	3,006	3,006	
	Palawija		4	11	15	527	Maize (hybrid)		15		15	608	0	81		301	901
	Total	86	78	11	175	6,126	Total	100	85	15	200	8,106	25	1,980	86%	94%	30%
2 Bontomanai Irrigated area 2212 ----> 3094 ha	Paddy	99	100		199	4,407	Paddy	100	80		180	5,569	(19)	1,162	2,212	2,212	
	Palawija			54	54	1,200	Groundnut 1/		20		20	619					1,200
	Total	99	100	54	253	5,607	Total	100	100	40	240	7,426	(13)	1,819			54%
3 Bettu Irrigated area 1802 ----> 1802 ha	Paddy	100	100		200	3,604	Paddy	100	100		200	3,604	0	0	1,802	1,802	
	Palawija			39	39	700	Maize (hybrid)			50	50	901	11	201			1,000
	Total	100	100	39	239	4,304	Total	100	100	50	250	4,505	11	201	100%	100%	55%
4 Bontonyeleng Irrigated area 815 ----> 1000 ha	Paddy	100	92		192	1,564	Paddy	100	100		200	2,000	8	436	815	815	
	Palawija			41	41	332	Maize (hybrid)			50	50	500	9	168			815
	Total	100	92	41	233	1,896	Total	100	100	50	250	2,500	17	604			100%
5 Jenemarrung Irrigated area 975 ----> 975 ha	Paddy	100			100	975	Paddy	100	100		200	1,950	100	975	975		
	Palawija			21	21	200	Mungbeans			20	20	195	(1)	(5)		200	
	Total	100	21	0	121	1,175	Total	100	100	20	220	2,145	99	970	100%	21%	
6 Pamukulu Irrigated area 4133 ----> 4480 ha	Paddy	100	32		132	5,465	Paddy	100	80		180	8,064	48	2,599	4,133	1,650	
	Palawija		5		5	223	Maize (hybrid)		10		10	448	5	225		891	
	Total	100	37	0	137	5,688	Total	100	100	0	200	8,960	63	3,272	100%	53%	
7 Aparang I Irrigated area 1049 ----> 1049 ha	Paddy	100	100		200	2,098	Paddy	100	100		200	2,098	0	0	1,049	1,049	
	Palawija			7	7	74	Groundnut 1/			40	40	420	33	346			250
	Total	100	100	7	207	2,172	Total	100	100	40	240	2,518	33	346	100%	100%	44%
8 Aparang Hulu Irrigated area 941 ----> 1048 ha	Paddy	100	100		200	1,882	Paddy	100	100		200	2,096	0	214	941	941	
	Palawija				0		Maize (hybrid)			20	20	210	20	210			
	Total	100	100	0	200	1,882	Total	100	100	20	220	2,306	20	424	100%	100%	
9 Bantimurung Irrigated area 5717 ----> 5717 ha	Paddy	100	90		190	10,873	Paddy	100	100		200	11,434	10	561			
	Palawija			12	12	700	Groundnut 1/			20	20	1,143	8	443			
	Total	100	90	12	202	11,573	Total	100	100	20	220	12,577	18	1,004			
10 Lekopancing Irrigated area 2483 ----> 2483 ha	Paddy	91		53	144	3,568	Paddy	100		80	180	4,469	36	901	2,483		1,812
	Palawija			3	3	73	Maize (hybrid)			20	20	497	17	424			290
	Total	91	0	56	147	3,641	Total	100	10	100	210	5,214	63	1,573	100%		85%
11 Padaelo Irrigated area 1808 ----> 2462 ha	Paddy	100	31		131	2,375	Paddy	100	80		180	4,432	49	2,057	2,462	1,000	
	Palawija				0		Maize (hybrid)		20		20	492	20	492			
	Total	100	31	0	131	2,375	Total	100	100	0	200	4,924	69	2,549	100%	55%	
12 Leang Lonrong Irrigated area 1229 ----> 1229 ha	Paddy	98	47		145	1,792	Paddy	100	100		200	2,458	55	666	1,229	1,229	
	Palawija				0		Maize (hybrid)			20	20	246	20	246			
	Total	98	47	0	145	1,792	Total	100	100	20	220	2,704	75	912	100%	100%	
13 Palakka Irrigated area 3260 ----> 3260 ha	Paddy	100		32	132	4,308	Paddy	100		80	180	5,868	48	1,560	3,260		2,558
	Palawija			9	9	296	Maize (hybrid)			20	20	652	11	356			771
	Total	100	0	41	141	4,604	Total	100	0	100	200	6,520	59	1,916	100%		102%
14 Pattiro Irrigated area 4630 ----> 4739 ha	Paddy	100		75	175	7,955	Paddy	100		100	200	9,478	25	1,523	4,630		3,935
	Palawija			2	2	83	Maize (hybrid)		20		20	948					180
	Total	100	0	77	177	8,038	Total	100	40	100	240	11,374	63	3,336	100%		89%
15 Unyi Irrigated area 1136 ----> 1136 ha	Paddy	100		75	175	1,984	Paddy	100		100	200	2,272	25	288	1,136		1,136
	Palawija			23	23	266	Maize (hybrid)		20		20	227					531
	Total	100	0	98	198	2,250	Total	100	40	100	240	2,726	42	476	100%		147%
16 Jalling Irrigated area 1301 ----> 1301 ha	Paddy	100		43	143	1,858	Paddy	100		80	180	2,342	37	484	1,301		701
	Palawija			33	33	430	Maize (hybrid)			20	20	260					650
	Total	100	0	76	176	2,288	Total	100	30	100	230	2,992	54	704	100%		104%
17 Lanca Irrigated area 676 ----> 676 ha	Paddy	100		76	176	1,191	Paddy	100		100	200	1,352	24	161	676		676
	Palawija			18	18	119	Maize (hybrid)		30		30	203	12	84			370
	Total	100	0	94	194	1,310	Total	100	30	100	230	1,555	36	245	100%		155%
18 Sanrego Irrigated area 4751 ----> 5676 ha	Paddy	100		72	172	8,193	Paddy	100		85	185	10,501	13	2,308	4,751		4,317
	Palawija			19	19	908	Groundnut 1/			15	15	851					1,858
	Total	100	0	91	191	9,101	Total	100	20	100	220	12,487	29	3,386	100%		130%
19 Salobumne Irrigated area 1296 ----> 1296 ha	Paddy	82		90	172	2,221	Paddy	100		100	200	2,592	28	371	1,296		1,296
	Palawija			19	19	252	Soybeans			40	40	518	21	266		396	
	Total	82	19	90	191	2,473	Total	100	40	100	240	3,110	49	637	100%	31%	100%
20 Leworeng Irrigated area 2187 ----> 2187 ha	Paddy	86		99	185	4,045	Paddy	100		100	200	4,374	15	329	2,187		2,187
	Palawija			7	7	154	Groundnut 1/		20		20	437	13	283		387	
	Total	86	7	99	192	4,199	Total	100	20	100	220	4,811	28	612	100%	18%	100%
21 Tinco Kiri Irrigated area 2620 ----> 2620 ha	Paddy	99		77	176	4,611	Paddy	100		100	200	5,240	24	629	2,620		2,620
	Palawija			14	2	16	Groundnut 1/		30		30	786	14	357		475	
	Total	99	14	79	192	5,040	Total	100	30	100	230	6,026	38	986	100%	18%	100%

Table A-5.3.3 Determination of Target Cropping Intensity: South Sulawesi - 2/2

Irrigation Scheme	Present Cropping Intensity (%) 1/						Planned Cropping Intensity (%) 1/								Reference Data Used for Determination of Target Intensity		
	Crop	Wet	Dry I	Dry II	Annual		Crop	Wet	Dry I	Dry II	Annual		Increment		Wet	Dry I	Dry II
					%	ha					%	ha	%	ha			
22 Cillallang Irrigated area 201 ---> 1113 ha	Paddy	62		59	121	243	Paddy	100		80	180	2,003	59	1,760	201		201
	Palawija				0		Maize (hybrid)			20	20	223	20	223			
	Total	62	0	59	121	243	Total	100	0	100	200	2,226	79	1,983	100%		100%
23 Alekarajae Irrigated area 1253 ---> 1253 ha	Paddy	100			100	1,253	Paddy	100		70	170	2,130	70	877	1,253		1,050
	Palawija		19	4	23	286	Maize (hybrid)		15	15	30	376	7	90		435	75
	Total	100	19	4	123	1,539	Total	100	15	85	200	2,506	77	967	100%	35%	90%
24 Bulucenrana Irrigated area 4618 ---> 5583 ha	Paddy	93	2	73	168	7,768	Paddy	100		90	190	10,608	22	2,840	4,618	495	4,618
	Palawija				0		Maize (hybrid)			10	10	558	10	558			
	Total	93	2	73	168	7,768	Total	100	0	100	200	11,166	32	3,398	100%	11%	100%
25 Bulutimorang Irrigated area 4950 ---> 4950 ha	Paddy	56		58	114	5,652	Paddy	80		70	150	7,425	36	1,773	3,880		3,383
	Palawija	0.3			0.3	14	Maize (hybrid)			10	10	495	10	481			
	Total	56	0	58	114	5,666	Total	80	0	80	160	7,920	46	2,254			68%
26 Kalosi Irrigated area 751 ---> 812 ha	Paddy	100	59		159	1,193	Paddy	100	70		170	1,380	11	187	751	470	
	Palawija		15	13	28	217	Maize (hybrid)		20	20	40	324	12	107	150	150	
	Total	100	74	13	187	1,410	Total	100	90	20	210	1,704	23	294	100%	83%	20%
27 Padang Sappa Irrigated area 4881 ---> 9687 ha	Paddy	97		78	175	8,527	Paddy	100		50	150	14,531	(25)	6,004	4,881		4,200
	Palawija				0		Maize (hybrid)			10	10	969	10	969			
	Total	97	0	78	175	8,527	Total	100	0	60	160	15,500	(15)	6,973	100%		86%
28 Bajo Irrigated area 5466 ---> 6462 ha	Paddy	100		77	177	9,668	Paddy	100		90	190	12,278	13	2,610	5,466		5,466
	Palawija				0		Maize (hybrid)			10	10	646	10	646			
	Total	100	0	77	177	9,668	Total	100	0	100	200	12,924	23	3,256	100%		100%
29 Pagang Alipan Irrigated area 795 ---> 795 ha	Paddy	100	81		181	1,442	Paddy	100	100		200	1,590	19	148	795	795	
	Palawija				0		Maize (hybrid)			30	30	239	30	239			
	Total	100	81	0	181	1,442	Total	100	100	30	230	1,829	49	387	100%	100%	
30 Makawa Irrigated area 880 ---> 1000 ha	Paddy	92	68		160	1,410	Paddy	100	80		180	1,800	20	390	880	600	
	Palawija				0		Maize (hybrid)		20		20	200	20	200			
	Total	92	68	0	160	1,410	Total	100	100	0	200	2,000	40	590	100%	68%	
31 Lamasi Kanan Irrigated area 4290 ---> 5147 ha	Paddy	100	85		185	7,937	Paddy	100	85		185	9,522	0	1,585	4,290	3,647	
	Palawija				0		Maize (hybrid)		15		15	772	15	772			
	Total	100	85	0	185	7,937	Total	100	100	0	200	10,294	15	2,357	100%	85%	
32 Maloso, Sekka Irrigated area 1911 ---> 2357 ha	Paddy	100	100		200	3,822	Paddy	100	90		190	4,478	(10)	656	1,911	1,911	
	Palawija				0		Maize (hybrid)		10		10	236	10	236			
	Total	100	100	0	200	3,822	Total	100	100	10	210	4,950	10	1,128	100%	100%	
33 Lakejo Irrigated area 960 ---> 960 ha	Paddy	100	79		179	1,721	Paddy	100	90		190	1,824	11	103	960	800	
	Palawija				0		Maize (hybrid)		10		10	96	10	96			
	Total	100	79	0	179	1,721	Total	100	100	10	210	2,016	31	295	100%	83%	
34 Gamo-Gamo Irrigated area 2371 ---> 4743 ha	Paddy	100	97		197	4,677	Paddy	100	60		160	7,589	(37)	2,912	2,367	2,310	
	Palawija		2		2	41	Soybeans		10		10	474	8	433		61	
	Total	100	99	0	199	4,718	Total	100	80	0	180	8,537	(19)	3,819	100%	100%	
35 Kanjoro Irrigated area 1198 ---> 1301 ha	Paddy	97		97	194	2,314	Paddy	100		100	200	2,602	6	288	1,174		1,174
	Palawija				0		Maize (hybrid)		20		20	260	20	260			
	Total	97	0	97	194	2,314	Total	100	20	100	220	2,862	26	548	98%		98%
36 Bone-Bone Irrigated area 2625 ---> 2625 ha	Paddy	100		76	176	4,630	Paddy	100		100	200	5,250	24	620	2,625		2,005
	Palawija				0		Maize (hybrid)		10		10	263	10	263			
	Total	100	0	76	176	4,630	Total	100	10	100	210	5,513	34	883	100%		76%
37 Kalaena Kanan I Irrigated area 5746 ---> 6332 ha	Paddy	97	100		197	11,312	Paddy	100	100		200	12,664	3	1,352	5,746		5,746
	Palawija				0		Maize (hybrid)		10		10	633	10	633			
	Total	97	100	0	197	11,312	Total	100	100	10	210	13,297	13	1,985	100%		100%
38 Kalaena Kiri Irrigated area 2959 ---> 3536 ha	Paddy	82		81	163	4,816	Paddy	100		90	190	6,718	27	1,902	2,959		2,959
	Palawija				0		Maize (hybrid)		10		10	354	10	354			
	Total	82	0	81	163	4,816	Total	100	0	100	200	7,072	37	2,256	100%		100%
39 Kalaena Kanan II Irrigated area 3072 ---> 3787 ha	Paddy	59		59	118	3,616	Paddy	100		90	190	7,195	72	3,579	3,072		3,072
	Palawija				0		Maize (hybrid)		10		10	379	10	379			
	Total	59	0	59	118	3,616	Total	100	10	90	200	7,574	82	3,958	100%		100%
40 Kalaena (Rt. Bendung) Irrigated area 1823 ---> 2154 ha	Paddy	100		100	200	3,646	Paddy	100		100	200	4,308	0	662	1,823		1,823
	Palawija				0		Maize (hybrid)		20		20	431	20	431			
	Total	100	0	100	200	3,646	Total	100	20	100	220	4,739	20	1,093	100%		100%
41 Kuri-Kuri, Irrigated area 995 ---> 3000 ha	Paddy	100	100		200	1,990	Paddy	100	70		170	5,100	(30)	3,110	995	995	
	Palawija				0		Maize (hybrid)		10		10	300	10	300			
	Total	100	100	0	200	1,990	Total	100	80	0	180	5,400	(20)	3,410	100%	100%	
Overall Irrigated area 100266 --->	Paddy	94	34	40	168	168,205	Paddy	99	37	47	183	220,078	15	51,873			
	Palawija		2	6	8	7,524	Maize (hybrid)		8	9	17	19,389	9	11,865			
	Total	94	36	46	176	175,729	Others		3	2	5	6,048	5	6,048			
	Total						Total	99	48	58	205	245,515	29	69,786			

1/: Cropping intensity in irrigated field

2/: Past highest cropped area & intensity of irrigated paddy in a subject irrigation scheme; results of the Inventory Survey by the Study Team (not in the same year or season)

Table A-5.3.4 Estimated Net Farm Income per Ha under With-Project Condition: South Sulawesi - 1/2

Irrigation Scheme	Crop	Cropping Intensity & Cropped Area						Net Return per Ha (Rp. million)		Net Return per Ha of Farm (Rp. 000)	Before Project Net Return per Ha (Rp. 000)	Incremental Net Return per Ha (Rp. 000)
		Wet Season		Dry Season I		Dry Season II		Wet Season	Dry Season			
		Intensity (%)	Cropped Area (ha)	Intensity (%)	Cropped Area (ha)	Intensity (%)	Cropped Area (ha)					
1. Bayang-Bayang Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	70	0.70		0.00	4.12	4.12		
		Maize			15	0.15				2.82		
		Mungbeans					15	0.15		2.95	7,870	5,322
2. Bontomana Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	80	0.80		0.00	4.12	4.12		
		Groundnut Int. 1/			20	0.20		0.00		3.11		
		Groundnut					40	0.40		2.43	9,010	7,333
3. Bettu Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	4.12	4.12		
		Maize				0.00	50	0.50		2.82		
		Palawija						0.00			9,650	6,968
4. Bontonyeleng Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	4.12	4.12		
		Maize				0.00	50	0.50		2.82		
		Palawija						0.00			9,650	6,745
5. Jenemarrung Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	4.12	4.12		
		Mungbeans				0.00	20	0.20		2.95		
		Palawija						0.00			8,830	3,596
6. Pamukulu Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	80	0.80		0.00	4.12	4.12		
		Maize			10	0.10		0.00		2.82		
		Mungbeans			10	0.10		0.00		2.95	7,993	4,276
7. Aparang 1 Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	4.12	4.12		
		Groundnut Int. 1/				0.00	40	0.40		3.11		
		Palawija						0.00			9,484	6,490
8. Aparang Hulu Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	4.12	4.12		
		Maize				0.00	20	0.20		2.82		
		Palawija						0.00			8,804	6,360
9. Bantimurung Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	4.60	4.60		
		Groundnut Int. 1/				0.00	20	0.20		3.11		
		Palawija						0.00			9,822	7,196
10. Lekopancing Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	80	0.80	4.12	4.12		
		Maize				0.00	20	0.20		2.82		
		Palawija			10	0.10		0.00			7,980	4,626
11. Padaelo Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	80	0.80		0.00	4.60	4.60		
		Maize			20	0.20		0.00		2.82		
		Mungbeans						0.00		2.95	8,844	4,808
12. Leang Lonrong Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	4.60	4.60		
		Maize				0.00	20	0.20		2.82		
		Palawija						0.00			9,764	5,285
13. Palakka Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	80	0.80	4.12	4.12		
		Maize				0.00	20	0.20		2.82		
		Palawija						0.00			7,980	4,338
14. Pattiro Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	100	1.00	4.12	4.12		
		Maize			20	0.20		0.00		2.82		
		Mungbeans			20	0.20		0.00		2.95	9,394	5,991
15. Unyi Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	100	1.00	4.60	4.60		
		Maize			20	0.20		0.00		2.82		
		Mungbeans			20	0.20		0.00		2.95	10,354	6,878
16. Jalling Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	80	0.80	4.12	4.12		
		Maize				0.00	20	0.20		2.82		
		Mungbeans			30	0.30		0.00		2.95	8,865	5,062
17. Lanca Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	100	1.00	4.12	4.12		
		Maize			30	0.30		0.00		2.82		
		Palawija						0.00			9,086	5,878
18. Sanrego Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	85	0.85	4.60	4.60		
		Groundnut				0.00	15	0.15		2.43		
		Maize (composite)			20	0.20		0.00		1.95	9,265	6,666
19. Salobunne Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	100	1.00	4.12	4.60		
		Soybeans			40	0.40		0.00		2.60		
		Palawija						0.00			9,760	6,277
20. Leworeng Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	100	1.00	4.60	4.60		
		Groundnut Int. 1/			20	0.20		0.00		3.11		
		Palawija						0.00			9,822	6,928
21. Tinco Kiri Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	100	1.00	4.60	4.60		
		Groundnut Int. 1/			30	0.30		0.00		3.11		
		Groundnut						0.00		2.43	10,133	7,103
22. Cillallang Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	80	0.80	4.12	4.12		
		Maize				0.00	20	0.20		2.82		
		Palawija						0.00			7,980	3,848
23. Alekarajae Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	70	0.70	4.12	4.12		
		Maize				0.00	15	0.15		2.82		
		Maize			15	0.15		0.00		2.82	7,850	3,539
24. Bulucmrana Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	90	0.90	4.60	4.60		
		Maize				0.00	10	0.10		2.82		
		Palawija						0.00			9,022	6,503

Table A-5.3.4 Estimated Net Farm Income per Ha under With-Project Condition: South Sulawesi - 2/2

Irrigation Scheme	Crop	Cropping Intensity & Cropped Area						Net Return per Ha (Rp. million)		Net Return per Ha of Farm (Rp. 000)	Before Project Net Return per Ha (Rp. 000)	Incremental Net Return per Ha (Rp. 000)		
		Wet Season		Dry Season I		Dry Season II		Wet Season	Dry Season					
		Intensity (%)	Cropped Area (ha)	Intensity (%)	Cropped Area (ha)	Intensity (%)	Cropped Area (ha)							
25. Bulutimorang Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	80	0.80		0.00	70	0.70	3.67	4.12				
		Maize				0.00	10	0.10		2.82				
		Palawija						0.00			6,102	3,407	2,695	
26. Kalosi Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	70	0.70		0.00	4.60	4.12				
		Maize			20	0.20		0.00		2.82				
		Palawija					20	0.20		2.82	8,612	5,546	3,066	
27. Padang Sappa Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	50	0.50	4.12	4.60				
		Maize				0.00	10	0.10		2.82				
		Palawija						0.00			6,702	5,947	755	
Land Use Holding Size (ha)	Rainfed Field 1 ha	Rainfed Paddy	100	1.00		0.00	50	0.50	4.12	4.60				
		Maize				0.00	10	0.10		2.82				
		Palawija						0.00			6,702	2,162	4,540	
28. Bajo Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	90	0.90	4.12	4.60				
		Maize				0.00	10	0.10		2.82				
		Palawija						0.00			8,542	6,006	2,536	
29. Pagang Alipan Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	4.12	4.12				
		Maize				0.00	30	0.30		2.82				
		Palawija						0.00			9,086	5,756	3,330	
30. Makawa Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	80	0.80		0.00	4.12	4.12				
		Maize			20	0.20		0.00		2.82				
		Palawija						0.00			7,980	5,088	2,892	
31. Lamasi Kanan Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	85	0.85		0.00	4.12	4.12				
		Maize			15	0.15		0.00		2.82				
		Palawija						0.00			8,045	5,883	2,162	
32. Maloso, Sekka Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	90	0.90		0.00	4.60	4.60				
		Maize			10	0.10		0.00		2.82				
		Mungbeans					10	0.10		2.95	9,317	7,790	1,527	
33. Lakejo Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	90	0.90		0.00	4.12	4.60				
		Soybeans			10	0.10		0.00		2.60				
		Mungbeans					10	0.10		2.95	8,815	6,079	2,736	
34. Gamo-Gamo Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	100	1.00	4.12	4.60				
		Maize			10	0.10		0.00		2.82				
		Palawija						0.00			9,002	6,779	2,224	
Land Use Holding Size (ha)	Rainfed Field 1 ha	Rainfed Paddy	100	1.00		0.00	100	1.00	4.12	4.60				
		Maize			10	0.10		0.00		2.82				
		Palawija						0.00			9,002	2,162	6,840	
35. Kanjoro Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	100	1.00	3.67	4.12				
		Maize			20	0.20		0.00		2.82				
		Palawija						0.00			8,354	5,791	2,563	
36. Bone-Bone Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	100	1.00	4.12	4.12				
		Maize			10	0.10		0.00		2.82				
		Palawija						0.00			8,522	5,597	2,925	
37. Kalaena Kanan I Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	100	1.00		0.00	4.12	4.12				
		Maize				0.00	10	0.10		2.82				
		Palawija						0.00			8,522	6,265	2,257	
38. Kalaena Kiri Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	90	0.90	4.12	4.12				
		Maize				0.00	10	0.10		2.82				
		Palawija						0.00			8,110	5,183	2,927	
39. Kalaena Kanan II Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	90	0.90	4.12	4.12				
		Maize			10	0.10		0.00		2.82				
		Palawija						0.00			8,110	3,752	4,358	
40. Kalaena (Rt. Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00		0.00	100	1.00	4.60	4.60				
		Maize			20	0.20		0.00		2.82				
		Palawija						0.00			9,764	7,340	2,424	
41. Kuri-Kuri, Kasambi Land Use Holding Size (ha)	Irrigated Field 1 ha	Irrigated Paddy	100	1.00	70	0.70		0.00	4.12	4.12				
		Maize			10	0.10		0.00		2.82				
		Palawija						0.00			7,286	6,360	926	
Land Use Holding Size (ha)	Rainfed Field 1 ha	Rainfed Paddy	100	1.00	70	0.70		0.00	4.12	4.12				
		Maize			10	0.10		0.00		2.82				
		Palawija						0.00			7,286	2,162	5,124	
Average of	Irrigated Field Rainfed Field Overall										8,734	5,770	2,964	
												7,663	2,162	5,501
												8,661	5,524	3,137

Max 10,354 6,840
Min 6,102 755

Table A-5.4.1 Institutional Capacity Building Cost : South Sulawesi

(Unit : million Rp.)

District	Irrigation Scheme in Study Area	Subject Area (ha)	Agri. Extension Strengthen	Institutional Capacity Building						Sub-total	Total Cost	
				1	2	3	4	5	6			
1	Bulukumba	Bayang-Bayang	4,121	721	10	82	82	62	402	82	722	1,443
2		Bontomanai	3,297	577	0	81	66	47	318	66	578	1,155
3		Bettu	1,802	316	0	36	36	22	185	36	316	631
4		Bontonyeleng	1,079	189	0	38	22	14	94	22	189	378
5	Takalar	Jenemarraung	975	171	10	20	20	0	103	20	171	342
6		Pamukulu	4,480	784	0	105	90	29	472	90	784	1,568
7	Sinjai	Aparang I	1,049	183	10	21	21	10	100	21	183	367
8		Aparang Hulu	1,094	192	0	27	22	4	116	22	192	384
9	Maros	Bantimurung	5,717	1,001	10	114	114	25	623	114	1,000	2,001
10		Lekopancing	2,483	434	0	58	50	8	269	50	435	869
11	Pangkep	Padaelo	2,462	431	10	53	49	6	263	49	431	862
12		Leang Lonrong	1,229	215	0	25	25	3	139	25	215	430
13	Bone	Palakka	3,260	571	10	76	65	9	346	65	571	1,142
14		Pattiro	4,739	829	0	97	95	18	525	95	829	1,659
15		Unyi	1,136	199	0	23	23	0	131	23	199	398
16		Jaling	1,301	228	0	39	26	2	134	26	228	455
17		Lanca	676	118	0	27	14	7	58	14	118	237
18		Sanrego	5,676	993	0	121	114	6	640	114	994	1,987
19	Soppeng	Salobunne	1,296	227	10	19	26	0	146	26	227	454
20		Leworeng	2,187	383	0	35	44	0	261	44	383	765
21		Tinco Kiri	2,620	458	0	10	52	0	344	52	458	917
22	Wajo	Cillalang	1,113	195	10	2	22	0	138	22	195	390
23	Sidrap	Alekarajae	1,253	219	10	35	25	15	109	25	220	439
24		Bulucenrana	5,583	977	0	82	112	9	662	112	977	1,954
25		Bulutimorang	4,950	866	0	69	99	15	584	99	866	1,733
26	Pinrang	Kalosi	838	147	10	17	17	4	82	17	146	293
27	Luwu	Padang Sappa	10,889	1,906	10	218	218	44	1,198	218	1,906	3,811
28		Bajo	6,482	1,131	0	259	130	84	528	130	1,131	2,262
29		Pagang Alipan	795	139	0	24	16	3	81	16	139	278
30		Makawa	1,000	175	0	40	20	12	83	20	175	350
31		Lamasi Kanan	5,170	905	0	128	103	21	550	103	905	1,810
32	Polmas	Maloso / Sekka	2,357	412	10	68	47	15	226	47	413	825
33		Lakejo	960	168	0	24	19	6	99	19	168	336
34		Gamo-Gamo	4,743	830	0	95	95	0	545	95	830	1,660
35	Luwu Utara	Kanjiro	1,301	228	10	26	26	10	130	26	228	456
36		Bone-Bone	2,625	459	0	53	53	29	273	53	459	918
37		Kalaena Kanan I	6,332	1,108	0	127	127	65	663	127	1,108	2,217
38		Kalaena Kiri	3,536	619	0	76	71	29	373	71	619	1,237
39		Kalaena Kanan II	3,787	663	0	79	76	40	393	76	663	1,326
40		Kalaena (Rt. Bendung)	2,154	377	0	59	43	19	212	43	377	754
41		Kuri-Kuri, Kasambi	3,000	525	0	0	60	60	345	60	525	1,050
Total			121547	21,269	17	2,585	2,431	754	12,941	2,431	21,272	42,541

Remarks: 1; District/municipal government capacity building plan, 2; WUA strengthening plan, 3; WUA federation setting-up plan
4; WUA establishment acceleration plan, 5; On-the-job O&M training, 6; WUA management guidance

Table A-5-5.1 Economic Project Costs of Rehabilitation Plans : South Sulawesi

(Unit: million Rp.)

Irrigation Scheme	Subject Area (ha)	Initial Investment Cost (Economic Price)						Total Investment Cost (Financial Price)	Running Cost	
		Irrigation System Rehabilitation	Institutional Capacity Building	Consulting Service	Administration	Physical Contingency	Total		Incremental O&M Cost	Replacement (every 10 years)
1. Bayang-Bayang	4,121	75,101	1,298	5,295	1,791	7,640	91,125	95,145	412	1,558
2. Bontomanai	3,297	51,358	1,039	3,631	1,228	5,240	62,495	65,245	330	1,558
3. Bettu	1,802	29,140	568	2,057	696	2,971	35,432	36,972	180	1,254
4. Bontonyeleng	1,079	17,734	340	1,250	423	1,807	21,555	22,471	108	1,254
5. Jenemarrung	975	18,316	307	1,288	436	1,862	22,209	23,152	98	1,254
6. Pamukulu	4,480	93,311	1,411	6,564	2,221	9,472	112,980	117,963	448	1,558
7. Aparang I	1,049	93,311	330	1,680	569	9,364	105,255	30,196	105	1,558
8. Aparang Hulu	1,094	16,587	345	1,171	396	1,693	20,192	21,050	109	1,254
9. Bantimurung	5,717	94,483	1,801	6,672	2,258	9,628	114,843	119,904	572	2,566
10. Lekopancing	2,483	44,580	782	3,142	1,063	4,536	54,104	56,469	248	1,558
11. Padaelo	2,462	38,443	776	2,717	919	3,922	46,776	48,819	246	1,558
12. Leang Lonrong	1,229	23,175	387	1,631	552	2,356	28,101	29,307	123	1,254
13. Palakka	3,260	57,109	1,027	4,028	1,363	5,814	69,341	72,389	326	1,558
14. Pattiro	4,739	126,598	1,493	8,876	3,003	12,809	152,780	159,508	474	1,558
15. Unyi	1,136	30,585	358	2,142	725	3,094	36,903	38,491	114	1,254
16. Jalling	1,301	25,662	410	1,805	611	2,607	31,095	32,433	130	1,254
17. Lanca	676	15,345	213	1,076	364	1,556	18,553	19,329	68	1,254
18. Sanrego	5,676	119,172	1,788	8,382	2,836	12,096	144,274	150,620	568	2,566
19. Salobunne	1,296	29,008	408	2,037	689	2,942	35,084	36,596	130	1,254
20. Leworeng	2,187	21,688	689	1,550	524	2,238	26,689	27,849	219	1,558
21. Tinco Kiri	2,620	41,366	825	2,923	989	4,219	50,323	52,525	262	1,558
22. Cillallang	1,113	19,936	351	1,404	475	2,029	24,194	25,226	111	1,254
23. Alekarajae	1,253	26,636	395	1,871	633	2,703	32,238	33,625	125	1,254
24. Bulucenrana	5,583	103,864	1,759	7,319	2,476	10,562	125,981	131,525	558	2,566
25. Bulutimorang	4,950	61,486	1,559	4,371	1,479	6,304	75,199	78,544	495	1,558
26. Kalosi	838	13,879	264	978	331	1,414	16,866	17,571	84	1,254
27. Padang Sappa	10,889	143,133	3,430	10,160	3,438	14,656	174,818	182,583	1,089	3,570
28. Bajo	6,462	114,167	2,036	8,053	2,725	11,620	138,601	144,718	646	2,566
29. Pagang Alipan	795	11,763	250	830	281	1,201	14,326	14,920	80	1,254
30. Makawa	1,000	15,104	315	1,066	361	1,542	18,388	19,164	100	1,254
31. Lamasi Kanan	5,170	95,137	1,629	6,705	2,269	9,677	115,416	120,489	517	2,566
32. Maloso, Sekka	2,357	35,110	742	2,483	840	3,585	42,762	44,627	236	1,558
33. Lakejo	960	11,854	302	840	284	1,216	14,497	15,102	96	1,254
34. Gamo-Gamo	4,743	52,232	1,494	3,725	1,260	5,373	64,084	66,938	474	1,558
35. Kanjiro	1,301	24,664	410	1,736	587	2,507	29,905	31,191	130	1,254
36. Bone-Bone	2,625	44,935	827	3,170	1,073	4,576	54,581	56,969	263	1,558
37. Kalaena Kanan I	6,332	98,749	1,995	6,982	2,362	10,074	120,162	125,471	633	2,566
38. Kalaena Kiri	3,536	69,903	1,114	4,921	1,665	7,102	84,705	88,431	354	1,558
39. Kalaena Kanan II	3,787	55,252	1,193	3,912	1,324	5,644	67,325	70,298	379	1,558
40. Kalaena (Rt. Bendung)	2,154	32,435	679	2,293	776	3,311	39,495	41,213	215	1,558
41. Kuri-Kuri, Kasambi	3,000	60,277	945	4,242	1,435	6,122	73,021	76,224	300	1,558
Total	121,527	2,152,590	38,281	146,982	49,731	219,087	2,606,671	2,641,263	12,153	67,074

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

Table A-5.5.2 Economic Crop Budget per Ha : South Sulawesi - 1/2 --- Paddy

Items	Unit	Unit Price (Rp000)	Rainfed Paddy				Irrigated Paddy									
			Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)		
1. Gross Return																
Unit Yield	(t/ha)		2.5		3.5		4.0		4.5		5.0		5.5		6.0	
Unit Price	(Rp.000/t)			1,510		1,510		1,510		1,510		1,510		1,510		1,510
Gross Return	(Rp.000)			3,775		5,285		6,040		6,795		7,550		8,305		9,060
2. Production cost				1,825		2,172		2,492		2,647		2,855		3,012		3,242
2-1. Farm Inputs				317		507		598		676		791		870		1,019
Seed 1/	(kg)		30	60	30	60	30	60	30	60	30	96	30	96	30	96
Fertilizers				207		372		445		523		603		682		806
- Urea	(kg)	1.47	100	147	150	221	150	221	180	265	200	294	225	331	250	368
- SP36	(kg)	2.01	30	60	50	101	50	101	50	101	75	151	75	151	100	201
- KCl	(kg)	1.69	0	0	30	51	30	51	50	85	50	85	75	127	75	127
- ZA	(kg)	1.47	0	0	0	0	50	74	50	74	50	74	50	74	75	110
Agro chemicals				50		75		93		93		93		93		118
- Insecticide (liquid)	(lit)	50	1.0	50	1.5	75	1.5	75	1.5	75	1.5	75	1.5	75	2.0	100
- Insecticide (powder)	(kg)	30														
- Rodenticide	(kg)	35	0		0		0.5	18	0.5	18	0.5	18	0.5	18	0.5	18
- Herbicide	(lit)	30														
2-2. Labour Costs				1,013		1,130		1,332		1,391		1,461		1,520		1,578
Contracted Works																
- Planting/Transplanting 2/	(unit)	x 0.8	1	240	1	240	1	240	1	240	1	240	1	240	1	240
- Harvesting 3/	(unit)	x 0.9	10 %	293	10 %	410	10 %	468	10 %	527	10 %	585	10 %	644	10 %	702
Labour Requirements 4/																
- Hired Labor	(man-day)	12	0	0	0	0	5	60	5	60	5	60	5	60	5	60
- Family Labor	(man-day)	12	40	480	40	480	47	564	47	564	48	576	48	576	48	576
Total	(man-day)		40		40		52		52		53		53		53	
2-3. Land Preparation				350		350		350		350		350		350		350
- Machinery	(unit)		1	350	1	350	1	350	1	350	1	350	1	350	1	350
- Draft Animal																
2-4. Field Transportation	(L.S.)	x 0.9	2 %	59	2 %	82	2 %	94	2 %	105	2 %	117	2 %	129	2 %	140
2-5. Misceraneous Expenses	(L.S.)		5 %	87	5 %	103	5 %	119	5 %	126	5 %	136	5 %	143	5 %	154
				2.5		3.5		4.0		4.5		5.0		5.5		6.0
3. Net Return				1,950		3,113		3,548		4,148		4,695		5,293		5,818
	Rp.000															
	%			52		59		59		61		62		64		64
	Rounded			1,950		3,110		3,550		4,150		4,690		5,290		5,820

1/: Seed price: Rainfed --- Rp. 2,000/kg; Irrigated field --- yield level < 5.0 Rp. 2,000; yield level ≥ 5.0 Rp. 3,200

3/: Share harvesting (borogan) system assumed; cost 10 % of products

2/: Contract work for transplanting assumed --- Rp. 300,000/ha at financial price by 15 labourers

4/: Hired Labour Requirements --- assumed to be 10% of total labour requirements in irrigated field

Table A-5.5.2 Economic Crop Budget per Ha - 3/3: South Sulawesi - 2/2 --- Palawija

Items	Unit	Unit Price (Rp000)	Maize				Groundnut						Soybeans				Mungbeans					
			Composit		Hybrid		Yield: 0.7 t/ha		Yield: 0.9 t/ha		Yield: 1.2 t/ha		Yield: 1.0 t/ha		Yield: 1.4 t/ha		Yield: 0.8 t/ha		Yield: 1.2 t/ha			
			Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)	Q'ty	Value (Rp000)
1. Gross Return					No-tillage	No-tillage	No-tillage	No-tillage	Intensive with-tillage	No-tillage	No-tillage	No-tillage	No-tillage	No-tillage	No-tillage	No-tillage	No-tillage	No-tillage	No-tillage	No-tillage		
Unit Yield	(t/ha)		2.5		4.0	5.0		0.7	0.9	1.2		1.0	1.4	0.8	1.2							
Unit Price	(Rp.000/t)		1,300	1,300	1,300	4,120	4,120	4,120	2,340	2,340	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400		
Gross Return	(Rp.000)		3,250	5,200	6,500	2,884	3,708	4,944	2,340	3,276	4,080	2,720	4,080	2,720	4,080	2,720	4,080	2,720	4,080	2,720		
2. Production cost			1,608	2,479	2,805	1,842	2,135	2,752	1,438	1,894	1,375	1,797										
2-1. Farm Inputs			482	961	1,102	841	957	1,066	375	569	360	509										
Seed 1/	(kg)		30	111	20	420	20	420	100	550	70	385	70	385	40	120	45	135	20	80	25	100
Fertilizers			321	414	529	211	419	498	180	359	280	359										
- Urea	(kg)	1.47	150	221	150	221	200	294	50	74	75	110	100	147	25	37	50	74	25	37	50	74
- SP36	(kg)	2.01	50	101	75	151	75	151	50	101	75	151	75	151	50	101	100	201	100	201	100	201
- KCl	(kg)	1.69	0	0	25	42	50	85	0	0	50	85	75	127	25	42	50	85	25	42	50	85
- ZA	(kg)	1.47	0	0	0	0	0	0	25	37	50	74	50	74	0	0	0	0	0	0	0	0
- PPC	(lit)	70.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agro chemicals			50	128	153	80	153	183	75	75	0	50										
- Insecticide (liquid)	(lit)	50	1.0	50	1.0	50	1.5	75	1.0	50	1.5	75	1.5	75	1.5	75	1.5	75	0.0	0	1.0	50
- Insecticide (powder)	(kg)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Rodenticide	(kg)	35	0.0	0.5	18	0.5	18	0.0	0.5	18	0.5	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Herbicide	(lit)	30	0.0	2.0	60	2.0	60	1.0	30	2.0	60	3.0	90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2-2. Labour Costs			864	1,104	1,200	858	1,005	1,160	890	1,088	856	1,062										
Contracted Works																						
- Planting																						
- Harvesting 2/		x 0.8	9%	180	9%	288	9%	360	9%	222	9%	285	9%	380	9%	194	9%	272	9%	196	9%	294
Labour Requirements																						
- Hired Labor	(man-day)	12	0	0	5	60	7	84	0	0	5	60	5	60	0	0	3	36	0	0	3	36
- Family Labor	(man-day)	12	57	684	63	756	63	756	53	636	55	660	60	720	58	696	65	780	55	660	61	732
Total	(man-day)		57	68	70	53	60	65	58	68	55	64										
2-3. Land Preparation			0	0	0	0	0	300	0	0												
- Machinery	(unit)		0	0	0			300														
- Draft Animal	(unit)		0	0	0																	
2-4. Field Transportation	(L.S.)	x 0.9	2%	45	2%	72	2%	90	2%	55	2%	71	2%	95	2%	49	2%	68	2%	49	2%	73
2-5. Shelling	(L.S.)	x 0.8		140		224		280														
2-6. Misceraneous Expenses	(L.S.)		5%	77	5%	118	5%	134	5%	88	5%	102	5%	131	5%	68	5%	90	5%	65	5%	86
3. Net Return																						
	Rp.000		1,642	2,721	3,695	1,042	1,573	2,192	902	1,382	1,345	2,283										
	%		51	52	57	36	42	44	39	42	49	56										
	Rounded		1,640	2,720	3,690	1,040	1,570	2,190	900	1,380	1,340	2,280										

1/: Seed price: Composit --- Rp. 3,700/kg; hybrid --- 21,000/kg

2/: Share harvesting (borongan) system assumed: financial cost 9% of products x 0.8 (conversion factor of labour)

Table A-5.5.3 Estimated Project Benefits of Rehabilitation Plans : South Sulawesi

(Unit: million Rp.)

Irrigation Scheme	Project Benefit		Gross Return per Ha of Subject Area		
	With Project	Project Benefits	Before Project	With Project	Incremental Gross Return per Ha
	Net Return	Incremental Net Return	Gross Return per Ha	Gross Return per Ha	
1. Bayang-Bayang	35,944	14,305	7,743	9,181	1,438
2. Bontomanai	29,418	11,644	8,550	10,400	1,850
3. Bettu	20,227	6,285	11,371	11,880	509
4. Bontonyeleng	11,225	4,695	8,918	11,010	2,092
5. Jenemarrung	9,590	5,861	5,758	13,816	8,058
6. Pamukulu	40,495	19,939	6,506	13,128	6,622
7. Aparang I	10,759	3,234	10,617	15,114	4,497
8. Aparang Hulu	10,605	3,673	9,295	13,413	4,118
9. Bantimurung	62,989	17,138	11,503	15,356	3,853
10. Lekopancing	23,359	10,573	7,546	13,107	5,561
11. Padaelo	25,261	13,915	6,640	13,870	7,230
12. Leang Lonrong	13,911	6,474	8,530	15,301	6,771
13. Palakka	29,927	14,148	7,099	12,700	5,601
14. Pattiro	50,111	18,708	9,494	14,816	5,322
15. Unyi	13,374	4,784	10,854	16,114	5,260
16. Jalling	12,833	5,532	8,253	13,923	5,670
17. Lanca	7,090	2,667	9,602	14,501	4,899
18. Sanrego	59,866	22,814	9,548	14,620	5,072
19. Salobunne	13,649	4,840	10,020	15,161	5,141
20. Leworeng	24,095	7,102	11,011	15,355	4,344
21. Tinco Kiri	29,441	8,776	11,298	15,884	4,586
22. Cillallang	10,217	7,277	4,207	12,699	8,492
23. Alekarajae	11,377	6,460	5,771	12,550	6,779
24. Bulucenrana	58,175	21,873	9,190	14,085	4,895
25. Bulutimorang	34,511	15,648	5,579	9,730	4,151
26. Kalosi	8,155	3,178	8,690	13,267	4,577
27. Padang Sappa	74,632	30,942	5,909	9,408	3,499
28. Bajo	63,457	24,346	8,780	13,435	4,655
29. Pagang Alipan	8,339	3,220	9,432	14,503	5,071
30. Makawa	9,180	3,901	7,782	12,700	4,918
31. Lamasi Kanan	47,507	17,504	8,565	12,718	4,153
32. Maloso, Sekka	25,098	7,189	10,722	14,493	3,771
33. Lakejo	9,646	3,080	9,837	13,843	4,006
34. Gamo-Gamo	39,703	16,625	7,363	11,537	4,174
35. Kanjiro	12,460	4,535	8,972	13,349	4,377
36. Bone-Bone	25,593	9,156	9,172	13,501	4,329
37. Kalaena Kanan I	61,730	20,324	9,640	13,500	3,860
38. Kalaena Kiri	32,814	14,489	7,700	12,850	5,150
39. Kalaena Kanan II	35,143	20,783	5,681	12,850	7,169
40. Kalaena (Rt.Bend.)	24,380	8,544	10,484	15,300	4,816
41. Kuri-Kuri, Kasambi	25,026	13,691	5,982	11,550	5,568
Total	920,060	373,098	Avg. 8,316	12,889	4,573

Table A-5.5.4 Results of Economic Evaluation of Rehabilitation Plans : South Sulawesi

Irrigation Scheme		Subject Area (ha)	EIRR (%)	B/C ^{1/}	B - C ^{1/} (Rp. million)
1.	Bayang-Bayang	4,121	12.1%	1.19	15,967
2.	Bontomanai	3,297	14.2%	1.39	22,763
3.	Bettu	1,802	14.2%	1.38	12,564
4.	Bontonyeleng	1,079	17.2%	1.67	13,634
5.	Jenemarrung	975	20.7%	2.04	21,734
6.	Pamukulu	4,480	13.7%	1.35	36,255
7.	Aparang 1	1,049	8.5%	0.88	-3,277
8.	Aparang Hulu	1,094	14.3%	1.38	7,416
9.	Bantimurung	5,717	11.4%	1.13	13,646
10.	Lekopancing	2,483	15.0%	1.48	23,946
11.	Padaelo	2,462	21.6%	2.20	53,118
12.	Leang Lonrong	1,229	18.3%	1.79	20,836
13.	Palakka	3,260	15.6%	1.55	35,037
14.	Pattiro	4,739	9.4%	0.95	-6,919
15.	Unyi	1,136	10.3%	1.03	1,005
16.	Jalling	1,301	14.3%	1.39	11,323
17.	Lanca	676	11.3%	1.11	1,976
18.	Sanrego	5,676	12.2%	1.20	27,029
19.	Salobunne	1,296	11.0%	1.09	2,838
20.	Leworeng	2,187	20.4%	1.98	25,565
21.	Tinco Kiri	2,620	13.3%	1.31	14,510
22.	Cillallang	1,113	22.8%	2.24	29,316
23.	Alekarajae	1,253	16.1%	1.57	17,123
24.	Bulucenrana	5,583	13.3%	1.31	36,368
25.	Bulutimorang	4,950	15.7%	1.55	38,868
26.	Kalosi	838	14.9%	1.43	6,973
27.	Padang Sappa	10,889	12.6%	1.24	39,807
28.	Bajo	6,462	13.5%	1.33	41,882
29.	Pagang Alipan	795	17.5%	1.69	9,552
30.	Makawa	1,000	16.6%	1.60	10,671
31.	Lamasi Kanan	5,170	11.6%	1.14	15,444
32.	Maloso, Sekka	2,357	13.3%	1.29	11,664
33.	Lakejo	960	16.5%	1.58	8,231
34.	Gamo-Gamo	4,743	18.8%	1.84	53,318
35.	Kanjiro	1,301	12.1%	1.18	5,016
36.	Bone-Bone	2,625	13.5%	1.31	15,876
37.	Kalaena Kanan I	6,332	12.9%	1.27	30,218
38.	Kalaena Kiri	3,536	13.2%	1.30	23,284
39.	Kalaena Kanan II	3,787	22.4%	2.29	82,098
40.	Kalaena (Rt. Bendung)	2,154	16.3%	1.60	22,409
41.	Kuri-Kuri, Kasambi	3,000	14.2%	1.39	26,996

1/: At discount rate of 10%

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

Table A-6.2.1 Prioritization for Rehabilitation by Weighted Scoring Method

Issue for Evaluation	Full Score	Evaluation Index	Weight	Weighted Score	Situation for High Priority
1 Issue of Irrigation System	50.0				
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	
2 Issue of Agricultural Productivity	20.0				
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)
3 Issue of Society	15.0				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	
4 Issue of Economic and Financial Impact	15.0				High economic and financial impact
4.1 Feasibility (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 Gross 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	
TOTAL	100.0				

Table A-6.2.2 Priority Ranking for Rehabilitation : South Sulawesi

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)	(1)	(2)	(3)	(3)	(2)	(2)	(4)	(4)	(3)	(1)	68.3	16	Group II	
7 Aparang 1	(3)	(3)	(1)	(1)	(1)	(3)	(2)	(3)	(3)	(4)	(1)	(4)	65.5	19	Group III	
8 Aparang Hulu	(3)	(2)	(1)	(1)	(1)	(3)	(2)	(3)	(3)	(4)	(1)	(3)	69.0	12	Group II	
9 Bantimurung	(3)	(2)	(1)	(2)	(1)	(3)	(3)	(3)	(3)	(4)	(2)	(3)	64.3	21	Group III	
10 Lekopancing	(3)	(3)	(1)	(1)	(2)	(3)	(3)	(2)	(3)	(4)	(2)	(2)	67.7	17	Group II	
11 Padaelo	(3)	(3)	(2)	(1)	(2)	(3)	(3)	(2)	(2)	(3)	(4)	(1)	70.8	4	Group I	
12 Leang Lonrong	(3)	(3)	(1)	(1)	(2)	(3)	(3)	(2)	(3)	(4)	(1)	(2)	69.2	8	Group I	
13 Palakka	(3)	(3)	(1)	(1)	(2)	(3)	(3)	(2)	(3)	(4)	(1)	(2)	69.2	8	Group I	
14 Pattiro	(3)	(2)	(1)	(1)	(2)	(1)	(3)	(3)	(3)	(4)	(1)	(4)	69.2	8	Group I	
15 Unyi	(3)	(3)	(1)	(1)	(2)	(3)	(3)	(3)	(3)	(4)	(1)	(3)	64.2	22	Group III	
16 Jalling	(3)	(3)	(2)	(1)	(2)	(3)	(3)	(2)	(3)	(4)	(1)	(3)	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)	69.3	7	Group I	
19 Salobunne	(3)	(2)	(1)	(1)	(2)	(1)	(3)	(3)	(3)	(4)	(1)	(3)	70.7	6	Group I	
20 Leworeng	(3)	(2)	(3)	(2)	(1)	(4)	(3)	(3)	(3)	(4)	(1)	(1)	64.5	20	Group III	
21 Tinco Kiri	(3)	(3)	(1)	(1)	(1)	(4)	(3)	(3)	(3)	(4)	(1)	(3)	63.3	24	Group III	
22 Cillallang	(1)	(2)	(1)	(1)	(1)	(2)	(2)	(2)	(2)	(1)	(1)	(1)	91.0	1	Group I	
23 Alekarajae	Group V (Accerallation of WUAs establishment)														Group V	
24 Bulucenrana	(3)	(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)	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)	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)	(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)	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)	(1)	(2)	(2)	77.3	3	Group I	
35 Kanjiro	(3)	(2)	(2)	(1)	(2)	(4)	(2)	(3)	(2)	(4)	(1)	(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)	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)	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	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

Table A-7.3.1 Breakdown of Area, Cost, Construction Package for Recovery Program on Action Plan : South Sulawesi

Priority Group	Scheme No.	Irrigation Scheme	District	Subject Area (ha)	Const. Cost (Bil. Rp.)	Nos. of Contract		Const. Period (year)
						F/S	Construction	
I	PI-1.	Padaelo	Pangkep	1,802	40	1	1	2
	PI-2.	Cillallang	Wajo	1,113	21	1	1	2
	PI-3.	Gamo-Gamo	Polmas	4,743	54	1	1	2
	PI-4.	Bulucenrana	Sidrap	5,583	108	1	2	3
	PI-5.	Padang Sapa	Luwu	10,889	149	1	3	3
	PI-6.	Lamasi Kanan	Luwu	5,170	99	1	2	3
	PI-7.	Pattrio	Bone	4,739	132	1	3	2
	PI-8.	Sanrego	Bone	5,676	124	1	3	3
	PI-9.	Palakka	Bone	3,260	59	1	1	2
	PI-10.	Salobunne	Soppeng	1,296	30	1	1	2
	PI-11.	Pamukulu	Takalar	4,480	97	1	2	2
	Total I			48,751	913	11	20	
II	PII-1.	Aparang Hulu	Sinjai	1,094	17	1	1	2
	PII-2.	Leang Lonrong	Pangkep	1,229	24	1	1	2
	PII-3.	Pamukulu	Takalar	4,480	97	1	2	2
	PII-4.	Bulotimorang	Sidrap	4,950	64	1	2	2
	PII-5.	Kanjiro	Luwu Utara	1,301	26	1	1	2
	PII-6.	Kalaena Kiri	Luwu Utara	3,536	73	1	2	2
	Total II			16,590	301	6	9	
III	PIII-1.	Aparang I	Sinjai	1,049	25	1	1	2
	PIII-2.	Bantimurung	Maros	2,483	98	1	2	2
	PIII-3.	Unyi	Bone	1,136	32	1	1	2
	PIII-4.	Jalling	Bone	1,301	27	1	1	2
	PIII-5.	Leworeng	Soppeng	2,187	23	1	1	2
	PIII-6.	Tinco Kiri	Soppeng	2,620	43	1	1	3
	PIII-7.	Maloso, Sekka	Polmas	2,357	37	1	1	2
	PIII-8.	Kalaena (Rt. Bendung)	Luwu Utara	2,154	34	1	1	2
	Total III			15,287	319	8	9	
IV		Nil						
V	PV-1.	Bayang-Bayang	Bulukumba	4,121	78	1	N.A	
	PV-2.	Bontonami	Bulukumba	3,297	53	1	N.A	
	PV-3.	Bontonyeleng	Bulukumba	1,079	18	1	N.A	
	PV-4.	Bettu	Bulukumba	1,802	30	1	N.A	
	PV-5.	Alekarajae	Sidrap	1,253	28	1	N.A	
	PV-6.	Bajo	Luwu	6,462	119	1	N.A	
	PV-7.	Makawa	Luwu	1,000	16	1	N.A	
	PV-8.	Kalaena Kanan II	Luwu Utara	3,787	58	1	N.A	
	PV-9.	Kuri-Kuri Kasambi	Luwu Utara	3,000	63	1	N.A	
	PV-10.	Bone-Bone	Luwu Utara	2,625	2	1	N.A	
	PV-11.	Kalaena Kanan I	Luwu Utara	6,332	103	1	N.A	
	Total V			34,758	568	11	N.A	
VI	GVI-1.	Jenemarrung	Takala	975	19	1	N.A	
	GVI-2.	Lanca	Bone	676	16	1	N.A	
	GVI-3.	Kalosi	Pinrang	838	14	1	N.A	
	GVI-4.	Pagang Alipan	Luwu	795	12	1	N.A	
	GVI-5.	Lakejo	Polmas	960	12	1	N.A	
	Total VI			4,244	73	5		
	Grand Total			106,576	1,946			

Figures

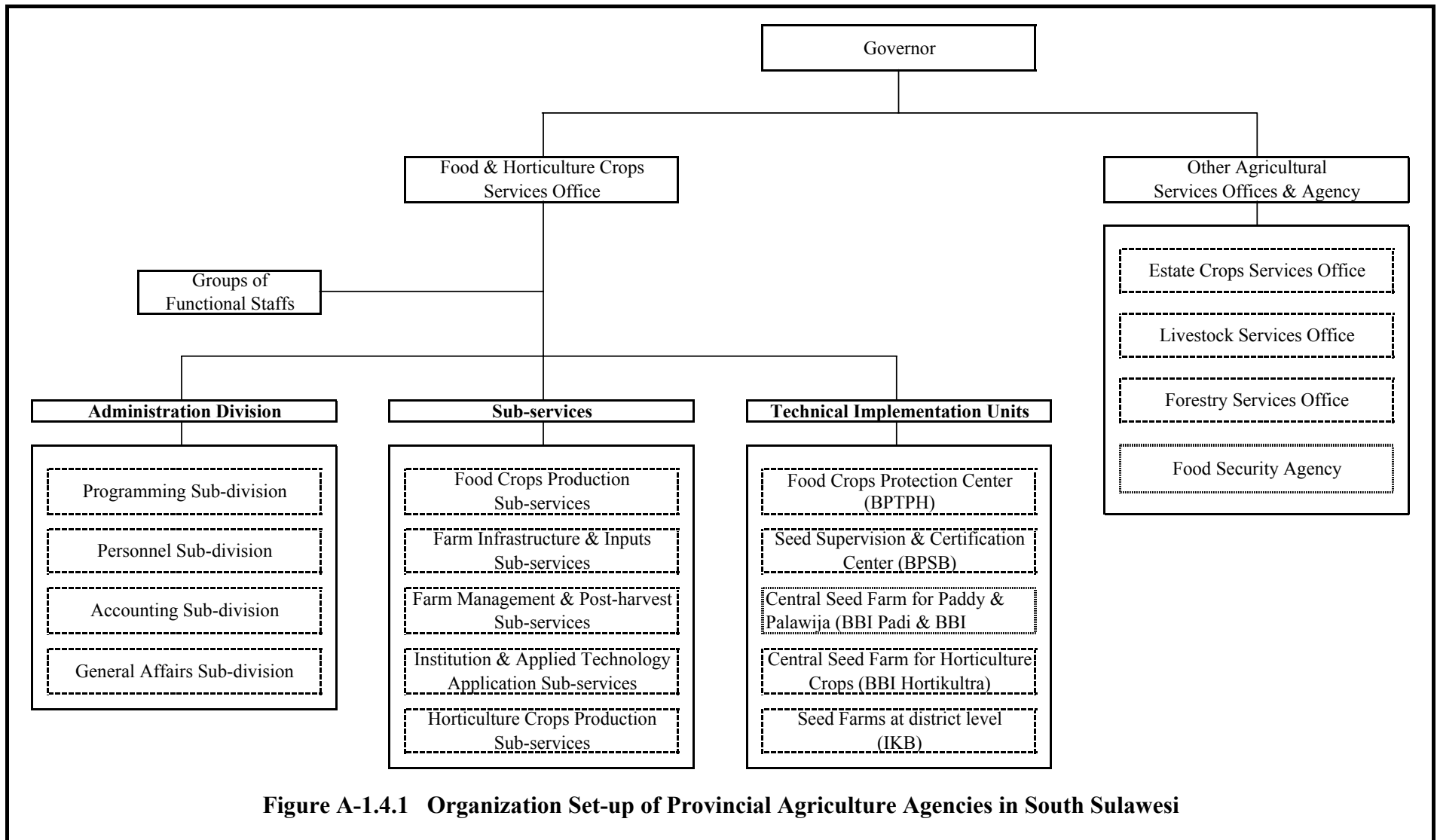
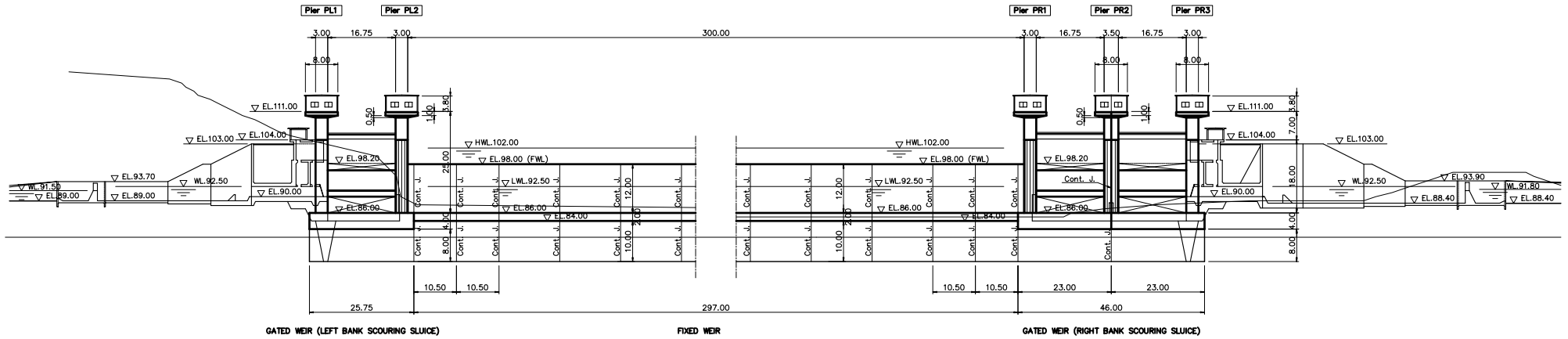
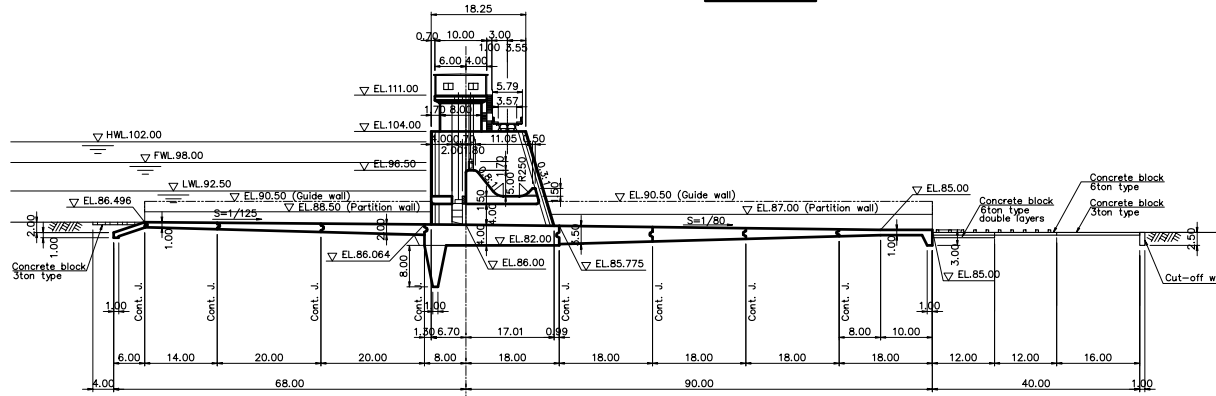


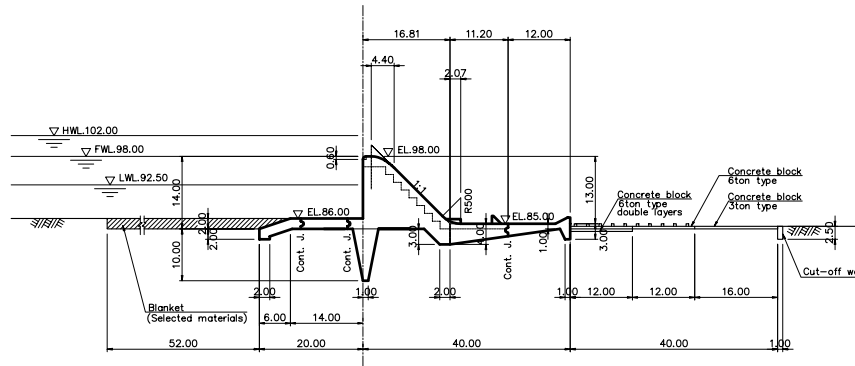
Figure A-1.4.1 Organization Set-up of Provincial Agriculture Agencies in South Sulawesi



FRONT VIEW



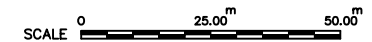
SECTION OF RIGHT BANK SCOURING SLUICE



SECTION OF FIXED WEIR

Note:

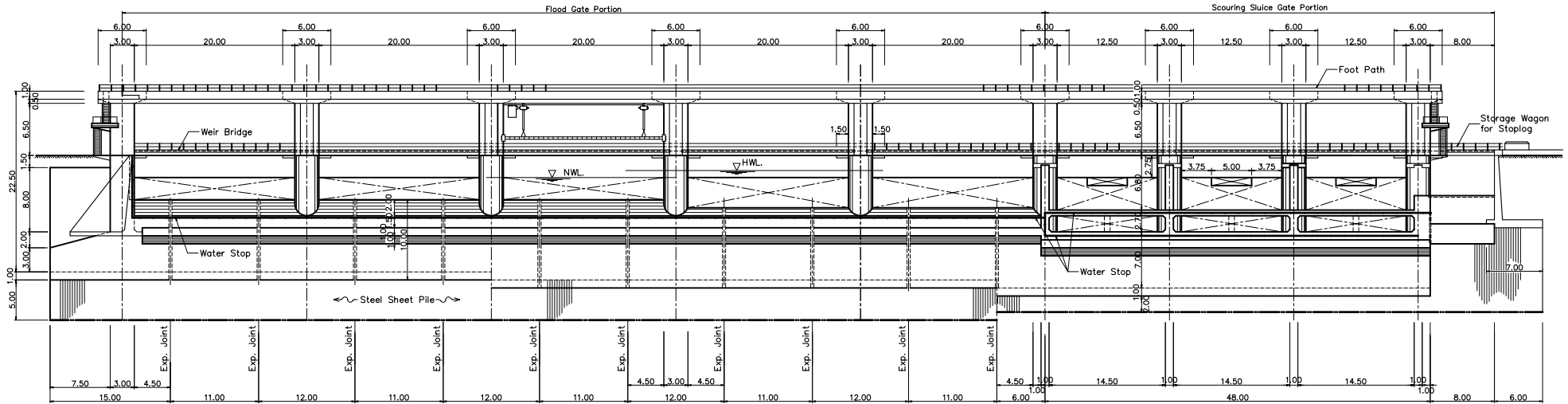
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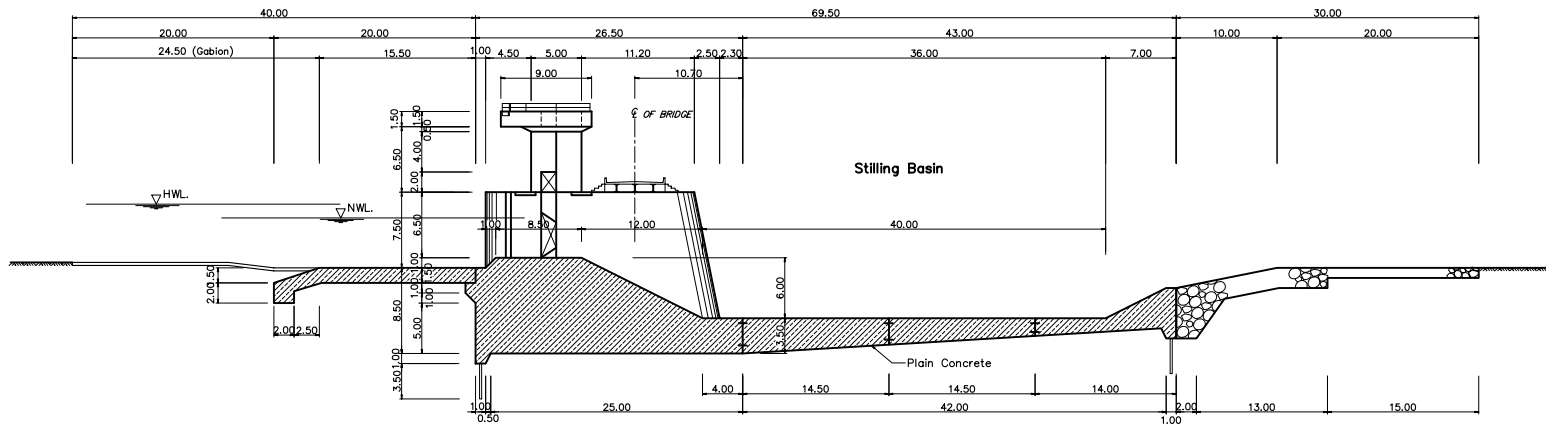
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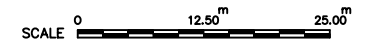
Figure 5.2.1 (1/16)
TYPICAL DRAWING
HEADWORKS (Fixed Weir Type)



FRONT VIEW



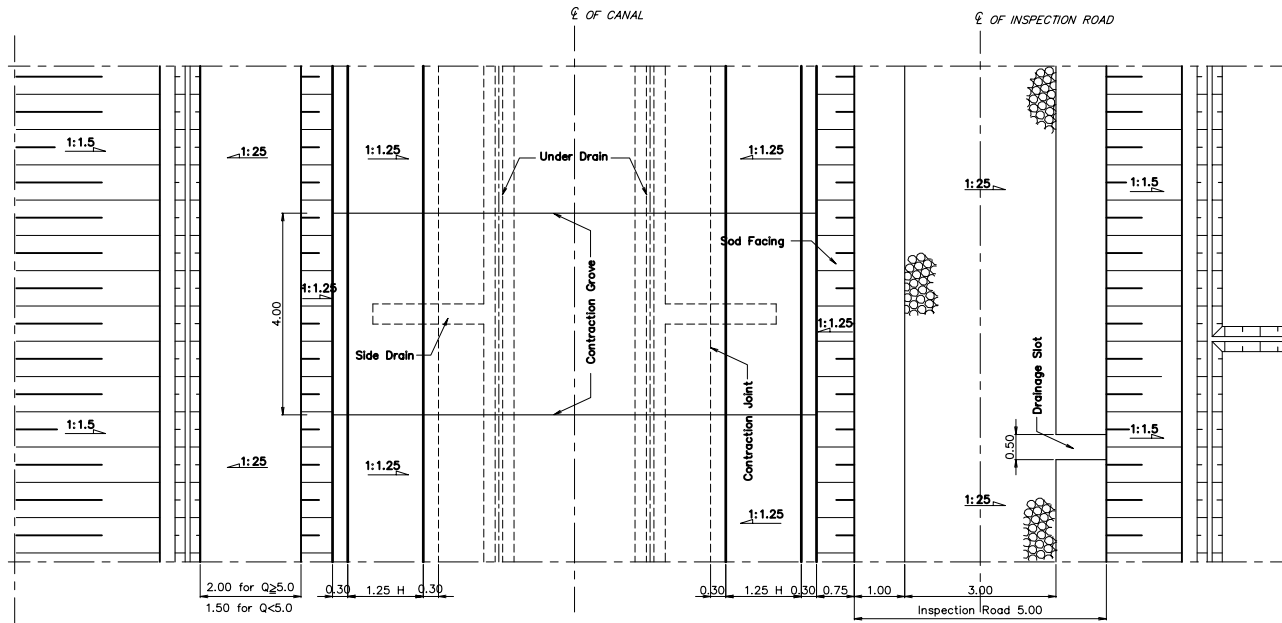
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Note:
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unless specified.

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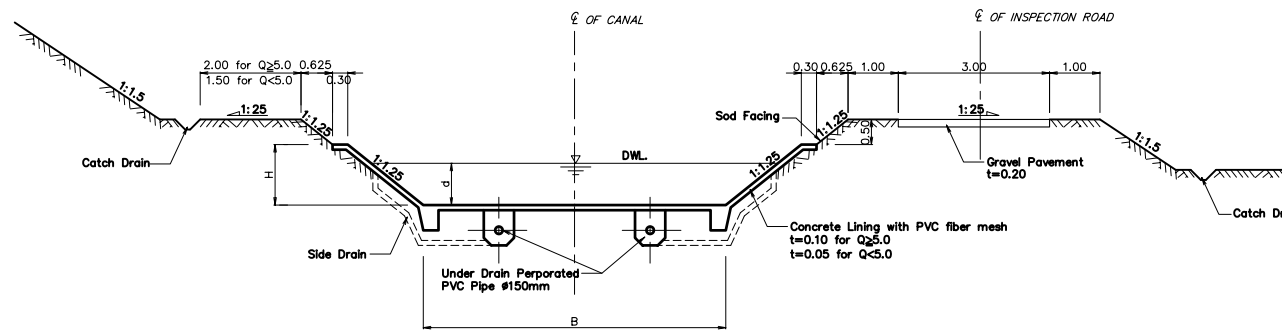
Figure 5.2.1 (2/16)
TYPICAL DRAWING
HEADWORKS (Movable Weir Type)



PLAN

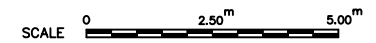
DIMENSION TABLE

DESIGN DISCHARGE Q (m ³ /s)	B (m)	H (m)	d (m)
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0.5-1.0	1.00	1.75	1.15
1.0-1.5	1.00	1.95	1.35
1.5-2.0	1.00	2.15	1.55
2.0-4.0	1.00	2.35	1.75
4.0-6.0	1.50	2.55	1.95
6.0-8.0	2.00	2.95	2.20
8.0-10.0	2.50	3.05	3.30
10.0-15.0	3.00	3.35	2.60
15.0-20.0	3.50	3.65	2.90
20.0-25.0	4.00	3.85	3.10
25.0-30.0	4.50	4.05	3.30
30.0-35.0	5.00	4.15	3.40



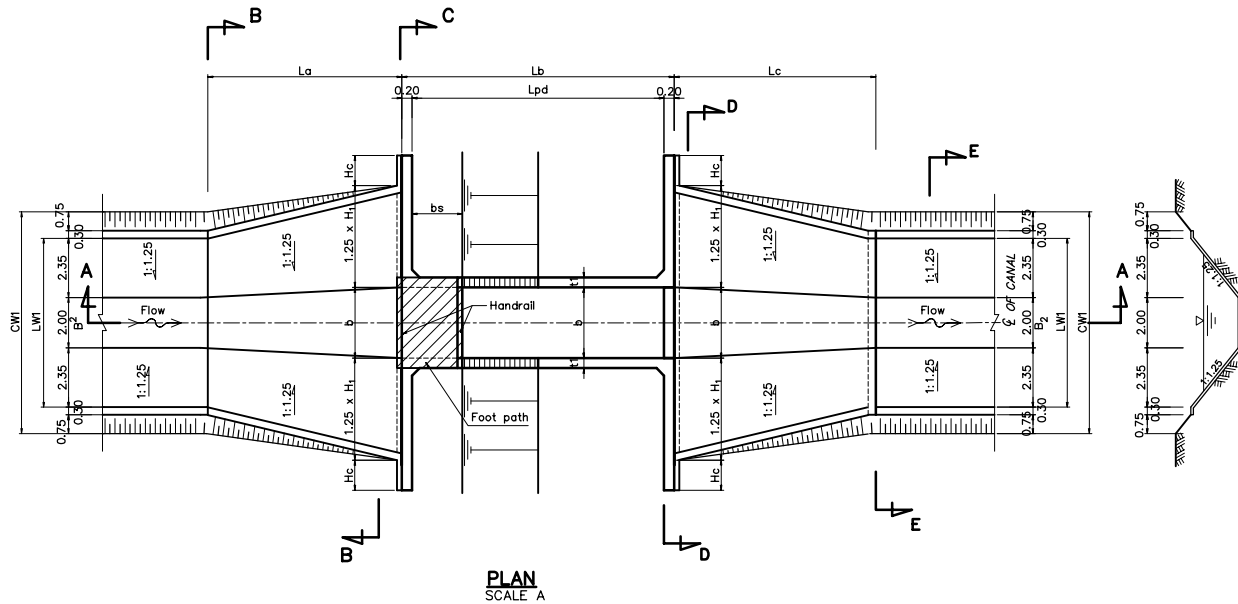
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Note:
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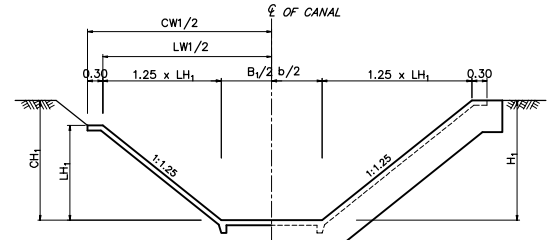


AF - 5

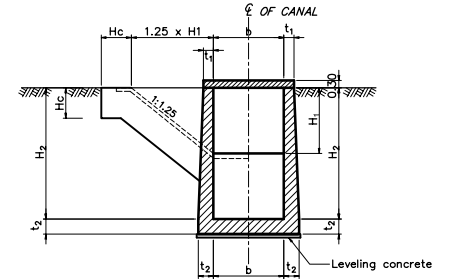
<p>The Study on Comprehensive Recovery Program of Irrigation Agriculture</p> <p>Japan International Cooperation Agency</p>	<p>Figure 5.2.1 (4/16) TYPICAL CROSS SECTION OF IRRIGATION CANAL</p>
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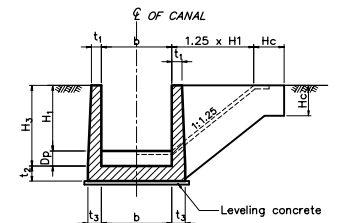
PLAN SCALE A



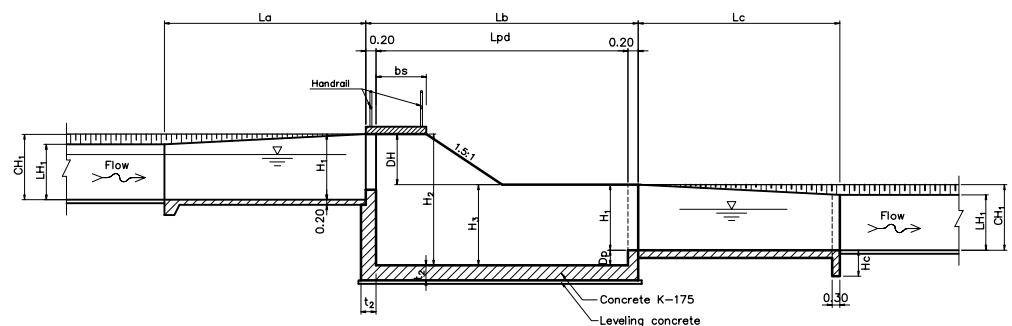
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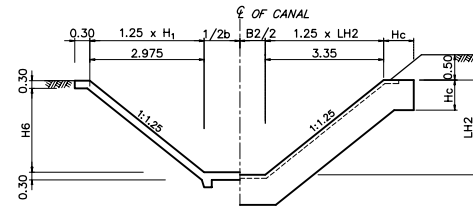
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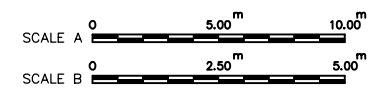
SECTION D-D SCALE B



SECTION A-A SCALE B

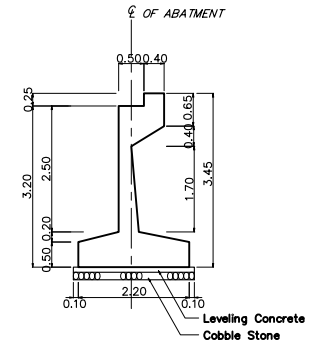
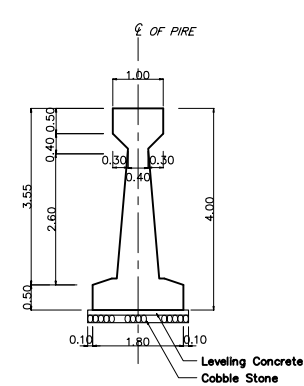
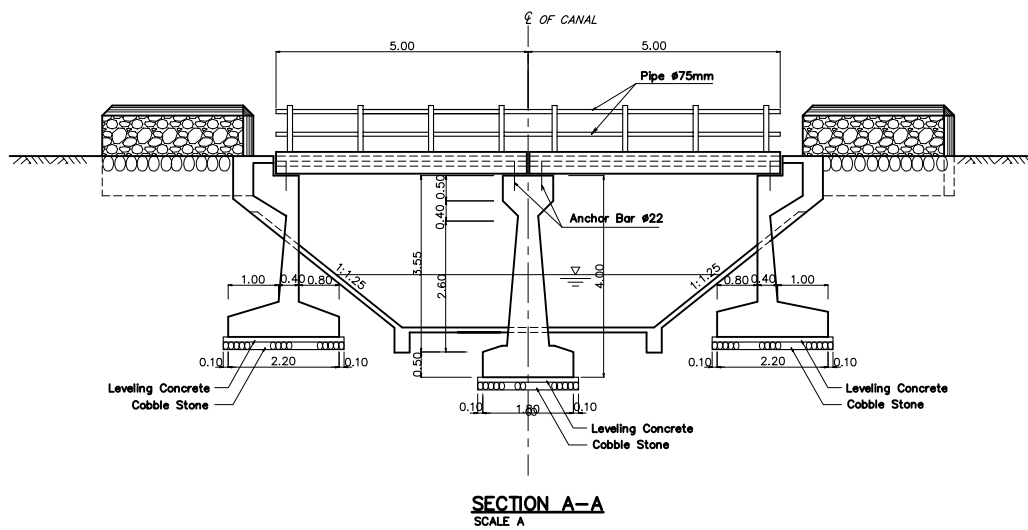
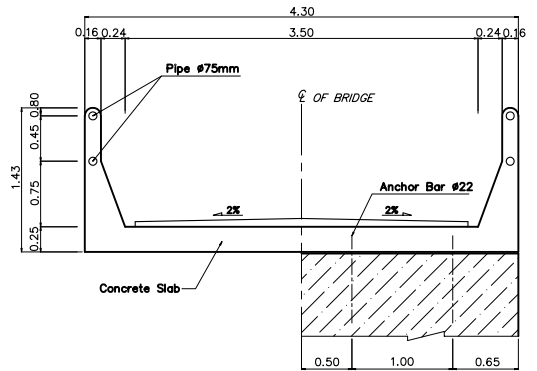
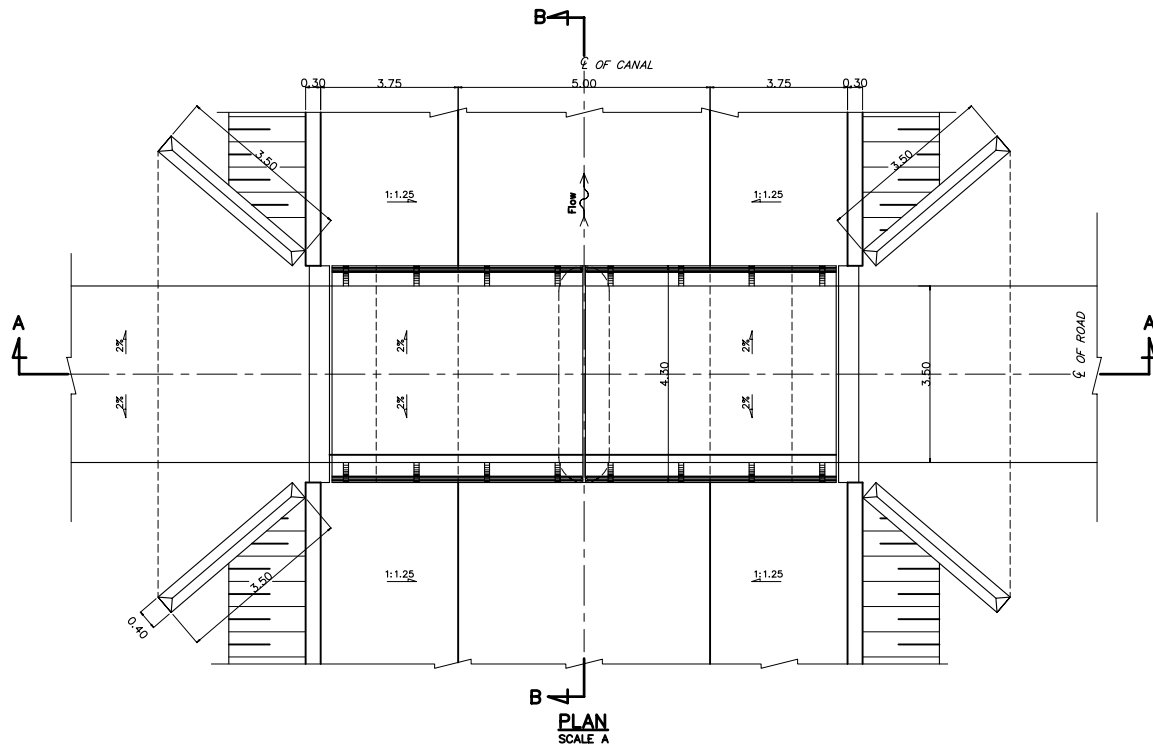


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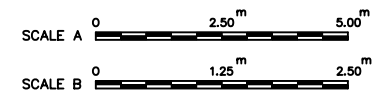


Note: All dimensions are in meters unless specified.

AF - 9



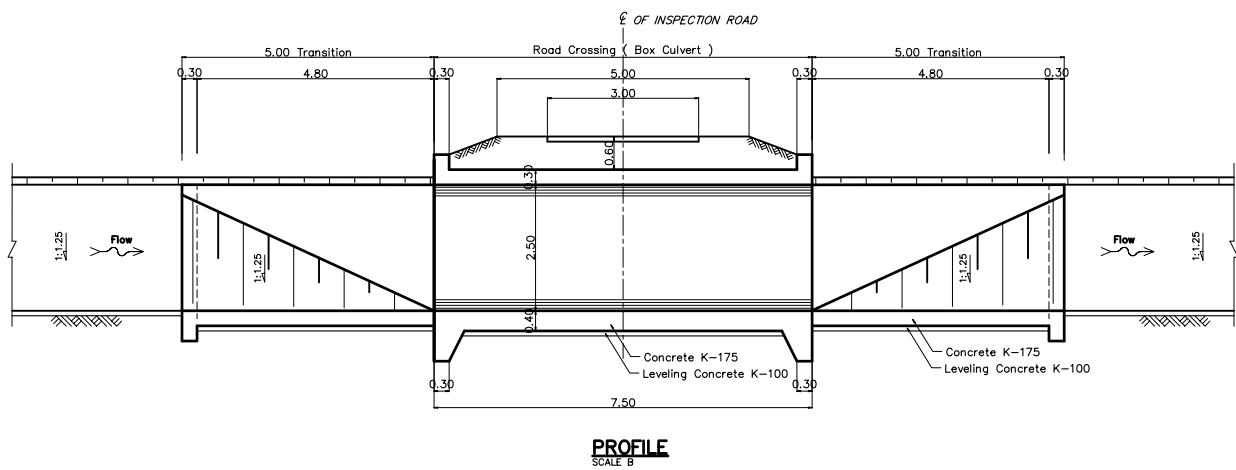
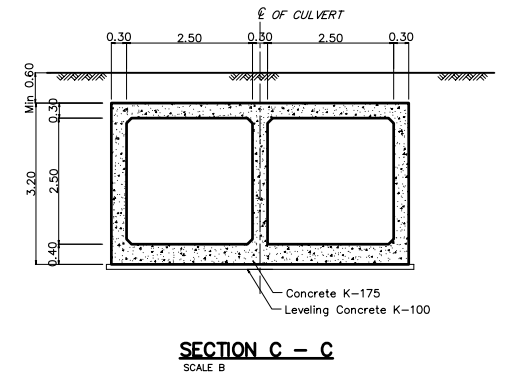
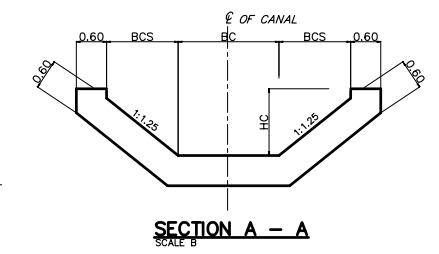
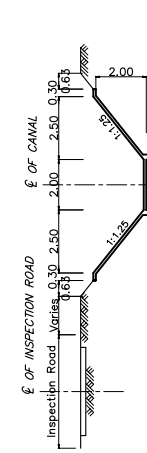
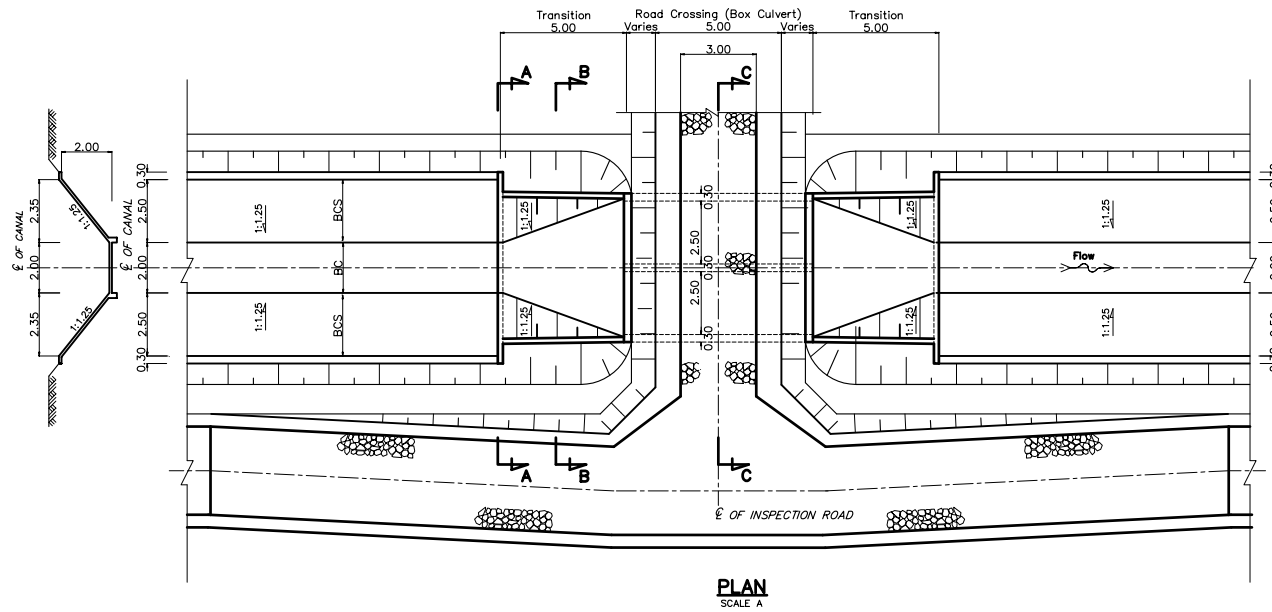
Note:
All dimensions are in meters
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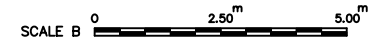
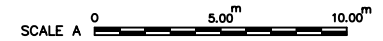
Japan International Cooperation Agency

Figure 5.2.1 (8/16)
TYPICAL DRAWING
SLAB BRIDGE

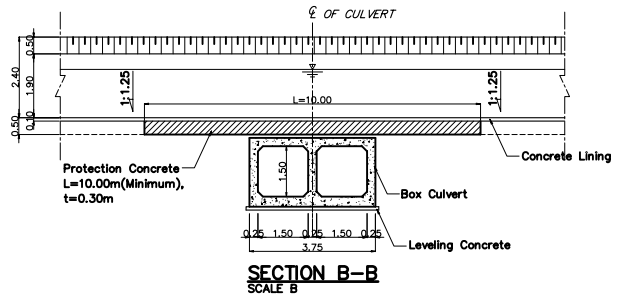
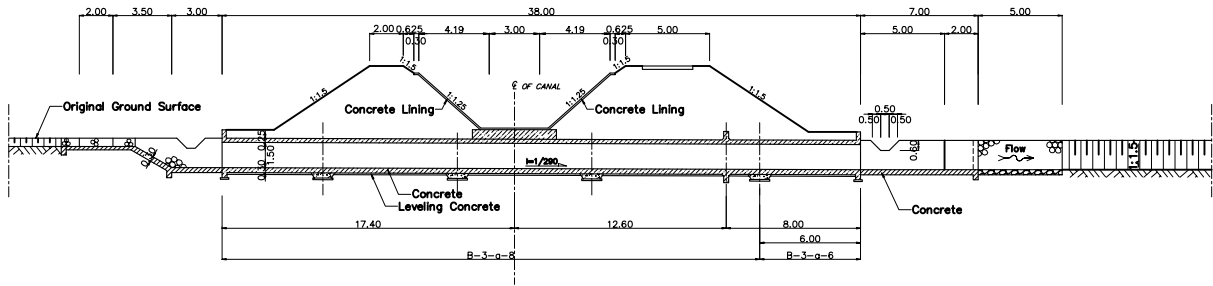
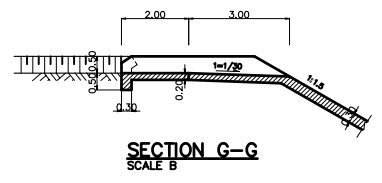
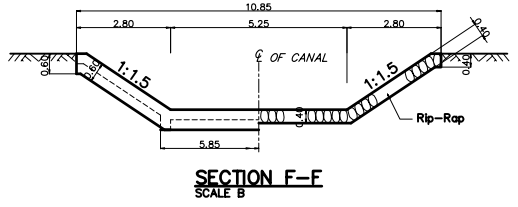
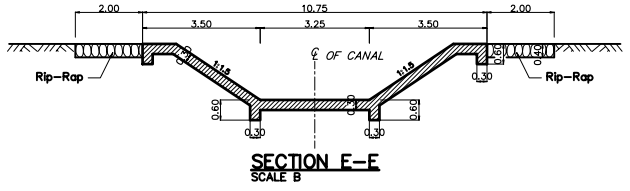
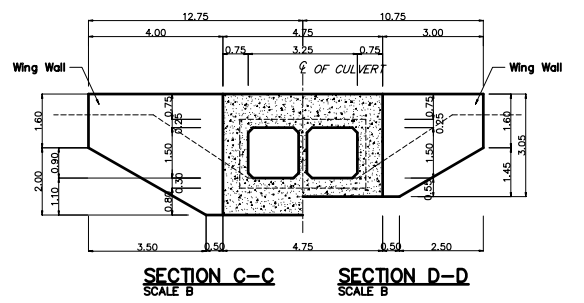
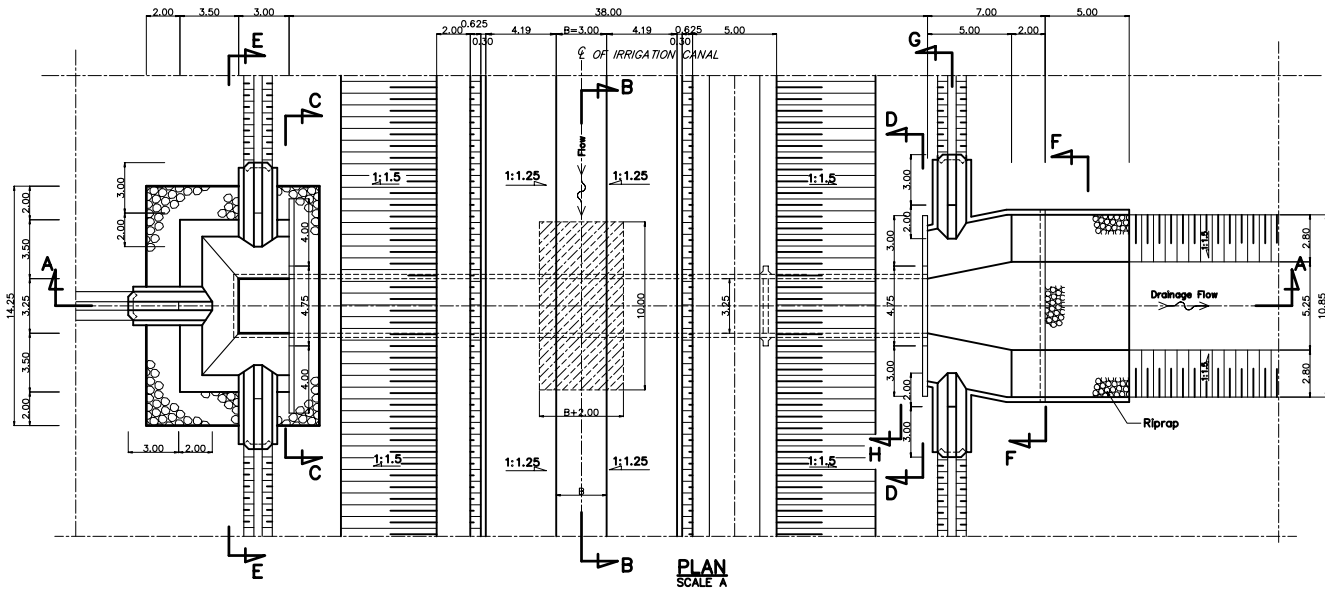


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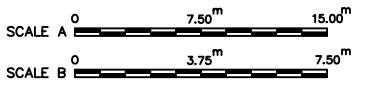
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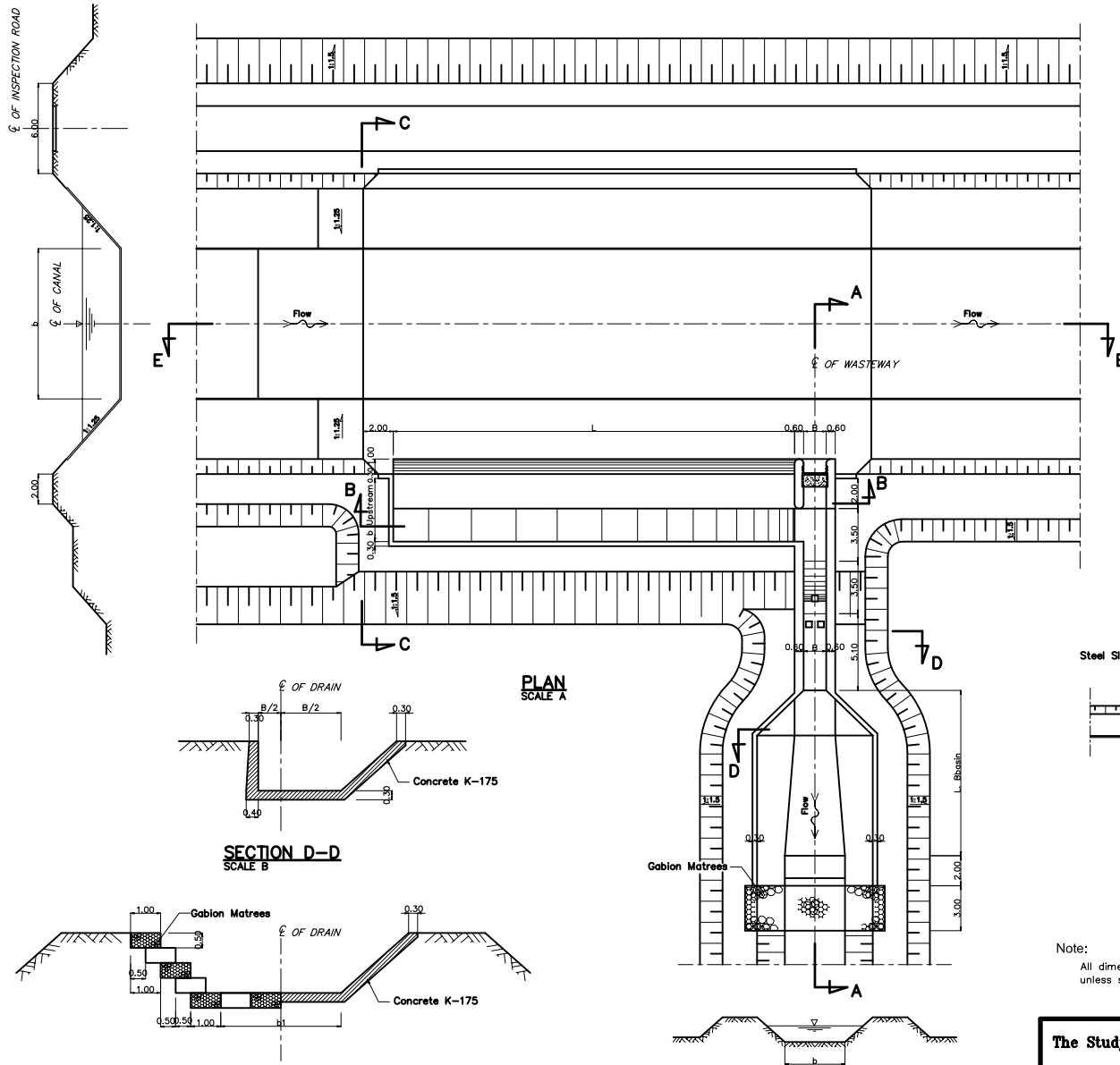
<p>The Study on Comprehensive Recovery Program of Irrigation Agriculture</p> <p>Japan International Cooperation Agency</p>	<p>Figure 5.2.1 (9/16) TYPICAL DRAWING ROAD CROSSING (BOX CULVERT TYPE)</p>
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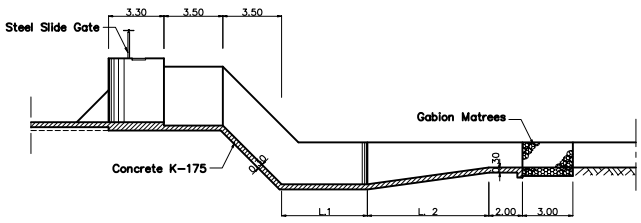
Note:
All dimensions are in meters unless specified.



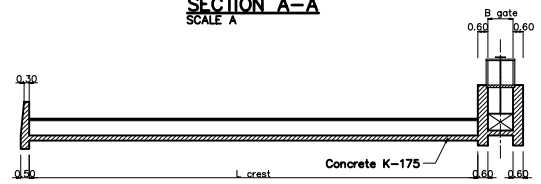
AF - 11



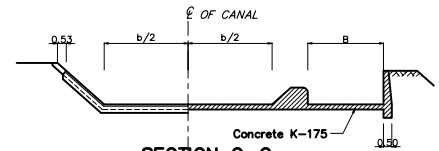
PLAN
SCALE A



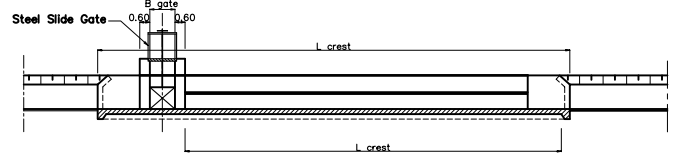
SECTION A-A
SCALE A



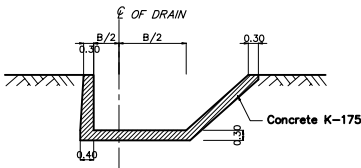
SECTION B-B
SCALE A



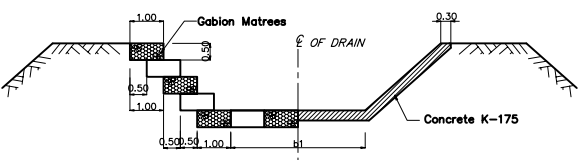
SECTION C-C
SCALE A



SECTION E-E
SCALE A

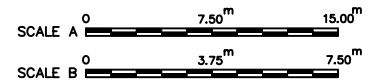


SECTION D-D
SCALE B



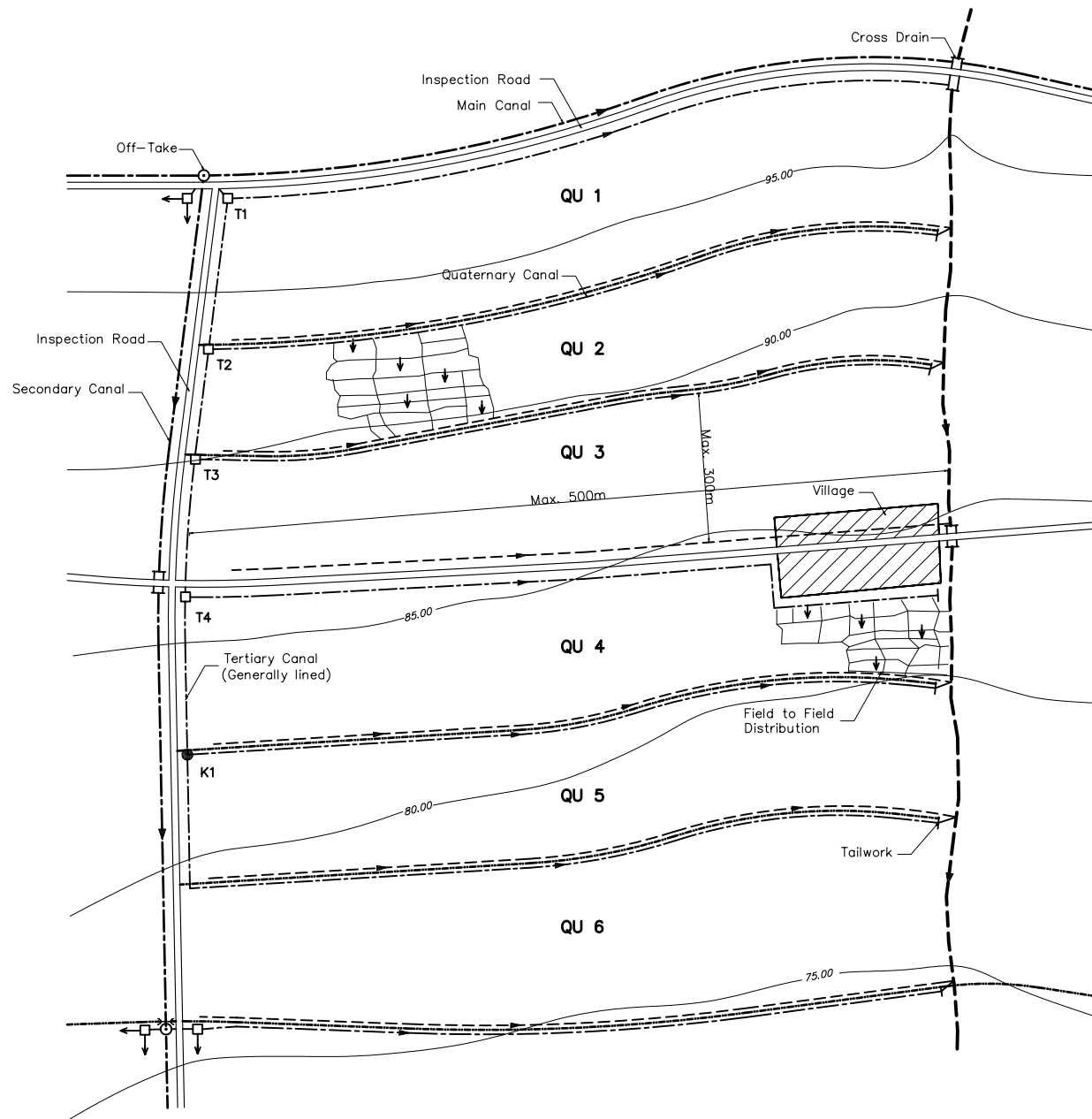
SECTION F-F
SCALE B

Note:
All dimensions are in meters
unless specified.



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Japan International Cooperation Agency

Figure 5.2.1 (11/16)
TYPICAL DRAWING
SPILLWAY AND WASTEWAY



General Criteria for Tertiary Unit Development	
1,	Size of Tertiary Unit 50-100 ha
2,	Size of Quaternary Unit 8-15 ha
3,	Length of Tertiary Canal <1500 m
4,	Length of Quaternary Canal <500 m
5,	Distance between Quaternary Canal and Drainage Canal <300 m

LEGEND

- 5m Contour line
- Inspection Road
- Village
- Paddy Field
- Culvert
- Off-Take
- Tertiary Division Box
- Quaternary Division Box
- Canal with Farm Road
- Drain
- Farm Road
- Flow
- Bridge

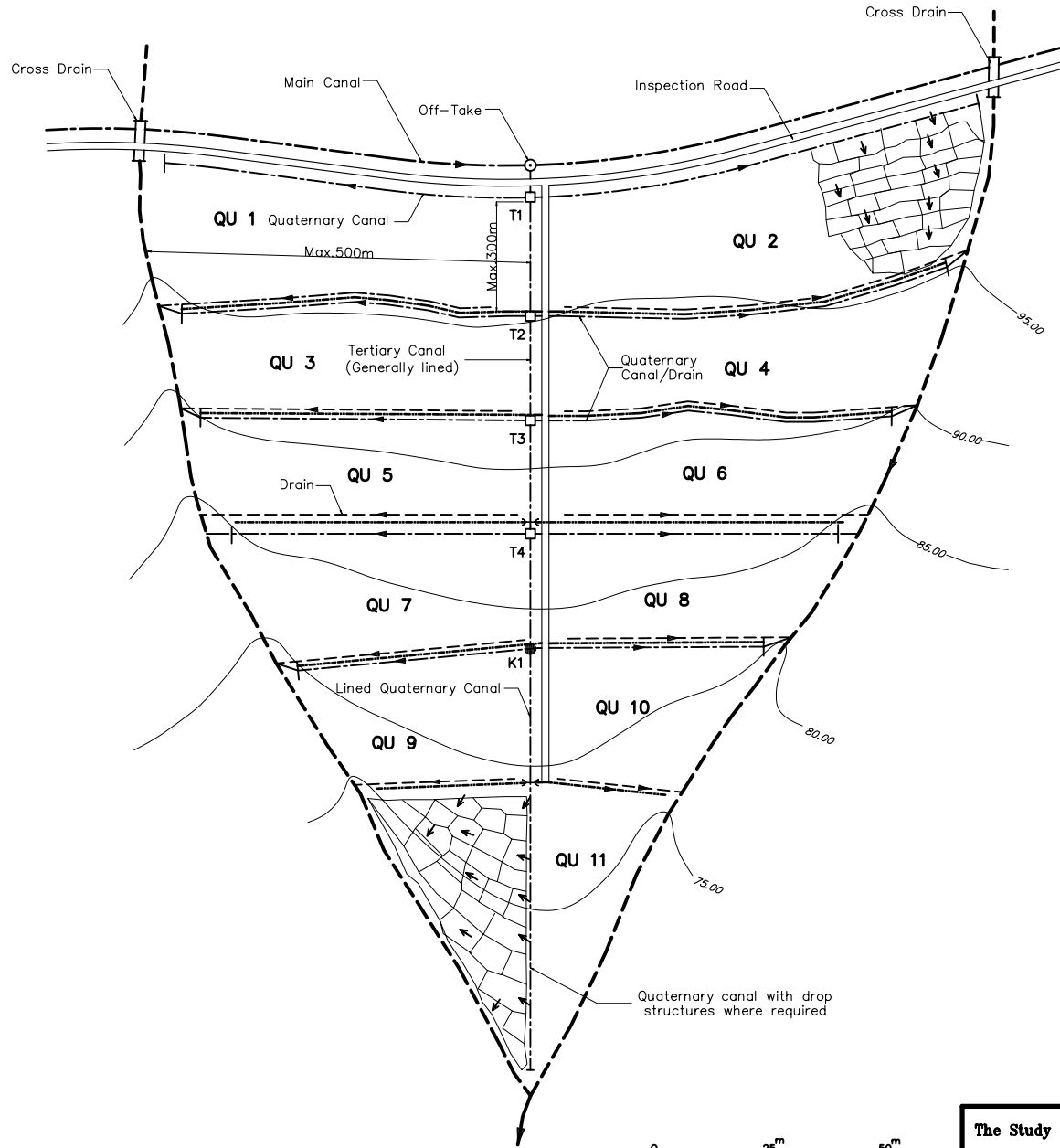
AF - 13



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of Irrigation Agriculture









Japan International Cooperation Agency

Figure 5.2.1 (12/16)
TYPICAL LAYOUT OF TERTIARY UNIT
SLOPE LESS THAN 5%



General Criteria for Tertiary Unit Development	
1,	Size of Tertiary Unit 50-100 ha
2,	Size of Quaternary Unit 8-15 ha
3,	Length of Tertiary Canal <1500 m
4,	Length of Quaternary Canal <500 m
5,	Distance between Quaternary Canal and Drainage Canal <300 m

LEGEND

-  5m Contour line
-  Inspection Road
-  Village
-  Paddy Field
-  Culvert
-  Off-Take
-  Tertiary Division Box
-  Quaternary Division Box
-  Canal with Farm Road
-  Drain
-  Farm Road
-  Flow
-  Bridge

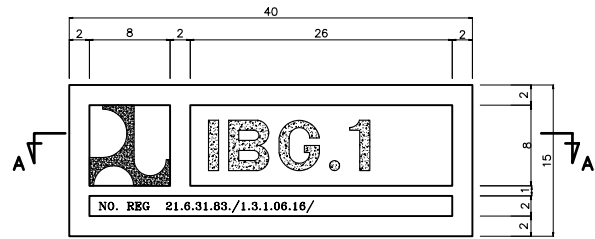


AF - 14

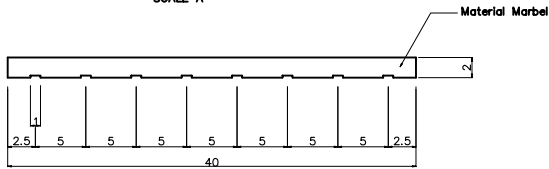
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Japan International Cooperation Agency

Figure 5.2.1 (13/16)
TYPICAL LAYOUT OF TERTIARY UNIT
SLOPE MORE THAN 5%

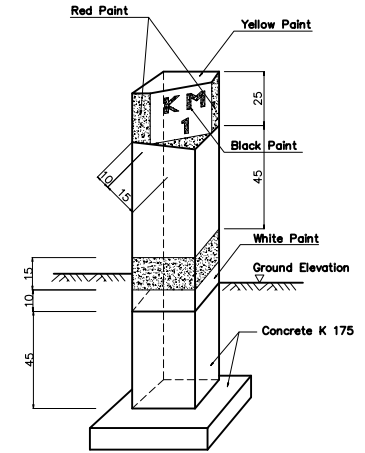
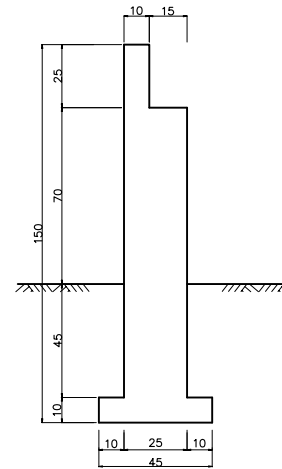


FRONT VIEW
SCALE A

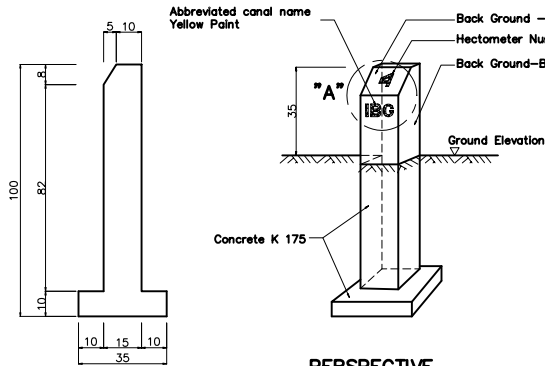


SECTION A-A
SCALE A

NAME PLATE OF STRUCTURE

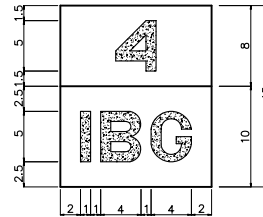


PERSPECTIVE
SCALE B

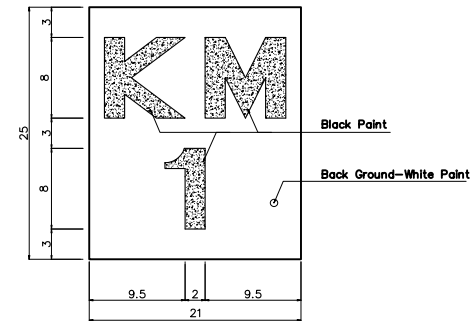


PERSPECTIVE
SCALE B

HECTOMETER POST



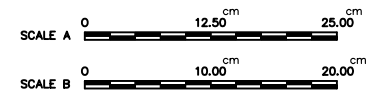
DETAIL "A"
SCALE A



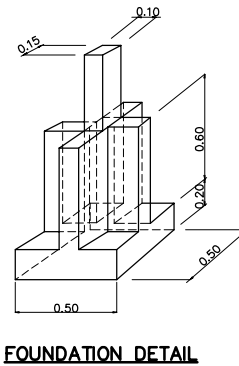
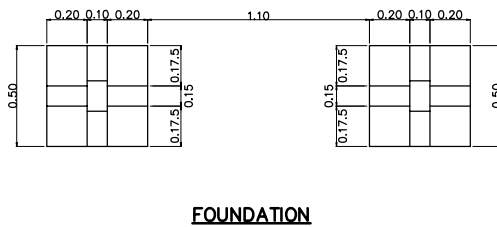
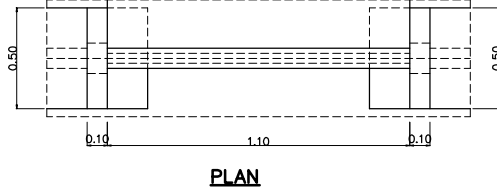
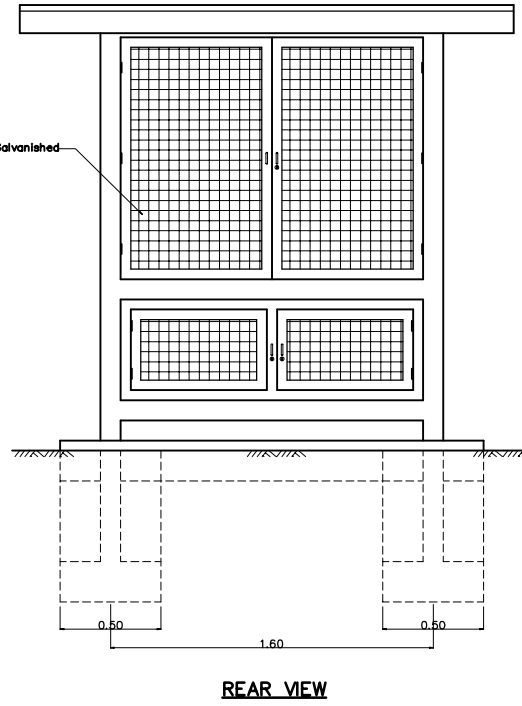
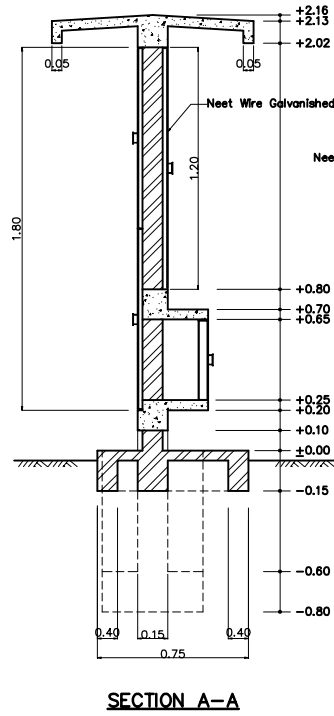
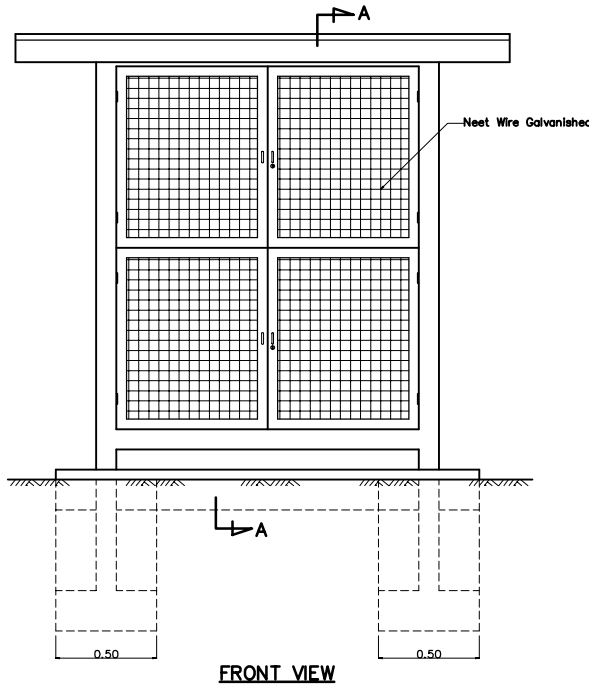
LETTERING DETAIL
SCALE A

KILOMETER POST

Note:
All dimensions are in centimeters
unless specified.



AF - 15



PAPAN EKSPLOATASI TERSEK

Pengamat Pengangan Daerah Irigasi :
 Nama Petak Tersekar :
 Nama Petak Tersekar :
 Nama Petak Irigasi :
 Periode Pemberian Air: tgl.../.../...bulan.....19.....

Jenis Tanaman	Luas Rencana Tanaman Petak Tersekar (Ha)			Kebutuhan Air Normal di Petak/Petak Tersekar (l/dst)		
	No.	No.	No.	No.	No.	No.
Post						
Tebu						
Pasir						
Jumlah						

Faktor (K) Ditetapkan (a) (b)

Petak Tersekar Nomor	Petak Tersekar Nomor	Petak Tersekar Nomor	Petak Tersekar Nomor
(a)(b)	(a)(b)	(a)(b)	(a)(b)
l/dst	l/dst	l/dst	l/dst

Debit Harus Dialirkan H Om Q H Om Q H Om Q H Om Q

TABEL DEBIT

H	Q	H	Q

Tanggul :
 Juru Pengangan :
 Nama :

PAPAN EKSPLOATASI TERSEK

Pengamat Pengangan Daerah Irigasi :
 Kode/Nama Bangunan Luas Sawah Irigasi :
 Periode Pemberian Air: tgl.../.../...bulan.....19.....

Total Rencana Luas Tanaman : Ha
 Total Kebutuhan Air Normal Tersekar dan Lain-Lain : l/dst(a)
 Total Kebutuhan air dan Sualesi : l/dst(b)
 Total Kebutuhan Air Normal di Bangunan Bagi : l/dst(c)

Faktor (K) Yang Ditetapkan (d)

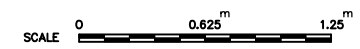
Debit Harus Dialirkan (a)(d)+(b) : x + = l/dst(e)
 Debit Kenyataan H Om. Q l/dst(c)

TABEL DEBIT

H	Q	H	Q

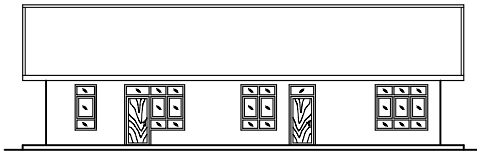
Tanggul : 19...
 Juru Pengangan :
 Nama :

Note:
 All dimensions are in centimeters unless specified.

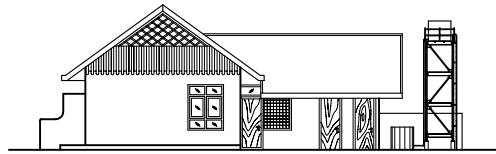


AF - 16

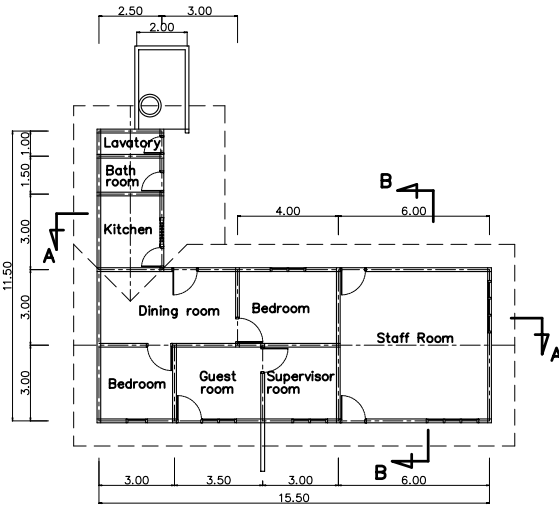
AF - 17



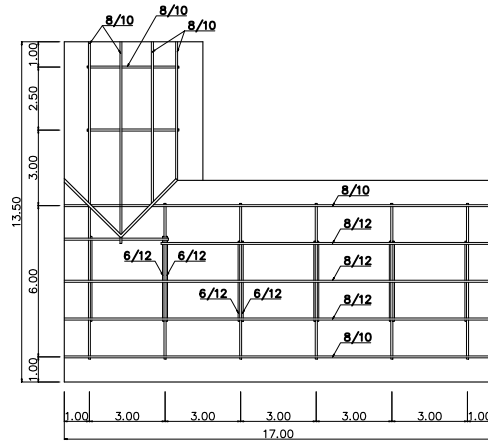
FRONT VIEW



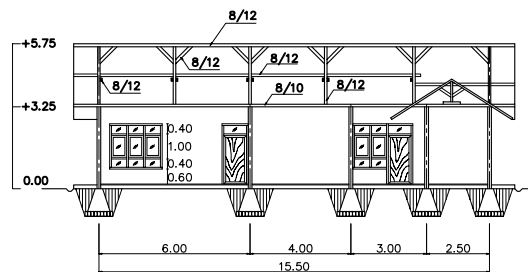
RIGHT SIDE VIEW



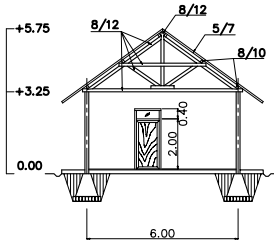
PLAN



ROOF PLAN

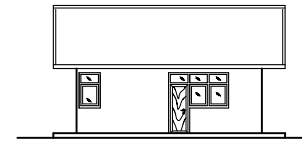


SECTION A-A

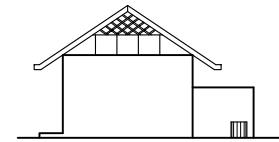


SECTION B-B

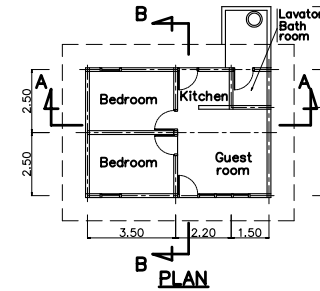
OPERATION OFFICE A= 120m²



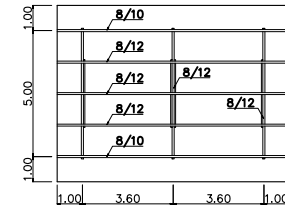
FRONT VIEW



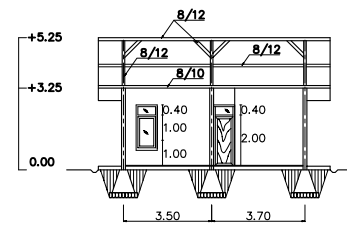
RIGHT SIDE VIEW



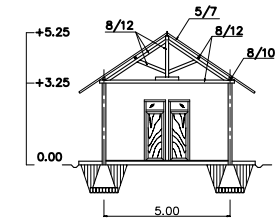
PLAN



ROOF PLAN



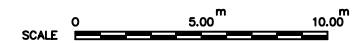
SECTION A-A



SECTION B-B

GATE KEEPER HOUSE A=36m²

Note:
All dimensions are in meters
unless specified.



All irrigation schemes of which registered area are larger than 1,000 ha in the province

First Screening

Step 1

Step 2

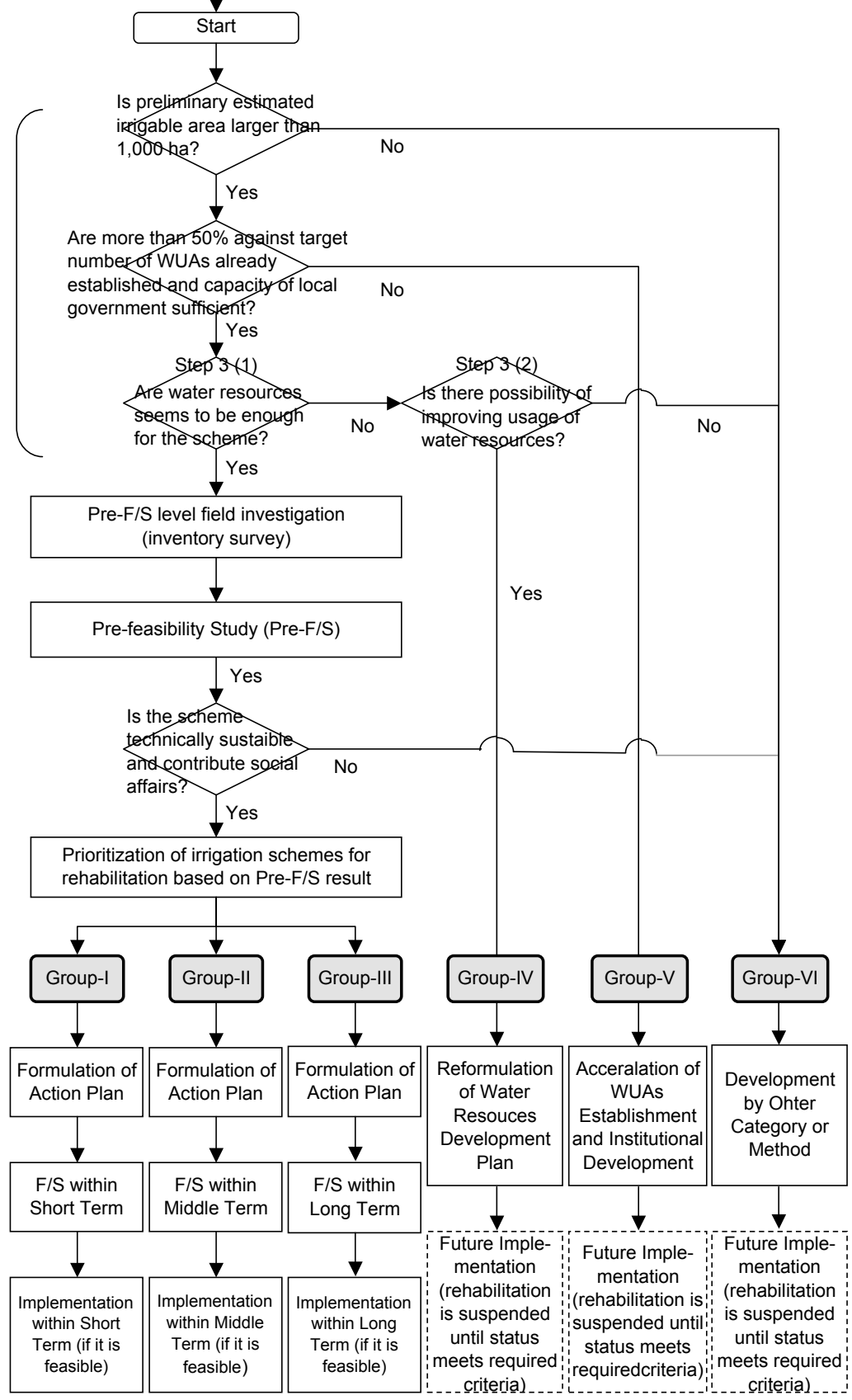
Step 3

Second Screening

Step 4

Step 5

Prioritized Group



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Figure A-6.1.1
Flow of Rehabilitation of Irrigation Schemes

Figure A-7.3.1 Action Plan of Recovery Program of Irrigation Agriculture : South Sulawesi

Priority Group	Phase	Work Description	Pre-F/S		Year from commencement of Midterm Phase																	
			1st	2nd	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th			
-	Initiation	Pre-Feasibility	- Preparation of Master List	█																		
			- Pre-F/S level Field Investigation	█																		
			- Second Screening by Water Resources Availability		█																	
			- Formulation of Pre-F/S level Development Plan		█																	
			- Prioritization			█																
			- Preparation of Action Plan			█																
I.	Midterm	Feasibility Study	- Procurement of Consultant			█																
			- Preparation of F/S			█																
			- Financial Arrangement				█															
	Final	Implementation	- Procurement of Consultant					█														
			- Detailed Design						█													
			- Tender							█												
			- Construction								█											
		- Guidance, training etc.								█												
II.	Midterm	Feasibility Study	- Procurement of Consultant				█															
			- Preparation of F/S					█														
			- Financial Arrangement						█													
	Final	Implementation	- Procurement of Consultant								█											
			- Detailed Design									█										
			- Tender										█									
			- Construction											█								
		- Guidance, training etc.										█										
III.	Midterm	Feasibility Study	- Procurement of Consultant							█												
			- Preparation of F/S									█										
			- Financial Arrangement											█								
	Final	Implementation	- Procurement of Consultant																			
			- Detailed Design																			
			- Tender																			
			- Construction																			
		- Guidance, training etc.																				
IV.	Nil																					
V.	Midterm	Institutional Capacity Building																				
VI.	Midterm	Review and Preparation of Development Plan																				