

Table II.2.3 Estimation of Benefit of the SWIM Projects (3/12)
-BSWM- No.3

Item	Project NO. Status	BSWM 26 D/D	BSWM 27 D/D	BSWM 28 D/D	BSWM 29 D/D	BSWM 30 D/D	BSWM 31 D/D	BSWM 32 D/D	BSWM 33 D/D	BSWM 34 D/D	BSWM 35 D/D	BSWM 36 D/D	BSWM 37 D/D
1. Irrigation													
Cropped Area (ha)													
a) w/o project condition													
rainfed													
wet	25	30	50	27	51	41	2	100	50	50	20	60	
dry	10	19	15	21	3	34		7		18			
total	35	49	65	48	54	75	2	107	50	68	20	60	
irrigated													
wet													
dry													
total	0	0	0	0	0	0	0	0	0	0	0	0	
w/o condition total	35	49	65	48	54	75	2	107	50	68	20	60	
b) with project condition:													
irrigated													
wet	25	30	50	100	100	70	30	100	95	70	35	60	
dry	10	15	15	25	35	70	30	80	75	70	30	50	
with project total	35	45	65	125	135	140	60	180	170	140	65	110	
Net Benefit (1000 Pesos)													
w/o project condition	168	235	312	228	259	357	10	511	240	326	96	289	
with project condition	390	504	720	1379	1499	1595	684	2039	1925	1595	738	1247	
Net Incremental Benefit (1000 Pesos/year)	222	269	408	1151	1240	1238	674	1528	1685	1269	642	959	
2. Mini-hydropower													
Firm Power (kW)	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy Output (MWh/year)	-	-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh/year)	-	-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh)	-	-	-	-	-	-	-	-	-	-	-	-	-
Benefit (1000 Pesos/year)	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Inland Fishery													
Reservoir Area (ha)	1	2	1	1	3	12	3	8	4	6	2	4	
Production (ton/year)	1.6	3.2	1.6	1.6	4.8	19.2	4.8	12.8	6.4	9.6	3.2	6.4	
Benefit (1000 Pesos/year)	24	48	24	24	72	288	72	192	96	144	48	96	
Annual Benefit(1000Pesos)	246	317	432	1175	1312	1526	746	1720	1781	1413	690	1055	
Negative Benefit Production Foregone (1000 pesos)	0	0	0	0	0	0	0	0	0	10	0	0	
ANNUAL TOTAL BENEFIT (1000 pesos)	246	317	432	1175	1312	1526	746	1720	1781	1403	690	1055	

Note: The total may not equal the sum of individual figures due to rounding.

Table H.2.3 Estimation of Benefit of the SWIM Projects (4/12)
-BSWM- No.4

Item	Project NO. Status	BSWM 38 D/O	BSWM 39 D/O	BSWM 40 D/O	BSWM 41 D/O	BSWM 42 D/O	BSWM 43 D/O	BSWM 44 D/O	BSWM 45 D/O	BSWM 46 D/O	BSWM 47 D/O	BSWM 48 D/O	BSWM 49 D/O
1. Irrigation													
Cropped Area (ha)													
a) w/o project condition													
rainfed wet		120	35	63	40	50	50	40	250	39	70	110	14
dry			2	37	10			16		5		11	
total		120	37	100	50	50	50	56	250	44	70	121	14
Irrigated wet													
dry													
total		0	0	0	0	0	0	0	0	0	0	0	0
w/o condition total		120	37	100	50	50	50	56	250	44	70	121	14
b) with project condition:													
Irrigated wet		120	35	100	40	50	50	40	250	40	70	100	15
dry		80	30	100	25	50	15	30	250	40	60	100	15
with project total		200	65	200	65	100	65	70	500	80	130	200	30
Net Benefit (1000 Pesos)													
w/o project condition		576	175	480	240	240	240	269	1199	211	336	580	67
with project condition		2255	738	2279	732	1139	720	792	5696	911	1475	2279	342
Net Incremental Benefit (1000 Pesos/year)		1679	563	1799	492	899	480	523	4497	700	1139	1699	275
2. Mini-hydropower													
Firm Power (kW)		-	-	-	-	-	-	-	-	-	-	-	-
Energy Output (MWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh)		-	-	-	-	-	-	-	-	-	-	-	-
Benefit (1000 Pesos/year)		-	-	-	-	-	-	-	-	-	-	-	-
3. Inland Fishery													
Reservoir Area (ha)		2	6	5	2	5	7	2	12	3	4	12	3
Production (ton/year)		3.2	9.6	8.0	3.2	8.0	11.2	3.2	19.2	4.8	6.4	19.2	4.8
Benefit (1000 Pesos/year)		48	144	120	48	120	168	48	288	72	96	288	72
Annual Benefit(1000Pesos)		1727	707	1919	540	1019	648	571	4785	772	1235	1987	347
Negative Benefit Production Foregone (1000 pesos)		0	0	0	0	0	0	0	0	0	0	0	0
ANNUAL TOTAL BENEFIT (1000 pesos)		1727	707	1919	540	1019	648	571	4785	772	1235	1987	347

Note: The total may not equal the sum of individual figures due to rounding.

Table H.2.3 Estimation of Benefit of the SWIM Projects (5/12)
 -BSWM- No.5

Item	Project NO. Status	BSWM 50 0/0	BSWM 51 0/0	BSWM 52 0/0	BSWM 56 0/0	BSWM 57 0/0	BSWM 58 0/0	BSWM 59 0/0	BSWM 60 0/0	BSWM 61 0/0	BSWM 62 0/0	BSWM 63 0/0	BSWM 64 0/0
1. Irrigation													
Cropped Area (ha)													
a) w/o project condition:													
rainfed													
wet		30	15	56	50	35	30	40	100	100	100	103	100
dry			45	16	20								
total		30	60	72	70	35	30	40	100	100	100	103	100
irrigated													
wet													
dry													
total		0	0	0	0	0	0	0	0	0	0	0	0
w/o condition total		30	60	72	70	35	30	40	100	100	100	103	100
b) with project condition:													
irrigated													
wet		20	55	50	50	35	25	35	100	100	100	100	100
dry		20	55	50	60	30	30	75	40	55	80	65	30
with project total		40	110	100	110	65	55	110	140	155	180	165	130
Net Benefit (1000 Pesos)													
w/o project condition		144	288	345	336	168	144	192	480	480	480	492	480
with project condition		456	1253	1139	1259	738	630	1277	1559	1739	2039	1859	1439
Net Incremental Benefit (1000 Pesos/year)		312	965	794	923	570	486	1085	1079	1259	1559	1367	959
2. Mini-hydropower													
Firm Power (kW)		-	-	-	-	-	-	-	-	-	-	-	-
Energy Output (MWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kW Value (Peso/kW/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh)		-	-	-	-	-	-	-	-	-	-	-	-
Benefit (1000 Pesos/year)		-	-	-	-	-	-	-	-	-	-	-	-
3. Inland Fishery													
Reservoir Area (ha)		2	5	10	8	5	4	6	7	16	21	6	6
Production (ton/year)		3.2	8.0	16.0	12.8	8.0	6.4	9.6	11.2	25.6	33.6	9.6	9.6
Benefit (1000 Pesos/year)		48	120	240	192	120	96	144	168	384	504	144	144
Annual Benefit(1000Pesos)		360	1085	1034	1115	690	582	1229	1247	1643	2063	1511	1103
Negative Benefit Production Foregone (1000 pesos)		0	0	0	0	0	0	0	0	0	0	0	0
ANNUAL TOTAL BENEFIT (1000 pesos)		360	1085	1034	1115	690	582	1229	1247	1643	2063	1511	1103

Note: The total may not equal the sum of individual figures due to rounding.

Table H.2.3 Estimation of Benefit of the SWIM Projects (6/12)
-BSWM- No.6

Item	Project NO. Status	BSWM 65 D/D	BSWM 66 D/D	BSWM 67 D/D	BSWM 68 D/D	BSWM 69 D/D	BSWM 70 D/D	BSWM 71 D/D	BSWM 72 D/D	BSWM 73 D/D	BSWM 74 D/D	BSWM 75 D/D	BSWM 76 D/D
1. Irrigation													
Cropped Area (ha)													
a) w/o project condition:													
rainfed wet		50	100	53	50	50	40	100	43	75	370	50	50
dry		6								20	30	9	
total		56	100	53	50	50	40	100	43	95	400	59	50
irrigated wet													
dry													
total		0	0	0	0	0	0	0	0	0	0	0	0
w/o condition total		56	100	53	50	50	40	100	43	95	400	59	50
b) with project condition:													
irrigated wet		50	100	50	50	50	50	100	40	100	400	70	50
dry		10	60	30	30	20	30	50	35	30	200	40	45
with project total		60	160	80	80	70	80	150	75	130	600	110	95
Net Benefit (1000 Pesos)													
w/o project condition		269	480	254	240	240	192	480	204	456	1919	283	240
with project condition		660	1799	899	899	780	899	1679	851	1439	6716	1235	1079
Net Incremental Benefit (1000 Pesos/year)		391	1319	645	659	540	707	1199	647	983	4797	952	839
2. Mini-hydropower													
Firm Power (kW)		-	-	-	-	-	-	-	-	-	-	-	-
Energy Output (kWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh)		-	-	-	-	-	-	-	-	-	-	-	-
Benefit (1000 Pesos/year)		-	-	-	-	-	-	-	-	-	-	-	-
3. Inland Fishery													
Reservoir Area (ha)		1	11	4	4	8	5	9	9	5	27	6	6
Production (ton/year)		1.6	17.6	6.4	6.4	12.8	8.0	14.4	14.4	8.0	43.2	9.6	9.6
Benefit (1000 Pesos/year)		24	264	96	96	192	120	216	216	120	648	144	144
Annual Benefit(1000Pesos)		415	1583	741	755	732	827	1415	863	1103	5445	1096	983
Negative Benefit Production Foregone (1000 pesos)		0	0	0	0	0	0	0	0	0	0	0	0
ANNUAL TOTAL BENEFIT (1000 pesos)		415	1583	741	755	732	827	1415	863	1103	5445	1096	983

Note: The total may not equal the sum of individual figures due to rounding.

Table H.2.3 Estimation of Benefit of the SWIM Projects (7/12)
-BSWM- No.7

Item	Project NO.	BSKM 77	BSWM 78	BSKM 79	BSWM 80	BSKM 82	BSWM 83	BSKM 84	BSWM 85	BSKM 86	BSWM 87	BSKM 88	BSWM 89
Status	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D
1. Irrigation													
Cropped Area (ha)													
a) w/o project condition													
rainfed													
wet	50	75	42	50	23	50	23	50			40	20	22
dry	50	75	42	50	23	50	22	50			40	20	22
total	100	150	84	52	46	102	45	100	0	0	80	40	44
irrigated													
wet	0	0	0	0	0	0	0	0	0	0	0	0	0
dry	0	0	0	0	0	0	0	0	0	0	0	0	0
total	0	0	0	0	0	0	0	0	0	0	0	0	0
w/o condition total	100	150	84	52	46	102	45	100	0	0	80	40	44
b) with project condition													
irrigated													
wet	50	75	45	50	20	50	50	50	25	50	25	25	25
dry	50	75	45	50	20	50	40	50	25	40	25	25	25
with project total	100	150	90	100	40	100	90	100	50	75	50	50	50
Net Benefit (1000 Pesos)													
w/o project condition	480	720	403	250	223	489	215	480	0	384	192	211	211
with project condition	1139	1709	1025	1139	456	1139	1019	1139	570	1019	750	570	570
Net Incremental Benefit (1000 Pesos/year)	659	989	622	889	233	650	804	659	570	635	558	359	359
2. Mini-hydropower													
Firm Power (kW)	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy Output (MWh/year)	-	-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh/year)	-	-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh)	-	-	-	-	-	-	-	-	-	-	-	-	-
Benefit (1000 Pesos/year)	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Inland Fishery													
Reservoir Area (ha)	5	3	2	7	3	2	3	9	1	2	2	3	3
Production (ton/year)	8.0	4.8	3.2	11.2	4.8	3.2	4.8	14.4	1.6	3.2	3.2	4.8	4.8
Benefit (1000 Pesos/year)	120	72	48	168	72	48	72	216	24	48	48	72	72
Annual Benefit(1000Pesos)	779	1061	670	1057	305	698	876	875	594	683	606	431	431
Negative Benefit													
Production Foregone (1000 pesos)	15	11	7	0	0	0	0	0	0	0	0	0	0
ANNUAL TOTAL BENEFIT (1000 pesos)	764	1050	663	1057	305	698	876	875	594	683	606	431	431

Note: The total may not equal the sum of individual figures due to rounding.

Table II.2.3 Estimation of Benefit of the SWIM Projects (8/12)
-BSWM- No.8

Item	Project NO. Status	BSWM 90 D/D	BSWM 91 D/D	BSWM 92 D/D	BSWM 93 D/D	BSWM 94 D/D	BSWM 95 D/D	BSWM 96 D/D	BSWM 97 D/D	BSWM 98 D/D	BSWM 99 D/D	BSWM 100 D/D	BSWM 101 D/D
1. Irrigation													
Cropped Area (ha)													
a) w/o project condition													
rainfed													
wet		50	50	20	14	50	12	12	6	17	8	13	22
dry		5	30	15	14	5						11	16
total		55	80	35	28	55	12	12	6	17	8	24	38
Irrigated													
wet													
dry													
total		0	0	0	0	0	0	0	0	0	0	0	0
w/o condition total		55	80	35	28	55	12	12	6	17	8	24	38
b) with project condition													
Irrigated													
wet		50	50	40	50	50	40	25	30	80	15	100	50
dry		20	35	40	50	20	45	35	30	80	35	100	50
with project total		70	85	80	100	70	85	60	60	160	50	200	100
Net Benefit (1000 Pesos)													
w/o project condition		264	384	168	134	264	58	58	27	80	36	113	180
with project condition		780	959	911	1139	780	971	690	684	1823	582	2279	1139
Net Incremental Benefit (1000 Pesos/year)		516	575	743	1005	516	913	632	657	1743	546	2166	959
2. Mini-hydropower													
Firm Power (kW)		-	-	-	-	-	-	-	-	-	-	-	-
Energy Output (MWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh)		-	-	-	-	-	-	-	-	-	-	-	-
Benefit (1000 Pesos/year)		-	-	-	-	-	-	-	-	-	-	-	-
3. Inland Fishery													
Reservoir Area (ha)		2	1	2	4	2	4	4	2	8	1	2	2
Production (ton/year)		3.2	1.6	3.2	6.4	3.2	6.4	6.4	3.2	12.8	1.6	3.2	3.2
Benefit (1000 Pesos/year)		48	24	48	96	48	96	96	48	192	24	48	48
Annual Benefit(1000Pesos)		564	599	791	1101	564	1009	728	705	1935	570	2214	1007
Negative Benefit Production Foregone (1000 pesos)		0	0	0	0	4	0	0	0	0	2	0	0
ANNUAL TOTAL BENEFIT (1000 pesos)		564	599	791	1101	560	1009	728	705	1935	568	2214	1007

Note: The total may not equal the sum of individual figures due to rounding.

Table H.2.3 Estimation of Benefit of the SWIM Projects (9/12)
-BSWM- No.9

Item	Project NO. Status	BSWM 102 D/D	BSWM 103 D/D	BSWM 108 D/D	BSWM 109 D/D	BSWM 110 D/D	BSWM 111 D/D	BSWM 112 D/D	BSWM 113 D/D	BSWM 114 D/D	BSWM 115 D/D	BSWM 117 D/D	BSWM 118 D/D
1. Irrigation													
Cropped Area (ha)													
a) w/o project condition													
rainfed	wet	10	18	4	50	39	40	40	11	18		100	30
	dry			14	20	24	30	55	9	18		22	5
	total	10	18	18	70	63	70	95	20	35	0	122	35
irrigated	wet												
	dry												
	total	0	0	0	0	0	0	0	0	0	0	0	0
w/o condition total		10	18	18	70	63	70	95	20	35	0	122	35
b) with project condition:													
irrigated	wet	60	100	10	90	50	80	58	25	50		100	26
	dry	100	35	20	40	50	125	55	20	50		100	70
with project total		160	135	30	130	100	205	113	45	100	0	200	95
Net Benefit (1000 Pesos)													
w/o project condition		48	84	86	336	302	336	456	96	169	0	587	168
with project condition		1847	1499	348	1451	1139	2363	1286	510	1139	0	2279	1109
Net incremental Benefit (1000 Pesos/year):		1799	1415	262	1115	837	2027	830	414	970	0	1692	941
2. Mini-hydropower													
Firm Power (kW)		-	-	-	-	-	-	-	-	-	-	-	-
Energy Output (MWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh)		-	-	-	-	-	-	-	-	-	-	-	-
Benefit (1000 Pesos/year):		-	-	-	-	-	-	-	-	-	-	-	-
3. Inland Fishery													
Reservoir Area (ha)		4	3	2	6	4	3	9	2	4	2	4	1
Production (ton/year)		6.4	4.8	3.2	9.6	6.4	4.8	14.4	3.2	6.4	3.2	6.4	1.6
Benefit (1000 Pesos/year):		96	72	48	144	96	72	216	48	96	48	96	24
Annual Benefit (1000 Pesos):		1895	1487	310	1259	933	2099	1046	462	1066	48	1768	955
Negative Benefit													
Production Foregone (1000 pesos):		0	4	0	0	0	0	10	0	0	0	0	1
ANNUAL TOTAL BENEFIT (1000 pesos):		1895	1483	310	1259	933	2099	1036	462	1066	48	1768	954

Note: The total may not equal the sum of individual figures due to rounding.

Table H.2.3 Estimation of Benefit of the SWIM Projects (10/12)
 -BSWM- No.10

Item	Project NO.	BSWM 119	BSWM 120	BSWM 121	BSWM 122	BSWM 123	BSWM 124	BSWM 125	BSWM 126	BSWM 127	BSWM 128	BSWM 129	BSWM 130
Status		O/D	O/D	O/D	O/D	O/D	O/D	O/D	O/D	O/D	O/D	O/D	O/D
1. Irrigation													
Cropped Area (ha)													
a) w/o project condition:													
rainfed													
wet		55	40	45	35	50	18	50	61	40	100	120	68
dry		5	5	8	8	10	14	50	50	40	100	120	68
total		60	45	53	43	60	31	100	111	80	200	240	136
irrigated													
wet							7						
dry							7						
total		0	0	0	0	0	15	0	0	0	0	0	0
w/o condition total		60	45	53	43	60	46	50	111	40	100	120	62
b) with project condition:													
irrigated													
wet		55	50	45	50	55	90	55	53	40	155	130	100
dry		70	50	60	50	50	110	70	80	100	155	130	100
with project total		125	100	105	100	105	200	125	133	140	310	260	200
Net Benefit (1000 Pesos)													
w/o project condition		288	216	254	206	288	254	240	532	192	480	576	298
with project condition		1433	1139	1205	1139	1193	2291	1433	1531	1631	3532	2962	2279
Net Incremental Benefit (1000 Pesos/year)		1145	923	951	933	905	2037	1193	999	1439	3052	2387	1981
2. Mini-hydropower													
Firm Power (kW)		-	-	-	-	-	-	-	-	-	-	-	-
Energy Output (MWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh)		-	-	-	-	-	-	-	-	-	-	-	-
Benefit (1000 Pesos/year)		-	-	-	-	-	-	-	-	-	-	-	-
3. Inland Fishery													
Reservoir Area (ha)		3	2	2	2	2	3	4	1	7	7	8	4
Production (ton/year)		4.8	3.2	3.2	3.2	3.2	4.8	6.4	1.6	11.2	11.2	12.8	6.4
Benefit (1000 Pesos/year)		72	48	48	48	48	72	96	24	168	168	192	96
Annual Benefit(1000Pesos)		1217	971	999	981	953	2109	1289	1023	1607	3220	2579	2077
Negative Benefit Production Foregone (1000 pesos)		0	0	0	0	0	0	0	0	11	17	0	5
ANNUAL TOTAL BENEFIT (1000 pesos)		1217	971	999	981	953	2109	1289	1023	1596	3203	2579	2072

Note: The total may not equal the sum of individual figures due to rounding.

Table H.2.3 Estimation of Benefit of the SWIM Projects (11/12)
-BSWM- No.11

Item	Project NO.	BSWM 131	BSWM 132	BSWM 133	BSWM 134	BSWM 135	BSWM 136	BSWM 137	BSWM 138	BSWM 139	BSWM 140	BSWM 141	BSWM 142
Status		O/D	O/D	O/D	O/D	O/D	O/D	O/D	O/D	O/D	O/D	O/D	O/D
1. Irrigation													
Cropped Area (ha)													
a) w/o project condition													
rainfed wet		25	47	150	25	100	30	45	102	100	40	10	2
rainfed dry		11	1	100	15	90	10	10	104	68	10	5	10
rainfed total		36	47	250	40	190	40	55	286	168	50	15	12
irrigated wet													
irrigated dry		0	0	0	0	0	0	0	0	0	0	0	0
irrigated total		0	0	0	0	0	0	0	0	0	0	0	0
w/o condition total		36	47	250	40	190	40	55	286	168	50	15	12
b) with project condition													
irrigated wet		100	50	200	35	105	30	45	190	150	40	55	105
irrigated dry		100	50	200	35	105	20	35	180	140	20	80	85
with project total		200	100	400	70	210	50	80	370	290	60	135	170
Net Benefit (1000 Pesos)													
w/o project condition		170	227	1199	192	911	192	254	1372	806	240	72	58
with project condition		2279	1139	4557	798	2393	564	905	4209	3290	672	1553	1913
Net Incremental Benefit (1000 Pesos/year)		2108	912	3358	606	1481	372	642	2837	2492	432	1481	1855
2. Mini-hydropower													
Firm Power (kW)		-	-	-	-	-	-	-	-	-	-	-	-
Energy Output (MWh/year)		-	-	-	-	-	-	-	-	-	-	-	-
kW Value (Peso/kW/year)		-	-	-	-	-	-	-	-	-	-	-	-
kWh Value (Peso/kWh)		-	-	-	-	-	-	-	-	-	-	-	-
Benefit (1000 Pesos/year)		-	-	-	-	-	-	-	-	-	-	-	-
3. Inland Fishery													
Reservoir Area (ha)		2	3	4	5	4	1	2	11	8	4	4	1
Production (ton/year)		3.2	4.8	6.4	8.0	6.4	1.6	3.2	17.6	12.8	6.4	6.4	1.6
Benefit (1000 Pesos/year)		48	72	96	120	96	24	48	264	192	96	96	24
Annual Benefit(1000Pesos)		2156	984	3454	726	1577	396	690	3101	2684	528	1577	1879
Negative Benefit Production Foregone (1000 pesos)		0	0	9	0	0	0	0	0	6	0	0	0
ANNUAL TOTAL BENEFIT (1000 pesos)		2156	984	3445	726	1577	396	690	3101	2678	528	1577	1879

Note: The total may not equal the sum of individual figures due to rounding.

Table II.2.3 Estimation of Benefit of the SWIM Projects (12/12)
-BSWM- No.12

Item	Project NO.	BSWM 143	BSWM 144	BSWM 145	BSWM 146	BSWM 147	BSWM 149	BSWM 150	BSWM 151
Status	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D
1. Irrigation									
Cropped Area (ha)									
a) w/o project condition									
rainfed wet		15	60	250	2	10	9	172	100
dry		78				90	15	100	7
total		93	60	250	2	100	23	272	107
irrigated wet									
dry									
total		0	0	0	0	0	0	0	0
w/o condition total		93	60	250	2	100	23	272	107
b) with project condition:									
irrigated wet		80	85	250	120	100	15	175	100
dry		60	70	250	100	55	20	110	100
with project total		140	155	500	220	155	35	285	200
Net Benefit (1000 Pesos)									
w/o project condition		446	288	1199	7	480	112	1305	513
with project condition		1583	1757	5696	2494	1739	402	3208	2279
Net Incremental Benefit (1000 Pesos/year)		1137	1469	4497	2487	1259	289	1903	1765
2. Mini-hydropower									
Firm Power (kW)		-	-	-	-	-	-	-	-
Energy Output (MWh/year)		-	-	-	-	-	-	-	-
kWh Value (Peso/kWh/year)		-	-	-	-	-	-	-	-
kWh Value (Peso/kWh)		-	-	-	-	-	-	-	-
Benefit (1000 Pesos/year)		-	-	-	-	-	-	-	-
3. Inland Fishery									
Reservoir Area (ha)		2	6	9	4	2	2	14	6
Production (ton/year)		3.2	9.6	14.4	6.4	3.2	3.2	22.4	9.6
Benefit (1000 Pesos/year)		48	144	216	96	48	48	336	144
Annual Benefit(1000Pesos)		1185	1613	4713	2583	1307	337	2239	1909
Negative Benefit Production Foregone (1000 pesos)		2	6	0	7	0	0	0	0
ANNUAL TOTAL BENEFIT (1000 pesos)		1183	1607	4713	2576	1307	337	2239	1909

Note: The total may not equal the sum of individual figures due to rounding.

Table H.3.1 Economic Internal Rate of Return -DPWH-

(Unit: Pesos 1,000)

No.Agency	Invest	Invest	O&M	Benefit	Benefit	Benefit	Benefit	Product.	
No.year	Cost	Cost	Cost	Irri.	Hydro	Inland F.	Water S.	Foregone	EIRR
1 DPWH- 1	2	38744	240	959	851	72	0	0	-0.32%
2 DPWH- 2	2	45511	376	7399	1678	624	0	0	17.13%
3 DPWH- 3	2	23104	173	0	0	120	2169	0	6.97%
4 DPWH- 6	2	67088	544	0	5102	696	0	0	5.31%
5 DPWH- 7	2	57878	472	1499	1827	312	0	0	1.79%
6 DPWH- 8	1	8410	38	345	0	120	0	0	1.44%
7 DPWH- 9	1	45187	303	5936	0	144	0	0	10.98%
8 DPWH-11	2	53007	401	3598	3197	1176	0	0	12.09%
9 DPWH-13	2	22325	146	3706	0	480	0	0	15.00%
10 DPWH-14	2	9592	96	1079	422	288	0	0	14.98%
11 DPWH-15	2	47358	327	8994	0	168	0	0	15.33%
12 DPWH-16	2	66853	484	6656	3802	360	0	0	13.02%
13 DPWH-17	2	13661	100	3166	0	144	0	5	19.10%
14 DPWH-18	2	31070	142	3082	0	192	0	0	7.48%
15 DPWH-19	2	7767	58	2734	0	240	0	10	28.79%
16 DPWH-20	2	11560	72	2045	0	120	0	5	14.89%
17 DPWH-21	2	11431	79	2782	0	240	0	10	20.79%
18 DPWH-22	2	46708	205	3934	0	240	0	10	5.66%
19 DPWH-25	2	14889	77	1943	0	120	0	0	10.75%
20 DPWH-26	2	10543	73	2674	0	168	0	0	21.20%
21 DPWH-27	2	11307	58	1613	0	120	0	0	12.12%
22 DPWH-28	2	37726	178	3982	0	192	0	0	8.01%
23 DPWH-33	2	11208	78	1876	0	480	0	50	16.56%

Table H.3.2 Economic Internal Rate of Return -NIA- (1/2)

(Unit: Pesos 1,000)

No.	Agency	Invest No. year	Invest Cost	O&M Cost	Benefit Irri.	Benefit Hydro	Benefit Inland	Benefit F.Water	Benefit S. Foregone	Product. EIRR
1	NIA-	4	3	65413	554	5541	1548	1224	0	67 8.71%
2	NIA-	6	3	32418	299	3502	1240	1032	0	0 13.24%
3	NIA-	7	3	32141	274	5858	833	480	0	0 16.40%
4	NIA-	9	3	105728	1227	9822	0	144	0	0 4.86%
5	NIA-	11	3	44121	237	4137	0	432	0	0 6.64%
6	NIA-	12	3	40485	286	9678	0	1176	0	0 19.37%
7	NIA-	14	3	29689	179	4497	0	504	0	21 12.37%
8	NIA-	15	3	59872	515	6248	1998	600	0	0 10.66%
9	NIA-	20	2	46348	275	7903	0	2040	0	0 17.39%
10	NIA-	21	2	24721	107	2231	0	984	0	0 10.22%
11	NIA-	22	2	31394	140	3094	0	480	0	0 8.44%
12	NIA-	23	2	13436	60	1271	0	19	0	0 6.43%
13	NIA-	25	2	31293	232	6164	0	672	0	0 17.40%
14	NIA-	26	2	31581	115	1175	0	552	0	0 1.14%
15	NIA-	27	2	19181	90	1991	0	1824	0	0 16.63%
16	NIA-	29	2	28660	165	4017	0	624	0	0 12.90%
17	NIA-	31	2	4352	26	396	0	96	0	0 8.23%
18	NIA-	32	2	15021	69	690	0	192	0	0 1.60%
19	NIA-	47	1	311	3	78	0	120	0	0 57.86%
20	NIA-	48	1	443	3	78	0	72	0	0 30.84%
21	NIA-	49	2	22944	142	5001	0	3576	0	0 29.55%
22	NIA-	53	2	5907	41	1157	0	1320	0	0 33.04%
23	NIA-	55	2	8771	44	354	0	72	0	0 -0.18%
24	NIA-	56	2	4404	20	276	0	48	0	0 3.72%
25	NIA-	57	2	15229	109	1415	0	1848	0	0 17.84%
26	NIA-	58	2	6579	51	1271	0	120	0	0 16.80%
27	NIA-	59	2	8534	63	1487	0	816	0	49 21.36%
28	NIA-	72	2	22833	101	1055	0	168	0	0 0.78%
29	NIA-	97	2	13580	79	2255	0	504	0	0 16.45%
30	NIA-	98	2	12862	86	2794	0	1200	0	0 24.73%
31	NIA-	99	2	34822	231	8826	0	3984	0	0 28.74%
32	NIA-	100	2	35888	172	4317	0	5544	0	0 22.88%
33	NIA-	101	2	24778	154	5121	0	2280	0	0 23.93%
34	NIA-	102	2	6869	46	1775	0	864	0	0 29.88%
35	NIA-	103	2	34568	168	4269	0	792	0	0 11.60%
36	NIA-	104	2	14583	82	2111	0	504	0	38 14.25%
37	NIA-	106	2	12346	69	1607	0	864	0	0 16.46%
38	NIA-	107	2	7731	49	1487	0	408	0	0 19.75%
39	NIA-	108	2	30068	170	4785	0	4752	0	259 25.16%
40	NIA-	111	2	35839	253	7291	0	432	0	0 17.13%
41	NIA-	112	2	31779	221	6716	0	1248	0	0 20.00%
42	NIA-	119	2	30991	188	6692	0	4152	0	136 27.46%

Table H.3.2 Economic Internal Rate of Return -NIA- (2/2)

(Unit, Pesos 1,000)

No. Agency	Invest No. year	Invest Cost	O&M Cost	Benefit Irri.	Benefit Hydro	Benefit Inland	Benefit F.Water S.	Benefit Product. Foregone	EIRR
43 NIA- 120	2	12678	70	1931	0	312	0	10	14.16%
44 NIA- 121	2	17913	98	2614	0	312	0	10	12.97%
45 NIA- 122	2	16230	59	636	0	72	0	0	-0.84%
46 NIA- 128	2	2444	17	588	0	360	0	39	29.13%
47 NIA- 130	2	15371	87	2674	0	312	0	0	15.62%
48 NIA- 131	2	12064	84	3130	0	888	0	96	25.46%
49 NIA- 132	2	6948	55	2267	0	720	0	0	32.46%
50 NIA- 133	2	20168	124	4461	0	648	0	0	20.21%
51 NIA- 136	2	19832	123	4461	0	1632	0	0	24.44%
52 NIA- 138	2	21020	157	6644	0	2280	0	0	32.21%
53 NIA- 139	2	10138	71	2434	0	576	0	62	22.97%
54 NIA- 141	2	8408	60	2410	0	552	0	0	27.25%
55 NIA- 147	2	59181	299	7699	0	2280	0	0	13.65%
56 NIA- 148	2	40414	195	4953	0	336	0	18	10.01%
57 NIA- 149	2	59481	316	9318	0	936	0	0	13.81%
58 NIA- 150	2	34286	180	5085	0	3240	0	0	20.00%
59 NIA- 152	2	16532	107	3958	0	888	0	0	23.20%
60 NIA- 154	2	14761	86	2914	0	648	0	0	19.44%
61 NIA- 157	2	43309	210	5457	0	816	0	0	11.44%
62 NIA- 158	2	25435	115	2269	0	168	0	5	6.40%
63 NIA- 163	2	18319	81	1775	0	144	0	0	7.44%
64 NIA- 186	2	29864	195	7216	0	96	0	0	19.33%
65 NIA- 187	2	35750	190	5046	0	1392	0	0	14.62%
66 NIA- 188	2	19186	93	2195	0	1080	0	35	13.81%
67 NIA- 190	2	51005	263	7058	0	1824	0	60	14.00%

Table II.3.3 Economic Internal Rate of Return -BSWM- (1/4)

(Unit: Pesos 1,000)

No. AGENCY	Invest. No.	Invest. year	Invest. Cost	O&M Cost	Benefit Irrt.	Benefit Hydro	Benefit Inland	Benefit F.Water S.	Product. Foregone	EIRR
1	BSWM	1	4181	24	341	0	96	0	0	7.95%
2	BSWM	2	6559	35	532	0	96	0	0	6.92%
3	BSWM	3	5101	28	511	0	24	0	0	7.91%
4	BSWM	4	5731	36	659	0	72	0	0	10.36%
5	BSWM	5	6811	56	1403	0	240	0	0	21.04%
6	BSWM	6	3947	24	408	0	72	0	0	9.79%
7	BSWM	7	5086	31	623	0	456	0	0	19.18%
8	BSWM	8	7092	57	1679	0	168	0	0	22.59%
9	BSWM	9	3657	37	773	0	288	0	0	25.48%
10	BSWM	10	2990	26	540	0	48	0	0	16.86%
11	BSWM	11	4831	33	779	0	72	0	0	15.14%
12	BSWM	12	5996	53	806	0	96	0	0	12.45%
13	BSWM	13	4341	22	194	0	72	0	5.75	2.10%
14	BSWM	14	4132	40	926	0	48	0	0	20.20%
15	BSWM	15	6258	38	839	0	48	0	0	11.82%
16	BSWM	16	3132	28	774	0	48	0	0	22.60%
17	BSWM	17	4487	32	1067	0	96	0	0	22.55%
18	BSWM	18	4872	49	1067	0	144	0	0	21.44%
19	BSWM	19	3703	35	1175	0	96	0	0	29.32%
20	BSWM	20	6426	47	1289	0	216	0	0	20.50%
21	BSWM	21	3856	23	330	0	96	0	0	8.62%
22	BSWM	23	4570	29	291	0	48	0	0	3.98%
23	BSWM	24	7235	42	459	0	48	0	0	3.46%
24	BSWM	25	4270	31	611	0	120	0	0	14.73%
25	BSWM	26	3094	19	222	0	24	0	0	4.72%
26	BSWM	27	7347	34	269	0	48	0	0	-0.79%
27	BSWM	28	4353	34	408	0	24	0	0	6.97%
28	BSWM	29	4522	47	1151	0	24	0	0	22.14%
29	BSWM	30	4238	46	1240	0	72	0	0	26.36%
30	BSWM	31	4819	39	1238	0	288	0	0	27.67%
31	BSWM	32	2780	19	674	0	72	0	0	23.40%
32	BSWM	33	7555	58	1528	0	192	0	0	19.82%
33	BSWM	34	6224	43	1685	0	96	0	0	24.77%
34	BSWM	35	4520	41	1269	0	144	0	9.8	26.73%
35	BSWM	36	2100	14	642	0	48	0	0	28.36%
36	BSWM	37	5621	39	959	0	96	0	0	16.22%
37	BSWM	38	4551	54	1679	0	48	0	0	31.80%
38	BSWM	39	3292	23	563	0	144	0	0	18.91%
39	BSWM	40	5996	53	1799	0	120	0	0	27.43%
40	BSWM	41	3394	25	492	0	48	0	0	13.45%
41	BSWM	42	5442	35	899	0	120	0	0	16.27%
42	BSWM	43	4109	37	480	0	168	0	0	13.34%

Table H.3.3 Economic Internal Rate of Return -BSWM- (2/4)

(Unit: Pesos 1,000)

No.	AGENCY No.	Invest. year	Invest. Cost	O&M Cost	Benefit Irri.	Benefit Hydro	Benefit Inland F.	Benefit Water S.	Product. Foregone	EIRR	
43	BSWM	44	1	5230	34	523	48	0	0	0	8.31%
44	BSWM	45	1	11261	118	4497	288	0	0	0	35.67%
45	BSWM	46	1	2703	22	700	72	0	0	0	24.73%
46	BSWM	47	1	4527	38	1139	96	0	0	0	23.58%
47	BSWM	48	1	4934	49	1699	268	0	0	0	34.41%
48	BSWM	49	1	1051	8	275	72	0	0	0	28.92%
49	BSWM	50	1	2439	15	312	0	48	0	0	12.48%
50	BSWM	51	1	5450	37	965	0	120	0	0	17.32%
51	BSWM	52	1	8130	45	794	0	240	0	0	10.52%
52	BSWM	56	1	6869	50	923	0	192	0	0	13.68%
53	BSWM	57	1	3460	26	570	0	120	0	0	17.39%
54	BSWM	58	1	3935	26	486	0	96	0	0	12.50%
55	BSWM	59	1	6136	35	1085	0	144	0	0	17.55%
56	BSWM	60	1	6637	55	1079	0	168	0	0	16.17%
57	BSWM	61	1	5227	50	1259	0	384	0	0	27.49%
58	BSWM	62	1	4025	46	1559	0	504	0	0	43.75%
59	BSWM	63	1	4306	47	1367	0	144	0	0	29.89%
60	BSWM	64	1	5432	51	959	0	144	0	0	17.46%
61	BSWM	65	1	3946	30	391	0	24	0	0	7.70%
62	BSWM	66	1	4316	47	1319	0	264	0	0	31.50%
63	BSWM	67	1	4674	32	645	0	96	0	0	13.50%
64	BSWM	68	1	5408	35	659	0	96	0	0	11.63%
65	BSWM	69	1	4027	30	540	0	192	0	0	15.87%
66	BSWM	70	1	6365	54	707	0	120	0	0	10.41%
67	BSWM	71	1	7744	59	1199	0	216	0	0	15.78%
68	BSWM	72	1	3778	35	647	0	216	0	0	20.02%
69	BSWM	73	1	6215	47	983	0	120	0	0	15.23%
70	BSWM	74	1	13391	173	4797	0	648	0	0	34.31%
71	BSWM	75	1	5609	45	952	0	144	0	0	16.89%
72	BSWM	76	1	11113	56	839	0	144	0	0	6.05%
73	BSWM	77	1	4688	32	659	0	120	0	15.2	13.94%
74	BSWM	78	1	5159	42	989	0	72	0	10.8	17.51%
75	BSWM	79	1	3645	27	622	0	48	0	6.8	15.60%
76	BSWM	80	1	6234	38	889	0	168	0	0	14.69%
77	BSWM	82	1	4452	41	233	0	72	0	0	2.76%
78	BSWM	83	1	4770	48	650	0	48	0	0	11.87%
79	BSWM	84	1	3638	29	804	0	72	0	0	20.88%
80	BSWM	85	1	4633	48	659	0	216	0	0	16.23%
81	BSWM	86	1	3859	22	570	0	24	0	0	13.06%
82	BSWM	87	1	4433	32	635	0	48	0	0	12.95%
83	BSWM	88	1	2906	18	558	0	48	0	0	18.19%
84	BSWM	89	1	2855	18	359	0	72	0	0	12.84%

Table H.3.3 Economic Internal Rate of Return -BSWM- (3/4)

(Unit: Pesos 1,000)

No.	AGENCY Name	Invest. year	Invest. Cost	D&M Cost	Benefit Irri.	Benefit Hydro	Benefit Inland	Benefit F.Water S.	Product. Foregone	EIRR
85	BSWM	90	1	3789	29	516	0	48	0	12.40%
86	BSWM	91	1	3241	27	575	0	24	0	15.74%
87	BSWM	92	1	3969	27	743	0	48	0	17.26%
88	BSWM	93	1	5960	53	1005	0	96	0	15.74%
89	BSWM	94	1	3134	27	516	0	48	0	15.20%
90	BSWM	95	1	5154	34	913	0	96	0	17.01%
91	BSWM	96	1	3466	23	632	0	96	0	18.38%
92	BSWM	97	1	3767	23	657	0	48	0	16.22%
93	BSWM	98	1	5902	55	1743	0	192	0	28.16%
94	BSWM	99	1	3865	25	546	0	24	0	12.29%
95	BSWM	100	1	4953	49	2166	0	48	0	37.22%
96	BSWM	101	1	6086	38	959	0	48	0	14.13%
97	BSWM	102	1	3981	45	1799	0	96	0	39.50%
98	BSWM	103	1	4012	46	1415	0	72	0	31.15%
99	BSWM	108	1	4492	24	262	0	48	0	3.40%
100	BSWM	109	1	6063	53	1115	0	144	0	17.92%
101	BSWM	110	1	5197	34	837	0	96	0	15.52%
102	BSWM	111	1	5121	57	2027	0	72	0	34.29%
103	BSWM	112	1	3812	32	830	0	216	0	23.84%
104	BSWM	113	1	2723	18	414	0	48	0	14.57%
105	BSWM	114	1	2685	25	970	0	96	0	33.73%
106	BSWM	115	1	7658	59	0	0	48	0	n.d.
107	BSWM	117	1	5099	49	1692	0	96	0	29.82%
108	BSWM	118	1	4333	37	941	0	24	0	19.09%
109	BSWM	119	1	4209	34	1145	0	72	0	24.93%
110	BSWM	120	1	4199	40	923	0	48	0	19.82%
111	BSWM	121	1	4746	36	951	0	48	0	18.17%
112	BSWM	122	1	5693	52	933	0	48	0	14.49%
113	BSWM	123	1	4654	48	905	0	48	0	17.39%
114	BSWM	124	1	4686	63	2037	0	72	0	37.21%
115	BSWM	125	1	4848	50	1193	0	96	0	22.80%
116	BSWM	126	1	6568	49	999	0	24	0	13.03%
117	BSWM	127	1	4448	60	1439	0	168	0	30.31%
118	BSWM	128	1	8833	80	3052	0	168	0	30.80%
119	BSWM	129	1	7343	79	2387	0	192	0	29.84%
120	BSWM	130	1	4882	49	1981	0	96	0	35.59%
121	BSWM	131	1	6086	84	2108	0	48	0	29.59%
122	BSWM	132	1	3762	32	912	0	72	0	22.60%
123	BSWM	133	1	6894	87	3358	0	96	0	41.03%
124	BSWM	134	1	5178	30	606	0	12	0	9.47%
125	BSWM	135	1	7730	70	1481	0	96	0	17.46%
126	BSWM	136	1	2303	18	372	0	24	0	14.61%

Table H.3.3 Economic Internal Rate of Return -BSWM- (4/4)

(Unit: Pesos 1,000)

No.	AGENCY Name	Invest. year	Invest. Cost	O&M Cost	Benefit Irri.	Benefit Hydro	Benefit Inland	Benefit F.Water S.	Product. Foregone	EIRR
127	BSWM 137	1	4229	28	642	0	48	0	0	13.90%
128	BSWM 138	1	9591	94	2837	0	264	0	0	27.69%
129	BSWM 139	1	7152	72	2492	0	192	0	6.5	31.75%
130	BSWM 140	1	3134	24	432	0	96	0	0	14.45%
131	BSWM 141	1	6181	47	1481	0	96	0	0	22.10%
132	BSWM 142	1	8285	67	1855	0	24	0	0	19.49%
133	BSWM 143	1	6710	49	1137	0	48	0	2	15.04%
134	BSWM 144	1	7006	52	1467	0	144	0	5.8	19.91%
135	BSWM 145	1	10092	114	4497	0	216	0	0	38.78%
136	BSWM 146	1	6592	61	2487	0	96	0	6.9	32.96%
137	BSWM 147	1	5024	49	1259	0	48	0	0	22.27%
138	BSWM 149	1	2728	16	289	0	48	0	0	10.02%
139	BSWM 150	1	6927	79	1903	0	336	0	0	27.77%
140	BSWM 151	1	4489	47	1765	0	144	0	0	35.78%

FIGURES

Fig.H.1.1.1 UNIT COST OF DAM EMBANKMENT -DPWH & NIA-

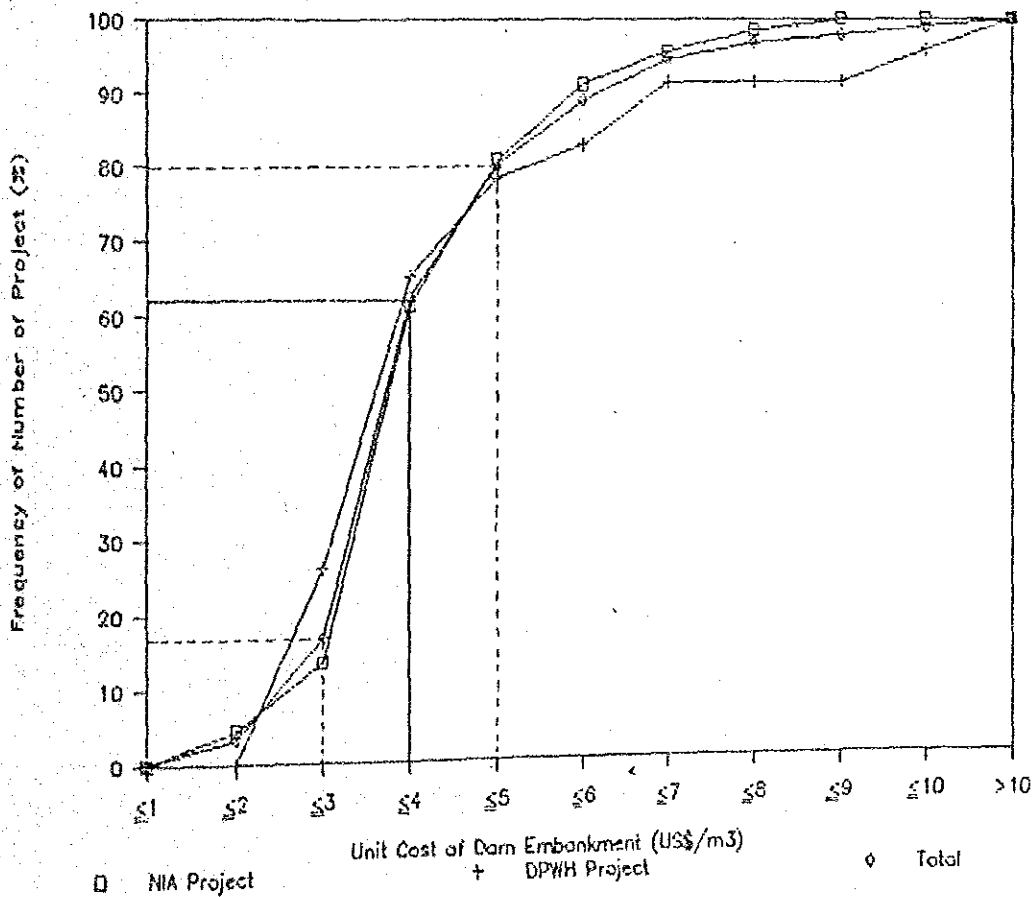
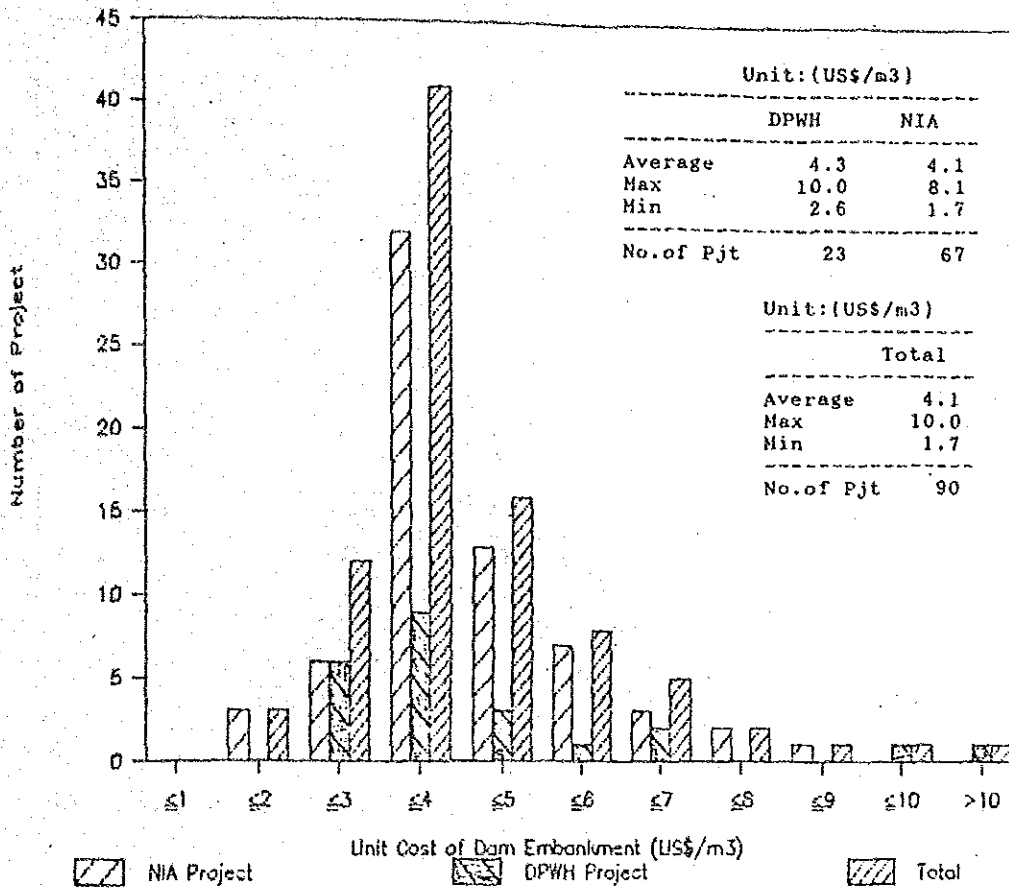
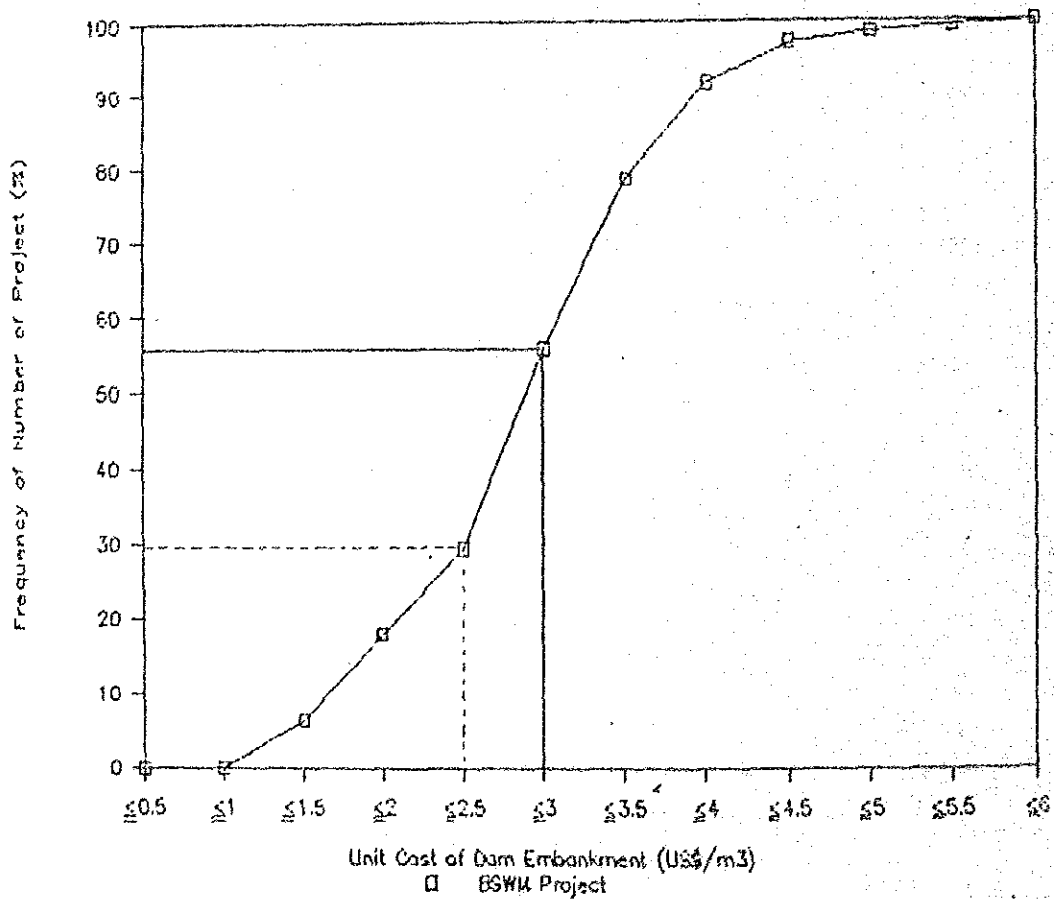
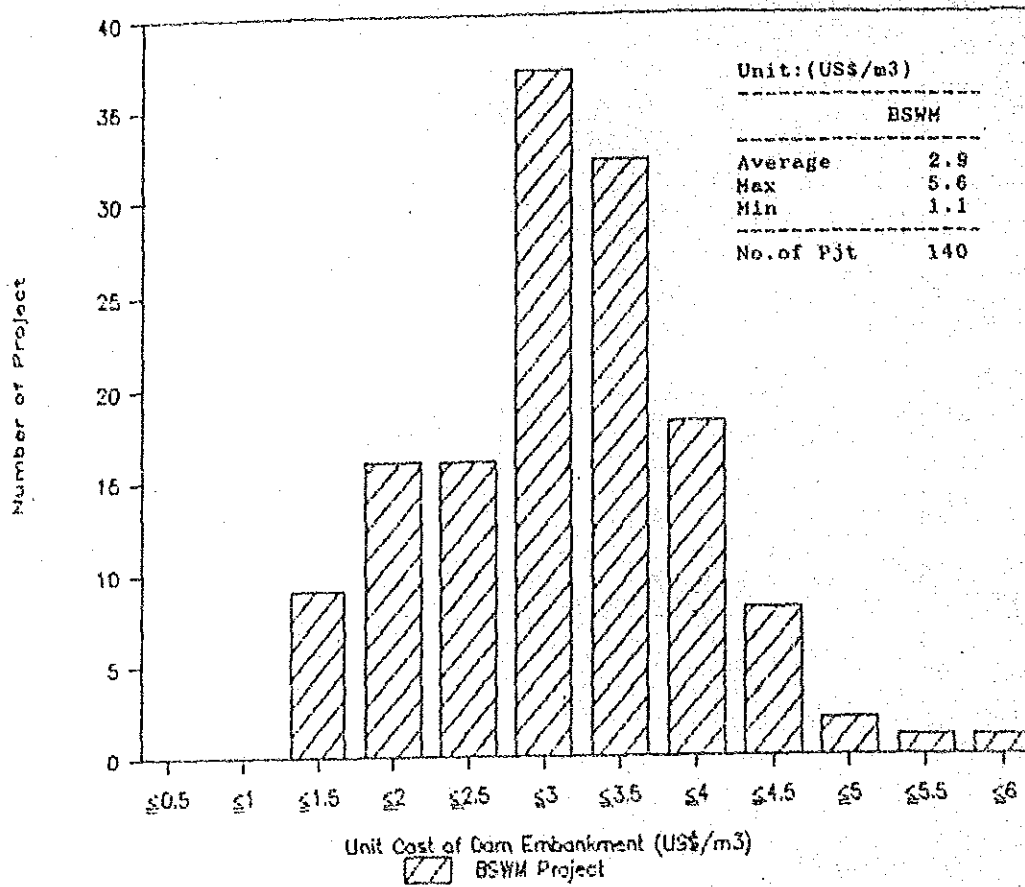


Fig.H.1.2 UNIT COST OF DAM EMBANKMENT -BSWM-



ANNEX I

**TECHNICAL ASSESSMENT OF
QUALIFIED SWIM PROJECTS**

ANNEX I TECHNICAL ASSESSMENT OF QUALIFIED SWIM PROJECT

Table of Contents

	<u>Page</u>
1. OBJECTIVE OF TECHNICAL ASSESSMENT	I-1
2. COMPREHENSIVE TECHNICAL ASSESSMENT OF THE PROJECTS	I-1
3. REVIEW OF DAM DESIGN AND DAM COST	I-5
4. CLASSIFICATION OF PROJECT AND NECESSARY REVIEW WORKS	I-6
4.1 Classification of Project	I-6
4.2 Procedure of Necessary Review Works	I-9

List of Tables

	<u>Page</u>
Table I.2.1 Criteria for Technical Assessment (1/9)	I-11
Table I.2.1 Criteria for Technical Assessment (2/9)	I-12
Table I.2.1 Criteria for Technical Assessment (3/9)	I-13
Table I.2.1 Criteria for Technical Assessment (4/9)	I-14
Table I.2.1 Criteria for Technical Assessment (5/9)	I-15
Table I.2.1 Criteria for Technical Assessment (6/9)	I-16
Table I.2.1 Criteria for Technical Assessment (7/9)	I-17
Table I.2.1 Criteria for Technical Assessment (8/9)	I-18
Table I.2.1 Criteria for Technical Assessment (9/9)	I-19
Table I.2.2 Technical Assessment of the SWIM Project -DPWH- (1/2)	I-20

	<u>Page</u>
Table I.2.2 Technical Assessment of the SWIM Project -DPWH- (2/2)	I-21
Table I.2.3 Technical Assessment of the SWIM Project -NIA- (1/6)	I-22
Table I.2.3 Technical Assessment of the SWIM Project -NIA- (2/6)	I-23
Table I.2.3 Technical Assessment of the SWIM Project -NIA- (3/6)	I-24
Table I.2.3 Technical Assessment of the SWIM Project -NIA- (4/6)	I-25
Table I.2.3 Technical Assessment of the SWIM Project -NIA- (5/6)	I-26
Table I.2.3 Technical Assessment of the SWIM Project -NIA- (6/6)	I-27
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (1/12)	I-28
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (2/12)	I-29
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (3/12)	I-30
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (4/12)	I-31
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (5/12)	I-32
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (6/12)	I-33
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (7/12)	I-34
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (8/12)	I-35
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (9/12)	I-36
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (10/12)	I-37
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (11/12)	I-38

	<u>Page</u>
Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (12/12)	I-39
Table I.3.1 Summary of Results of Technical Assessment (1/4)	I-40
Table I.3.1 Summary of Results of Technical Assessment (2/4)	I-41
Table I.3.1 Summary of Results of Technical Assessment (3/4)	I-42
Table I.3.1 Summary of Results of Technical Assessment (4/4)	I-43

ANNEX I TECHNICAL ASSESSMENT OF QUALIFIED SWIM PROJECTS

1 OBJECTIVE OF TECHNICAL ASSESSMENT

The technical assessment was conducted for the 230 projects qualified for 10 Year Action Program referring to the "Basic Planning Criteria" which is prepared in this Study and incorporated in ANNEX E. The objective of the technical assessment is as follows:

- (1) to assess the depth of survey and investigation, formulation method of project planning and appropriateness of design of dam, and to provide basic data for further implementation of each project
- (2) to recommend modification of dam feature and to revise construction cost of the project due to mainly significant change of dam feature for materializing estimation of EIRR
- (3) to clarify the review works required prior to implementation of the project and implementation procedure for preparation of project implementation schedule

The procedures and results of the technical assessment are described hereunder.

2 COMPREHENSIVE TECHNICAL ASSESSMENT OF THE PROJECTS

The technical assessment is made to assess the adequateness of the existing studies and designs of the individual projects, basically referring to the "Basic Planning Criteria". However, the items for assessment are limited to those which are included in the existing studies and also directly connected with the following important aspects of the SWIM

projects:

- (1) Stability and safety of dam
- (2) Reliability of study on water resources development
- (3) Adequacy of water utilization plan

The items selected for technical assessment are as follows:

Field	Assessment Items
1. Survey and Investigation	
1.1 Dam	
- Meteorology and hydrology	Rainfall and run-off
- Topographic survey	Scale of map
- Geological investigation	Number and depth of boring
- Construction material survey	Survey of borrow area
1.2 Agriculture and Irrigation	
- Agriculture production	Cropping pattern and yield
2. Study and Planning	
2.1 Dam	
- Run-off analysis	Method and analyzed period
- Flood analysis	Method and magnitude
- Reservoir capacity	Method and analyzed period
2.2 Agriculture and Irrigation	
- Agriculture development plan	Proposed crop and yield
- Irrigation development plan	Irrigation water requirement
- Agriculture benefit	Unit benefit per hectare

- 2.3 Mini-hydropower
 - Scale of mini-hydropower Installed capacity
 - Mini-hydropower benefit Method of estimation

- 2.4 Water Supply
 - Development plan Method of formulation

- 2.5 Inland Fishery
 - Development plan Proposed production

- 2.6 Environmental Conservation
 - Plan Presence of the plan

- 2.7 Watershed Management
 - Plan Presence of the plan

- 2.8 Construction Plan and Implementation Schedule
 - Construction plan and period Construction period

- 2.9 Cost Estimate
 - Cost estimate Difference of cost between original and proposed

- 2.10 Project Evaluation
 - Economic evaluation Calculation method of EIRR

- 3. Design of Dam and its Appurtenant Structures
 - 3.1 Dam Foundation
 - Required condition Water tight and bearing
 - Foundation treatment Treatment method

 - 3.2 Dam Design
 - Embankment Zoning
 - Slopes and berm Upstream/downstream slopes

3.3 Spillway	
- Design flood	Magnitude of flood
- Layout	Location of spillway
3.4 Outlet Works	
- Layout	Layout and alignment
3.5 Diversion Works	
- Design flood	Magnitude of flood
4. O&M of Major Structures	
- Study on O&M	Presence of the study

The above each items are assessed in aspect of the depth and/or adequateness of each work based on the criteria for assessment as shown in Table I.2.1. The results of assessment for each item are expressed into the following three grades:

Grade A : Adequate

Grade B : Marginally adequate

Grade C : Not enough or not studied and require further study

The results of assessment are presented in Table I.2.2. The major review works and basic data are summarized in "Project Format" compiled in DATA BOOK in order to materialize for further review of projects.

Based on the results of the technical assessment, the following items are not enough studied for most of the projects:

- (1) Study on environmental assessment
- (2) Operation and maintenance study of project facilities including study on organization for operation and maintenance

The above study shall be made in the forthcoming stages of each project

such as feasibility study and detailed design, referring to the "Basic Planning Criteria".

3 REVIEW OF DAM DESIGN AND DAM COST

The review of dam design is made for the projects, of which the feasibility study and/or detailed design are completed, in order to recommend major modification of the dam feature and revise the dam cost. For the projects of which only the pre-feasibility study (Pre-F/S) is completed, the review of dam design is not conducted, because data is not enough for review of design. Their detailed review will be conducted during the course of the forthcoming feasibility study.

The review of dam design is focussed on the following three major cost items of dam cost:

(1) Foundation treatment

Based on the results of technical assessment on foundation treatment in the existing design, if additional treatment and/or modification of treatment is deemed to be necessary, their required costs are estimated and added.

(2) Dam embankment

If the dam height is not enough considering the freeboard against the appropriate design flood specified in the "Basic Planning Criteria, the dam height is raised and the embankment cost is revised.

(3) Appurtenant Structures

If the major modification of appurtenant structures such as spillway, outlet works and diversion works is necessary referring to the "Basic Planning Criteria", their costs are modified.

The modification work of dam design will be done prior to implementation of the project. The list of the project of which the modification of dam design is necessary, and their required modifications are presented in Table I.3.1.

4 CLASSIFICATION OF PROJECT AND NECESSARY REVIEW WORKS

4.1 Classification of Project

For preparation of implementation schedule of 230 "Qualified Projects", the projects are categorized based on the following criteria referring to the results of the technical evaluation:

For D/D completed project;

Group	Status	Description
D-1:	Ready to construction:	EIRR \geq 10% and adequate project planning and dam design
D-2:	Review of D/D :	EIRR \geq 10% and adequate project planning, but need modification of dam design
D-3:	Review of F/S :	EIRR<10% and adequate dam design, but need modification of project planning
D-4:	Review of F/S and D/D:	EIRR<10%, need modification of project planning and dam design

For F/S completed project;

Group	Status	Description
F-1:	Ready to D/D	: EIRR \geq 10% and adequate project planning
F-2:	Review of F/S	: EIRR<10%, need modification of project planning
F-3:	Repeat of F/S	: Not enough studied, need complete feasibility study

For Pre-F/S completed project;

Group	Status	Description
P-1:	Ready to F/S	: EIRR \geq 10% and adequate preliminary project planning
P-2:	Review of Pre-F/S	: EIRR<10%, need modification of preliminary project planning

Following the above criteria, the projects are classified as shown in Table I.3.1. The status of implementation for the projects are summarized as follows:

D/D Completed Project;

(Unit: number)

Group	Status	DPWH	NIA	BSWM	Total
D-1	Ready to Construction	4	3	93	100
D-2	Review of D/D	1	2	29	32
D-3	Review of F/S	2	0	10	12
D-4	Review of F/S & D/D	2	3	8	13
Sub-Total		9	8	140	157

F/S Completed Project;

(Unit: number)

Group	Status	DPWH	NIA	BSWM	Total
F-1	Ready to D/D	2	0	0	2
F-2	Review of F/S	1	0	0	1
F-3	Repeat of F/S	1	0	0	1
Sub-Total		4	0	0	4

Pre-F/S Completed Project;

(Unit: number)

Group	Status	DPWH	NIA	BSWM	Total
P-1	Ready to F/S	7	48	0	55
P-2	Review of Pre-F/S	3	11	0	14
Sub-Total		10	59	0	69
Total		23	67	140	230

4.2 Procedure of Necessary Review Works

The implementation of projects are recommended to be dealt with based on the procedure mentioned below. The review items are referred to Table I.3.1, and also the individual "Project Format" compiled in the "DATA BOOK".

Group	Procedure of Review Works
D-1 :	Ready to construction stage. But some additional studies on environmental assessment and operation and management will be necessary prior to construction.
D-2 :	Modification of dam design and re-estimate of construction cost will be made prior to preparatory works for construction.
D-3 :	Within the first three (3) years of the 10 Year Action Program, the review of project planning is made and economic viability and technical soundness will be confirmed. Based on the results, project will be constructed.
D-4 :	Within the first three (3) years of the 10 Year Action Program, the review of project planning and review of dam design will be made, and economic viability and technical soundness will be confirmed. Based on the result, project will be constructed.
F-1 :	Ready to preparation of detailed design. But in the detailed design stage, environmental assessment and study on operation and management will be made.
F-2 :	Within the first three (3) years of the 10 Year Action Program, the review of project planning will be made and economic viability and technical soundness will be

confirmed. Based on the result, detailed design will be carried out.

F-3 : The feasibility study will be repeated.

P-1 : Ready to preparation of feasibility study. But in the feasibility study, environmental assessment and study on operation and management will be made.

P-2 : Within the first three (3) years of the 10 Year Action Program, the review of project planning will be made on the preliminary basis and its economic viability will be confirmed. Based on the result, feasibility study will be prepared.

TABLES

Table I.2.1 Criteria for Technical Assessment (1/9)

I. SURVEY AND INVESTIGATION

1.1 Meteorological and Hydrological Investigation

Grade A : Data for rainfall and run-off is collected for at least 10 years.

Grade B : Data for rainfall and run-off is collected, but either is collected for less than 10 years.

Grade C : Both data for rainfall and/or run-off are not collected for more than 10 years.

1.2 Topographic Survey

Grade A : Maps for reservoir and dam site satisfy the following:
for reservoir : at least 1/2,000 with 1 m contour
for dam site : at least 1/500 with 1 m contour

Grade B : Either of maps in the above is not satisfied.

Grade C : Both maps are not satisfied, or maps are not prepared.

1.3 Geological Investigation

Grade A : The following investigations are done:

- (1) Required number of drilling (3 nos.), auger boring (3 nos.) and test pit
- (2) In case of dam height, $H \geq 15$ m, required length of one drilling ($2/3$ m of dam height)
- (3) Standard penetration test & permeability test

Grade B : The above investigation is conducted but insufficient.

Grade C : The above investigation is not conducted.

Table I.2.1 Criteria for Technical Assessment (2/9)

1.4 Investigation on Construction Material

Grade A : Borrow area is determined based on required test pits and soil mechanical tests.

Grade B : Borrow area is selected, but insufficient test pit and soil mechanical test.

Grade C : Investigation is not conducted.

1.5 Investigation on Present Condition of Agriculture and Related Field

Grade A : Present cropping pattern and crop yields are investigated.

Grade B : Investigated but insufficient.

Grade C : Not investigated.

II. PROJECT PLANNING

2.1 Run-off Analysis

Grade A : One of the following methods is applied and run-off is analyzed for at least 10 years:

- (1) Regression analysis
- (2) Drainage area proportion
- (3) Thomas and Fiering model
- (4) Tank model
- (5) Monthly run-off coefficient
and run-off coefficient is between 50 to 100%.

Grade B : Either of analysis method or data length is not satisfied, or run-off coefficient is less than 50% or more than 100%.

Grade C : Appropriate method is not applied and data length is not satisfied, or not mentioned in the report.

Table I.2.1 Criteria for Technical Assessment (3/9)

2.2 Flood Analysis

Grade A : Using unit hydrograph method, magnitude is satisfied as follows:
for dam height, $H < 15$ m : at least 25-year
for dam height, $H \geq 15$ m : at least 100-year

Grade B : Either method or magnitude is not satisfied.

Grade C : Both are not satisfied.

2.3 Determination of Reservoir Capacity

Grade A : Applying appropriate method, water balance study is carried out for at least 10 years.

Grade B : Either method or duration of study is not satisfied.

Grade C : Both are not satisfied.

2.4 Formulation of Agricultural Development Plan

Grade A : Proposed cropping pattern is formulated and target yield of rice is between 4.0 to 5.0 ton/ha/crop.

Grade B : Modification is required.

Grade C : Plan is not described.

2.5 Formulation of Irrigation Development Plan

Grade A : Irrigation area is specified and adequate method for estimation of water requirement is adopted (1.0 to 2.0 l/sec/ha).

Grade B : Not enough mentioned or modification is necessary.

Grade C : Not described.

Table I.2.1 Criteria for Technical Assessment (4/9)

2.6 Estimation of Agricultural Benefit

Grade A : Benefit is appropriately estimated.

Grade B : Minor modification is necessary (within 20% difference).

Grade C : Significant modification is necessary (more than 20% difference).

2.7 Determination of Scale of Mini-hydropower

Grade A : Appropriate plan is formulated.

Grade B : Minor modification is necessary.

Grade C : Significant modification is necessary.

2.8 Estimation of Mini-hydropower Benefit

Grade A : Appropriate method is adopted and appropriate benefit is estimated (P 4,270/kW/year and P 1.633/kWh).

Grade B : Minor modification is necessary (within 20% difference).

Grade C : Significant modification is necessary (more than 20% difference).

2.9 Formulation of Water Supply Plan

Grade A : Appropriate plan is formulated.

Grade B : Minor modification is required.

Grade C : Significant modification is required.

Table I.2.1 Criteria for Technical Assessment (5/9)

2.10 Formulation of Inland Fishery Development Plan

Grade A : Appropriate plan is formulated (fish cage; 9.5-11.4 ton/ha, stocking; 1.6-1.92 ton/ha).

Grade B : Minor modification is required (within 20% difference).

Grade C : Significant modification is required (more than 30% difference).

2.11 Formulation of Environmental Conservation Plan

Grade A : Investigation and study are carried out.

Grade B : Either investigation or study is carried out.

Grade C : Both are not carried out.

2.12 Formulation of Watershed Management Plan

Grade A : Appropriate plan is formulated.

Grade B : Plan is formulated but insufficient.

Grade C : Not studied.

2.13 Construction Plan and Construction Period

Grade A : Appropriate plan is formulated and period is within the followings:

for dam height, $H < 15$ m : 6 months to 1 year

for dam height, $H \geq 15$ m : 1 to 2 years

Grade B : Minor modification is necessary.

Grade C : Significant modification is necessary.

Table I.2.1 Criteria for Technical Assessment (6/9)

2.14 Estimation of Construction Cost

Grade A : Estimation covers all necessary items under the appropriate method.

Grade B : Minor modification is necessary to add items.

Grade C : Significant modification is necessary.

2.15 Economic Evaluation

Grade A : Appropriate method is adopted using economic cost and benefit.

Grade B : Not using economic cost and benefit.

Grade C : Significant modification is necessary, not using O&M cost, replacement cost etc.

III. DESIGN OF MAJOR STRUCTURES

3.1 Required Condition of Dam Foundation

Grade A : The foundation satisfies the following:

(1) water tightness (permeability less than 1×10^{-5} cm/sec)

(2) bearing capacity

for dam height, $H \geq 15$ m : N-value > 20

for dam height, $H < 15$ m : N-value = 10-20

Grade B : Either water tightness or bearing capacity is not sufficient.

Grade C : Both are not sufficient, or unknown.

Table I.2.1 Criteria for Technical Assessment (7/9)

3.2 Foundation Treatment

Grade A : Foundation treatment is enough, or no problem.

Grade B : Size of cut-off trench and countermeasure for seepage is not enough.

Grade C : Cut-off trench and countermeasure for seepage are required but not considered, or treatment method is unknown.

3.3 Zoning of Embankment

Grade A : Width of core, alignment of filter, zoning and placement of contact clay are enough.

Grade B : Some items of the above are not enough.

Grade C : All of the above are not enough.

3.4 Embankment Slopes and Berms

Grade A : In case of dam height, $H \geq 15$ m : embankment slope is confirmed by appropriate stability analysis. Study on seepage and piping is conducted.

In case of dam height, $H < 15$ m : embankment slope is within the ranges mentioned in the "Basic Planning Criteria".

Grade B : Some items of the above are insufficient.

Grade C : Significant problem is found out.

Table I.2.1 Criteria for Technical Assessment (8/9)

3.5 Design Flood of Spillway

Grade A : Magnitude of design flood is adopted as:

for dam height, $H < 15$ m : at least 25-year
for dam height, $H \geq 15$ m : at least 100-year

and following floods can be passed through spillway:

for dam height, $H < 15$ m : 50-year
for dam height, $H \geq 15$ m : 200-year

Grade B : Magnitude of design flood is satisfied but following floods can not be passed through spillway:

for dam height, $H < 15$ m : 50-year
for dam height, $H \geq 15$ m : 200-year

Grade C : Magnitude of design flood is not satisfied or not mentioned.
Not height is not enough considering freeboard.

3.6 Layout of Spillway

Grade A : Satisfying the following:

- (1) Alignment of supercritical flow section is straight.
- (2) Spillway is located apart from embankment.
- (3) There is planned ogee section.
- (4) Layout of inlet and settling basin is sound.

Grade B : Minor modification of layout is required.

Grade C : Significant modification is required.

3.7 Layout of Outlet Works

Grade A : Alignment and elevation of conduit are appropriate and intake portion and control portion are apart from toe of embankment.

Grade B : Minor modification of layout is required.

Grade C : Significant modification is required.

Table I.2.1 Criteria for Technical Assessment (9/9)

3.8 Design Discharge of Diversion Works

Grade A : Adopting 5 to 10-year flood and no problem in diversion works

Grade B : Not adopting 5 to 10-year flood but no problem in diversion works

Grade C : Less than 5-year flood

IV. O&M OF MAJOR STRUCTURES

4.1 O&M of Major Structures

Grade A : Studied

Grade C : Not studied

Table I.2.2 Technical Assessment of the SWIM Project -DPWH- (1/2)

(DPWH-1)

Item	Project NO. Status	DPWH 1 D/D	DPWH 2 D/D	DPWH 3 F/S	OPWH 6 D/O	DPWH 7 D/O	DPWH 8 D/O	DPWH 9 D/O	DPWH 11 F/S	DPWH 13 D/O	DPWH 14 D/O	OPWH 15 D/O	OPWH 16 F/S
I. Survey & Investigation													
1.1 Mateo-Hydro Inves.		A	A	A	A	A	B	C	A	A	A	A	A
1.2 Topo Survey		A	A	B	C	A	A	B	C	B	A	B	B
1.3 Geological Inves.		C	B	B	C	B	B	B	A	A	B	B	B
1.4 Const. Material		B	B	B	B	B	B	B	B	B	B	B	B
1.5 Agri. Condition		A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1 Run-off Analysis		A	B	A	B	A	B	C	B	A	A	B	A
2.2 Flood Analysis		A	A	A	A	A	A	B	A	A	A	A	A
2.3 Reser. Capacity		A	A	A	A	A	A	C	B	A	B	A	A
2.4 Agri. Dev. Plan		A	A	-	-	A	A	A	A	A	A	A	A
2.5 Irri. Dev. Plan		A	A	-	-	A	A	A	A	A	C	B	A
2.6 Agricul. Benefit		B	B	-	-	C	B	A	A	C	B	C	B
2.7 Mini-hydro. Plan		A	B	-	B	B	-	-	C	-	C	-	A
2.8 Mini-hyd. Benefit		C	C	-	C	C	-	-	C	-	C	-	C
2.9 Water Supply Plan		-	-	C	-	-	-	-	C	-	-	-	-
2.10 Inland Fish. Plan		C	C	C	C	C	C	-	A	-	C	C	-
2.11 Envir. Con. Plan		B	B	B	A	B	A	C	B	C	A	B	A
2.12 Watershed M. Plan		C	C	C	C	C	C	C	C	C	C	C	C
2.13 Construction Plan		A	A	A	A	A	A	B	A	B	A	A	A
2.14 Construction Cost		B	B	B	B	C	A	C	B	A	B	B	B
2.15 Econ. Evaluation		A	A	A	A	A	A	C	B	A	A	A	A
III. Design													
3.1 Dam Foundation		C	C	C	B	B	B	B	A	A	C	C	C
3.2 Foundation Treat.		B	B	C	C	C	B	C	B	B	B	B	B
3.3 Zoning of Embank.		A	A	A	A	A	C	C	A	A	A	A	A
3.4 Embankment Slope		A	A	A	A	A	A	A	A	A	A	A	A
3.5 Flood of Spillway		A	A	A	A	C	A	C	A	A	A	A	A
3.6 Layout of Spillway		B	B	B	A	B	B	C	C	B	B	B	B
3.7 Layout of Outlet		B	B	B	B	B	B	C	A	B	B	B	B
3.8 Diversion Works		A	A	B	A	A	A	C	A	A	A	C	B
IV. Operation & Maintenance													
4.1 O&M Study		C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project		D-3	D-1	F-2	D-3	D-4	D-4	D-2	F-1	D-1	D-1	D-1	F-1

Table I.2.2 Technical Assessment of the SWIM Project -DPWH- (2/2)

(DPWH-2)

Item	Project NO. 17	DPWH 18	OPWH 19	DPWH 20	DPWH 21	OPWH 22	DPWH 25	DPWH 26	DPWH 27	DPWH 28	DPWH 33
Status	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	F/S
I. Survey & Investigation											
1.1 Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	C
1.2 Topo Survey	C	C	C	C	C	C	C	C	C	C	C
1.3 Geological Inves.	C	C	C	C	C	C	C	C	C	C	C
1.4 Const. Material	C	C	C	C	C	C	C	C	C	C	C
1.5 Agrl. Condition	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning											
2.1 Run-off Analysis	A	A	A	A	A	A	B	B	A	A	C
2.2 Flood Analysis	B	B	B	B	B	B	B	B	B	B	C
2.3 Reser. Capacity	B	B	B	B	B	B	B	B	B	B	C
2.4 Agrl. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A
2.5 Irri. Dev. Plan	B	B	B	B	B	B	B	B	B	A	C
2.6 Agricul. Benefit	A	A	A	A	A	B	B	B	B	C	C
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	A	-	-	-	-	-	-	-	-	-	A
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed H. Plan	C	C	C	C	C	C	C	C	C	C	C
2.13 Construction Plan	B	A	B	B	B	A	A	B	B	A	B
2.14 Construction Cost	B	C	B	B	B	C	B	B	B	C	B
2.15 Econ. Evaluation	B	B	B	B	B	B	B	B	B	B	B
III. Design											
3.1 Dam Foundation	C	C	C	C	C	C	C	C	C	C	C
3.2 Foundation Treat.	C	C	C	C	C	C	C	C	C	C	C
3.3 Zoning of Embank.	B	B	B	B	B	B	B	B	B	B	C
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	C
3.5 Flood of Spillway	A	A	A	A	A	A	A	A	A	A	A
3.6 Layout of Spillway	C	C	C	C	C	C	C	C	C	C	C
3.7 Layout of Outlet	C	C	C	C	C	C	C	C	C	C	C
3.8 Diversion Works	C	C	C	C	C	C	C	C	C	C	C
IV. Operation & Maintenance											
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	P-1	P-2	P-1	P-1	P-1	P-2	P-1	P-1	P-1	P-2	F-3

Table I.2.3 Technical Assessment of the SWIM Project -NIA- (1/6)

(NIA-1)

Item	Project NO. Status	NIA 4 D/D	NIA 6 D/O	NIA 7 D/O	NIA 9 O/O	NIA 11 O/O	NIA 12 O/O	NIA 14 D/O	NIA 15 D/O	NIA 20 Pre-F/Si	NIA 21 Pre-F/Si	NIA 22 Pre-F/Si	NIA 23 Pre-F/Si
I. Survey & Investigation													
1.1 Heteo-Hydro Inves.	A	B	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	C	C	B	B	A	C	B	A	C	C	C	C	C
1.3 Geological Inves.	A	A	B	B	A	A	B	B	C	C	C	C	C
1.4 Const. Material	B	B	B	B	B	B	B	B	C	C	C	C	C
1.5 Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1 Run-off Analysis	B	B	A	B	B	B	A	B	B	B	B	B	B
2.2 Flood Analysis	A	A	A	A	A	B	A	A	B	B	B	B	B
2.3 Reser. Capacity	A	B	A	A	A	A	A	A	A	A	A	A	A
2.4 Agri. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A	A
2.5 Irri. Dev. Plan	A	A	A	A	B	B	A	A	A	A	A	A	A
2.6 Agricul. Benefit	B	C	B	A	B	A	B	B	B	B	B	B	B
2.7 Mini-hydro. Plan	B	C	A	-	-	-	-	A	-	-	-	-	-
2.8 Mini-hyd. Benefit	C	C	C	-	-	-	-	C	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.11 Envir. Con. Plan	C	C	A	C	C	C	C	C	C	C	C	C	C
2.12 Watershed H. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.13 Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	B	B	A	B	A	A	A	B	B	B	B	B	B
2.15 Econ. Evaluation	A	A	D	A	A	A	A	A	B	B	B	B	B
III. Design													
3.1 Dam Foundation	C	C	C	C	C	B	C	B	C	C	C	C	C
3.2 Foundation Treat.	C	B	B	C	A	A	A	C	C	C	C	C	C
3.3 Zoning of Embank.	A	A	A	A	A	A	A	A	B	B	B	B	B
3.4 Embankment Slope	B	A	A	A	A	A	A	B	B	B	B	B	B
3.5 Flood of Spillway	A	A	A	A	A	A	A	A	A	A	A	A	A
3.6 Layout of Spillway	A	B	A	A	A	A	B	B	C	C	C	C	C
3.7 Layout of Outlet	B	B	B	B	B	A	B	B	C	C	C	C	C
3.8 Diversion Works	B	C	A	C	C	A	A	A	C	C	C	C	C
IV. Operation & Maintenance:													
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	D-4	D-2	D-1	D-4	D-4	D-1	D-1	D-2	P-1	P-1	P-2	P-2	

Table I.2.3 Technical Assessment of the SWIM Project --NIA-- (2/6)

(NIA-2)

Item	Project NO. 25	NIA 26	NIA 27	NIA 29	NIA 31	NIA 32	NIA 47	NIA 48	NIA 49	NIA 53	NIA 55	NIA 56
Status	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S
I. Survey & Investigation												
1.1 Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	C	C	C	C	C	C	C	C	C	C	C	C
1.3 Geological Inves.	C	C	C	C	C	C	C	C	C	C	C	C
1.4 Const. Material	C	C	C	C	C	C	C	C	C	C	C	C
1.5 Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning												
2.1 Run-off Analysis	B	B	B	B	B	B	A	A	B	A	A	A
2.2 Flood Analysis	B	B	B	B	B	B	B	B	C	B	C	B
2.3 Reser. Capacity	A	A	A	A	A	A	A	A	A	A	A	A
2.4 Agri. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.5 Irri. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.6 Agricul. Benefit	A	A	A	A	A	A	A	A	A	A	A	A
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed M. Plan	C	C	C	C	C	C	C	C	C	C	C	C
2.13 Construction Plan	B	B	A	B	B	B	A	A	B	B	A	B
2.14 Construction Cost	B	C	C	B	B	B	C	C	B	B	B	B
2.15 Econ. Evaluation	B	B	B	B	B	B	B	B	B	B	B	C
III. Design												
3.1 Dam Foundation	C	C	C	C	C	C	C	C	C	C	C	C
3.2 Foundation Treat.	C	C	C	C	C	C	C	C	C	C	C	C
3.3 Zoning of Embank.	B	B	B	B	B	B	B	B	B	B	B	B
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	A	A	A	A	A	A	B	B	C	A	C	A
3.6 Layout of Spillway	C	C	C	C	C	C	C	C	C	C	C	C
3.7 Layout of Outlet	C	C	C	C	C	C	C	C	C	C	C	C
3.8 Diversion Works	C	C	C	C	C	C	C	C	C	C	C	C
IV. Operation & Maintenance												
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	P-1	P-2	P-1	P-1	P-2	P-2	P-1	P-1	P-1	P-1	P-2	P-2

Table I.2.3 Technical Assessment of the SWIM Project -NIA- (3/6)

(NIA-3)

Item	Project NO.	NIA 57	NIA 58	NIA 59	NIA 72	NIA 97	NIA 98	NIA 99	NIA 100	NIA 101	NIA 102	NIA 103	NIA 104
Status		Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S
I. Survey & Investigation													
1.1 Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	C	C	B	C	C	C	C	C	C	C	C	C	C
1.3 Geological Inves.	C	C	C	C	C	C	C	C	C	C	C	C	C
1.4 Const. Material	C	C	C	C	C	C	C	C	C	C	C	C	C
1.5 Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1 Run-off Analysis	A	A	A	B	A	A	A	A	A	A	A	A	A
2.2 Flood Analysis	B	B	B	C	C	C	C	C	C	C	B	C	C
2.3 Reser. Capacity	A	A	A	A	A	A	A	A	A	A	A	A	A
2.4 Agri. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A	A
2.5 Irri. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A	A
2.6 Agricul. Benefit	A	A	A	A	A	A	A	A	A	A	A	A	A
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed M. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.13 Construction Plan	A	A	B	B	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	B	B	B	C	B	B	B	B	C	B	B	C	B
2.15 Econ. Evaluation	B	B	B	B	B	B	B	B	B	B	B	B	B
III. Design													
3.1 Dam Foundation	C	C	C	C	C	C	C	C	C	C	C	C	C
3.2 Foundation Treat.	C	C	C	C	C	C	C	C	C	C	C	C	C
3.3 Zoning of Embank.	B	B	B	B	B	B	B	B	B	B	B	B	B
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	A	A	A	C	C	C	C	C	C	C	A	C	C
3.6 Layout of Spillway	C	C	C	C	C	C	C	C	C	C	C	C	C
3.7 Layout of Outlet	C	C	C	C	C	C	C	C	C	C	C	C	C
3.8 Diversion Works	C	C	C	C	C	C	C	C	C	C	C	C	C
IV. Operation & Maintenance													
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	P-1	P-1	P-1	P-2	P-1	P-1	P-1	P-1	P-1	P-1	P-1	P-1	P-1

Table I.2.3 Technical Assessment of the SWIM Project -NIA- (4/6)

(NIA-4)

Item	Project NO.	NIA 106	NIA 107	NIA 108	NIA 111	NIA 112	NIA 119	NIA 120	NIA 121	NIA 122	NIA 128	NIA 130	NIA 131
Status		Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S
I. Survey & Investigation													
1.1 Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	C	C	C	C	C	C	C	C	C	C	C	C	C
1.3 Geological Inves.	C	C	C	C	C	C	C	C	C	C	C	C	C
1.4 Const. Material	C	C	C	C	C	C	C	C	C	C	C	C	C
1.5 Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1 Run-off Analysis	A	A	A	B	A	A	A	A	A	A	A	A	A
2.2 Flood Analysis	C	B	C	C	B	C	C	C	C	C	B	C	B
2.3 Reser. Capacity	A	A	A	A	A	A	A	A	A	A	A	A	A
2.4 Agri. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A	A
2.5 Irrig. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A	A
2.6 Agricul. Benefit	A	A	A	A	B	B	B	B	B	B	B	B	B
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	-	-	-	-	A	-	-	-	-	-	-	-	-
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed M. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.13 Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	B	B	B	B	B	B	B	B	B	C	B	B	B
2.15 Econ. Evaluation	B	B	B	B	B	B	B	B	B	B	B	B	B
III. Design													
3.1 Dam Foundation	C	C	C	C	C	C	C	C	C	C	C	C	C
3.2 Foundation Treat.	C	C	C	C	C	C	C	C	C	C	C	C	C
3.3 Zoning of Embank.	B	B	B	B	B	B	B	B	B	B	B	B	B
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	C	A	C	C	A	C	C	C	C	C	A	C	A
3.6 Layout of Spillway	C	C	C	C	C	C	C	C	C	C	C	C	C
3.7 Layout of Outlet	C	C	C	C	C	C	C	C	C	C	C	C	C
3.8 Diversion Works	C	C	C	C	C	C	C	C	C	C	C	C	C
IV. Operation & Maintenance													
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	P-1	P-1	P-1	P-1	P-1	P-1	P-1	P-1	P-1	P-2	P-1	P-1	P-1

Table I.2.3 Technical Assessment of the SWIM Project -NIA- (S/6)

(NIA-5)

Item	Project NO. 132	Project NO. 133	Project NO. 136	Project NO. 138	Project NO. 139	Project NO. 141	Project NO. 147	Project NO. 148	Project NO. 149	Project NO. 150	Project NO. 152	Project NO. 154
Status	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S	Pre-F/S
I. Survey & Investigation												
1.1 Meteo-hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	C	C	C	C	C	C	C	C	C	C	C	C
1.3 Geological Inves.	C	C	C	C	C	C	C	C	C	C	C	C
1.4 Const. Material	C	C	C	C	C	C	C	C	C	C	C	C
1.5 Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning												
2.1 Run-off Analysis	A	A	A	A	A	A	B	B	B	B	A	A
2.2 Flood Analysis	B	C	C	C	B	B	B	B	B	B	B	C
2.3 Reser. Capacity	A	A	A	A	A	A	A	A	A	A	A	A
2.4 Agri. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.5 Irrig. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.6 Agricul. Benefit	B	B	B	B	B	B	B	B	B	B	B	B
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hydro. Benefit	-	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed M. Plan	C	C	C	C	C	C	C	C	C	C	C	C
2.13 Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	B	B	B	B	B	B	C	C	C	B	B	B
2.15 Econ. Evaluation	C	C	B	B	B	B	B	B	B	B	B	B
III. Design												
3.1 Dam Foundation	C	C	C	C	C	C	C	C	C	C	C	C
3.2 Foundation Treat.	C	C	C	C	C	C	C	C	C	C	C	C
3.3 Zoning of Embank.	B	B	B	B	B	B	B	B	B	B	B	B
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	A	C	C	C	A	A	A	A	A	A	A	C
3.6 Layout of Spillway	C	C	C	C	C	C	C	C	C	C	C	C
3.7 Layout of Outlet	C	C	C	C	C	C	C	C	C	C	C	C
3.8 Diversion Works	C	C	C	C	C	C	C	C	C	C	C	C
IV. Operation & Maintenance												
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	P-1	P-1	P-1	P-1	P-1	P-1	P-1	P-1	P-1	P-1	P-1	P-1

Table I.2.3 Technical Assessment of the SWIM Project -NIA- (6/6)

(NIA-6)

Item	Project NO. : 157	NIA : 158	NIA : 163	NIA : 186	NIA : 187	NIA : 188	NIA : 190													
	Status : Pre-F/S:	Pre-F/S:	Pre-F/S:	Pre-F/S:	Pre-F/S:	Pre-F/S:	Pre-F/S:													
I. Survey & Investigation																				
1.1 Moteo-Hydro Inves.	A	A	A	A	A	A	A													
1.2 Topo Survey	C	C	C	C	C	C	C													
1.3 Geological Inves.	C	C	C	C	C	C	C													
1.4 Const. Material	C	C	C	C	C	C	C													
1.5 Agri. Condition	A	A	A	A	A	A	A													
II. Project Planning																				
2.1 Run-off Analysis	A	A	A	A	A	A	A	B												
2.2 Flood Analysis	C	C	C	C	C	C	C	B												
2.3 Reser. Capacity	A	A	A	A	A	A	A	A												
2.4 Agri. Dev. Plan	A	A	A	A	A	A	A	A												
2.5 Irri. Dev. Plan	A	A	A	A	A	A	A	A												
2.6 Agricul. Benefit	B	B	B	A	A	A	A	A												
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-												
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-												
2.9 Water Supply Plan	-	-	-	-	-	-	-	-												
2.10 Inland Fish. Plan	-	-	-	-	-	-	-	-												
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C												
2.12 Watershed M. Plan	C	C	C	C	C	C	C	C												
2.13 Construction Plan	B	B	B	B	B	B	B	B												
2.14 Construction Cost	B	C	C	B	B	B	B	C												
2.15 Econ. Evaluation	B	B	B	B	B	B	B	B												
III. Design																				
3.1 Dam Foundation	C	C	C	C	C	C	C	C												
3.2 Foundation Treat.	C	C	C	C	C	C	C	C												
3.3 Zoning of Embank.	B	B	B	B	B	B	B	B												
3.4 Embankment Slope	B	B	B	B	B	B	B	B												
3.5 Flood of Spillway	C	C	C	C	C	C	C	A												
3.6 Layout of Spillway	C	C	C	C	C	C	C	C												
3.7 Layout of Outlet	C	C	C	C	C	C	C	C												
3.8 Diversion Works	C	C	C	C	C	C	C	C												
IV. Operation & Maintenance:																				
4.1 O&M Study	C	C	C	C	C	C	C	C												
Classification of Project	P-1	P-2	P-2	P-1	P-1	P-1	P-1													

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (1/12)

(BSWM-1)

Item	Project NO.	BSWM 1	BSWM 2	BSWM 3	BSWM 4	BSWM 5	BSWM 6	BSWM 7	BSWM 8	BSWM 9	BSWM 10	BSWM 11	BSWM 12
Status	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D	D/D
I. Survey & Investigation													
1.1 Mateo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	A	A	A	A	A	A	A	B	A	A	A	A	A
1.3 Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B	B
1.4 Const. Material	B	B	B	B	B	B	B	B	B	B	B	B	B
1.5 Agrl. Condition	A	A	A	A	A	A	A	A	B	A	A	A	A
II. Project Planning													
2.1 Run-off Analysis	B	B	B	B	B	B	B	B	B	B	B	B	B
2.2 Flood Analysis	A	A	A	B	A	A	A	A	A	A	A	A	B
2.3 Reser. Capacity	B	B	B	B	B	B	B	B	B	B	B	B	B
2.4 Agrl. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A	A
2.5 Irrl. Dev. Plan	B	B	A	B	A	A	A	A	B	A	B	A	A
2.6 Agricul. Benefit	B	B	B	B	B	A	B	A	A	A	B	B	B
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	A	A	C	A	C	A	A	A	A	A	C	A	A
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed M. Plan	B	B	B	B	B	A	B	B	B	B	B	B	B
2.13 Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	B	B	B	B	B	B	B	B	B	B	B	B	B
2.15 Econ. Evaluation	A	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1 Dam Foundation	B	B	B	B	B	B	B	B	B	B	B	B	B
3.2 Foundation Treat.	A	A	A	A	A	A	A	A	A	A	A	A	A
3.3 Zoning of Embank.	A	A	A	A	A	A	A	A	A	A	A	A	A
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	A	C	C	C	C	C	C	C	A	A	A	C	C
3.6 Layout of Spillway	B	B	B	B	B	B	B	B	B	B	B	B	B
3.7 Layout of Outlet	A	A	A	A	A	A	A	A	B	A	A	A	A
3.8 Diversion Works	A	A	A	A	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance													
4.1 O&N Study	C	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	D-3	D-4	D-4	D-1	D-2	D-4	D-2	D-1	D-1	D-1	D-1	D-2	D-1

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (2/12)

(BSWM-2)

Item	Project NO. Status	BSWM 13 D/D	BSWM 14 D/D	BSWM 15 D/D	BSWM 16 D/D	BSWM 17 D/D	BSWM 18 D/D	BSWM 19 D/D	BSWM 20 D/D	BSWM 21 D/D	BSWM 23 D/D	BSWM 24 D/D	BSWM 25 D/D
I. Survey & Investigation													
1.1	Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A
1.2	Topo Survey	A	A	A	A	A	A	A	A	B	A	A	A
1.3	Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B
1.4	Const. Material	B	B	B	B	B	B	B	B	B	B	B	B
1.5	Agri. Condition	A	A	B	B	B	B	B	B	A	A	A	A
II. Project Planning													
2.1	Run-off Analysis	B	B	B	B	B	B	B	B	B	B	B	B
2.2	Flood Analysis	A	A	A	A	A	A	A	B	A	A	B	B
2.3	Reser. Capacity	B	B	B	B	B	B	B	B	B	B	B	B
2.4	Agri. Dev. Plan	A	B	A	A	A	A	A	A	A	A	A	A
2.5	Irr. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.6	Agricul. Benefit	B	A	A	B	A	B	A	A	A	B	B	B
2.7	Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.8	Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-
2.9	Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.10	Inland Fish. Plan	A	C	B	A	A	A	A	A	A	A	A	A
2.11	Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C
2.12	Watershed M. Plan	B	B	B	B	B	B	B	A	B	B	A	B
2.13	Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B
2.14	Construction Cost	B	B	C	C	C	C	C	C	C	C	C	C
2.15	Econ. Evaluation	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1	Dam Foundation	B	B	B	B	A	A	A	A	A	A	A	A
3.2	Foundation Treat.	A	A	A	A	A	A	A	A	A	A	A	A
3.3	Zoning of Embank.	A	A	A	A	A	A	A	A	A	A	A	A
3.4	Embankment Slope	B	B	C	B	B	B	B	B	B	B	B	B
3.5	Flood of Spillway	A	A	A	A	A	A	A	C	A	C	C	C
3.6	Layout of Spillway	B	B	C	B	B	B	B	B	B	B	B	B
3.7	Layout of Outlet	A	B	C	A	A	A	A	B	B	B	A	A
3.8	Diversion Works	A	A	C	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance:													
4.1	O&M Study	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project		D-3	D-1	D-2	D-1	D-1	D-1	D-1	D-1	D-3	D-4	D-4	D-1

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (3/12)

(BSWM-3)

Item	Project HO. Status	BSWM 26 D/D	BSWM 27 D/D	BSWM 28 D/D	BSWM 29 D/D	BSWM 30 D/D	BSWM 31 D/D	BSWM 32 D/D	BSWM 33 D/D	BSWM 34 D/D	BSWM 35 D/D	BSWM 36 D/D	BSWM 37 D/D
I. Survey & Investigation													
1.1 Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	A	B	A	A	A	A	A	A	A	A	A	A	A
1.3 Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B	B
1.4 Const. Material	B	B	B	B	B	B	B	B	B	B	B	B	B
1.5 Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1 Run-off Analysis	B	B	B	B	B	B	B	B	B	B	B	B	B
2.2 Flood Analysis	A	A	A	A	A	A	A	A	A	A	A	A	A
2.3 Reser. Capacity	B	B	B	B	B	B	B	B	B	B	B	B	B
2.4 Agri. Dev. Plan	B	B	B	A	B	A	A	A	A	A	B	A	A
2.5 Irri. Dev. Plan	A	A	A	A	A	B	B	A	A	A	B	A	B
2.6 Agricul. Benefit	A	A	A	C	B	B	A	B	A	B	B	A	A
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	A	A	A	A	B	A	A	A	A	A	A	A	A
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed M. Plan	B	A	B	B	B	B	B	B	B	A	B	A	B
2.13 Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	B	C	B	B	C	B	B	B	B	B	B	B	B
2.15 Econ. Evaluation	C	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1 Dam Foundation	A	A	C	A	A	A	A	A	A	A	A	A	A
3.2 Foundation Treat.	A	A	A	A	A	A	A	A	A	A	A	A	A
3.3 Zoning of Embank.	A	A	A	A	A	A	A	A	A	A	A	A	A
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	A	A	A	A	C	A	A	C	C	C	C	A	C
3.6 Layout of Spillway	B	B	B	B	B	B	B	C	B	B	B	B	B
3.7 Layout of Outlet	A	B	B	A	A	A	A	C	A	B	A	A	A
3.8 Diversion Works	A	A	A	A	A	A	A	C	A	A	A	A	A
IV. Operation & Maintenance													
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	D-3	D-3	D-3	D-1	D-2	D-1	D-1	D-2	D-2	D-2	D-2	D-1	D-2

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (4/12)

(BSWM-4)

Item	Project NO. Status	BSWM 38 D/D	BSWM 39 D/D	BSWM 40 D/D	BSWM 41 D/D	BSWM 42 D/D	BSWM 43 D/D	BSWM 44 D/D	BSWM 45 D/D	BSWM 46 D/D	BSWM 47 D/D	BSWM 48 D/D	BSWM 49 D/D
I. Survey & Investigation													
1.1	Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A
1.2	Topo. Survey	A	A	A	A	A	A	A	B	B	A	A	A
1.3	Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B
1.4	Const. Material	B	B	B	B	B	B	B	B	B	B	B	B
1.5	Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1	Run-off Analysis	B	B	B	B	B	B	B	B	B	B	B	B
2.2	Flood Analysis	A	A	A	A	A	A	A	A	A	A	A	A
2.3	Reser. Capacity	B	B	B	B	B	B	B	B	B	B	B	B
2.4	Agri. Dev. Plan	A	A	B	B	A	A	A	A	A	A	A	A
2.5	Irrf. Dev. Plan	B	B	A	A	B	A	A	A	A	A	A	B
2.6	Agricul. Benefit	B	A	B	B	A	A	B	B	A	A	B	A
2.7	Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.8	Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-
2.9	Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.10	Inland Fish. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.11	Envlr. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C
2.12	Watershed M. Plan	B	B	B	B	B	B	B	B	B	B	B	B
2.13	Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B
2.14	Construction Cost	C	B	B	B	B	B	B	C	C	C	C	B
2.15	Econ. Evaluation	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1	Dam Foundation	A	A	A	B	B	B	B	B	B	B	B	A
3.2	Foundation Treat.	A	A	A	A	A	A	A	A	A	A	A	A
3.3	Zoning of Embank.	A	A	A	A	A	A	A	A	A	A	A	A
3.4	Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B
3.5	Flood of Spillway	A	C	C	A	A	C	C	C	A	A	A	A
3.6	Layout of Spillway	B	B	B	B	B	B	B	B	B	B	B	B
3.7	Layout of Outlet	A	A	B	B	A	B	B	B	A	A	A	A
3.8	Diversion Works	A	A	A	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance													
4.1	O&M Study	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project		D-1	D-2	D-2	D-1	D-1	D-2	D-4	D-2	D-1	D-1	D-1	D-1

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (5/12)

(BSWM-5)

Item	Project NO. Status	BSWM 50 D/D	BSWM 51 D/D	BSWM 52 D/D	BSWM 56 D/D	BSWM 57 D/D	BSWM 58 D/D	BSWM 59 D/D	BSWM 60 D/D	BSWM 61 D/D	BSWM 62 D/D	BSWM 63 D/D	BSWM 64 D/D
I. Survey & Investigation													
1.1	Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A
1.2	Topo Survey	A	B	B	A	A	A	A	A	A	A	A	A
1.3	Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B
1.4	Const. Material	B	B	B	B	B	B	B	B	B	B	B	B
1.5	Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1	Run-off Analysis	B	B	B	B	B	B	B	B	B	B	B	B
2.2	Flood Analysis	A	A	A	A	A	A	A	A	A	A	A	A
2.3	Reser. Capacity	B	B	B	B	B	B	B	B	B	B	B	B
2.4	Agri. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.5	Irrig. Dev. Plan	B	B	A	B	A	A	A	B	A	B	B	B
2.6	Agricul. Benefit	A	A	A	A	A	A	A	B	A	A	B	A
2.7	Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.8	Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-
2.9	Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.10	Inland Fish. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.11	Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C
2.12	Watershed M. Plan	B	B	B	B	B	B	B	B	B	B	B	B
2.13	Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B
2.14	Construction Cost	B	C	C	C	C	B	C	B	B	C	C	B
2.15	Econ. Evaluation	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1	Dam Foundation	A	A	A	A	A	A	A	A	A	A	A	A
3.2	Foundation Treat.	A	A	A	A	A	A	A	A	A	A	A	A
3.3	Zoning of Embank.	A	A	A	A	A	A	A	A	A	A	A	A
3.4	Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B
3.5	Flood of Spillway	A	C	A	A	A	A	A	C	A	C	A	A
3.6	Layout of Spillway	B	B	B	B	B	B	B	B	B	B	B	B
3.7	Layout of Outlet	A	A	A	A	A	A	A	A	A	A	A	B
3.8	Diversion Works	A	A	A	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance													
4.1	O&M Study	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project		D-1	D-2	D-1	D-1	D-1	D-1	D-1	D-2	D-1	D-2	D-1	D-1

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (6/12)

(BSWM-6)

Item	Project NO. Status	BSWM 65 D/D	BSWM 66 D/D	BSWM 67 D/D	BSWM 68 D/D	BSWM 69 D/D	BSWM 70 D/D	BSWM 71 D/D	BSWM 72 D/D	BSWM 73 D/D	BSWM 74 D/D	BSWM 75 D/D	BSWM 76 D/D
I. Survey & Investigation													
1.1 Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	A	A	A	A	A	A	A	A	A	A	A	A	A
1.3 Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B	B
1.4 Const. Material	B	B	B	B	B	B	B	B	B	B	B	B	B
1.5 Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1 Run-off Analysis	B	B	B	B	B	B	B	B	B	B	B	B	B
2.2 Flood Analysis	A	A	A	A	A	A	A	A	A	A	B	A	B
2.3 Reser. Capacity	B	B	B	B	B	B	B	B	B	B	B	B	B
2.4 Agri. Dev. Plan	B	A	A	A	A	B	A	A	A	A	A	A	A
2.5 Irri. Dev. Plan	A	B	B	B	A	A	B	A	B	B	B	B	B
2.6 Agricul. Benefit	A	A	B	B	B	A	A	B	A	A	A	A	A
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	A	A	A	A	A	A	A	A	A	A	A	A	A
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed H. Plan	D	A	A	B	A	B	B	B	A	B	B	B	B
2.13 Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	B	C	B	B	B	B	B	B	B	B	C	C	C
2.15 Econ. Evaluation	A	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1 Dam Foundation	A	B	A	B	A	B	B	A	B	B	C	B	B
3.2 Foundation Treat.	A	B	A	B	A	B	A	A	A	B	B	B	B
3.3 Zoning of Embank.	A	A	A	A	A	A	A	A	A	A	A	A	A
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	A	A	A	B	C	A	C	A	A	C	A	C	C
3.6 Layout of Spillway	B	B	B	B	B	B	B	B	B	B	B	B	B
3.7 Layout of Outlet	A	A	B	A	A	A	A	A	B	B	B	B	B
3.8 Diversion Works	A	A	A	A	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance													
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	0-3	D-1	D-1	D-1	D-2	D-1	D-2	D-1	D-1	D-1	D-1	D-1	D-1

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (7/12)

(BSWM-7)

Item	Project NO. Status	BSWM 77 D/D	BSWM 78 O/O	BSWM 79 O/D	BSWM 80 O/D	BSWM 82 O/D	BSWM 83 O/D	BSWM 84 D/D	BSWM 85 O/D	BSWM 86 D/D	BSWM 87 D/D	BSWM 88 O/D	BSWM 89 O/D
I. Survey & Investigation													
1.1 Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	A	A	A	A	A	A	A	A	A	A	A	A	A
1.3 Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B	B
1.4 Const. Material	B	B	B	B	B	B	B	B	B	B	B	B	B
1.5 Agrl. Condition	A	A	A	A	A	A	A	A	A	B	A	A	A
II. Project Planning													
2.1 Run-off Analysis	B	B	B	B	B	B	B	B	B	B	B	B	B
2.2 Flood Analysis	A	A	A	A	A	A	A	A	A	A	A	A	A
2.3 Reser. Capacity	B	B	B	B	B	B	B	B	B	B	B	B	B
2.4 Agrl. Dev. Plan	A	A	A	B	A	A	A	A	A	A	B	B	A
2.5 Irri. Dev. Plan	A	A	A	B	A	B	A	A	A	B	B	A	A
2.6 Agricul. Benefit	B	B	B	B	A	A	B	A	A	A	A	A	A
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	A	A	A	A	A	B	A	A	A	A	B	A	A
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed H. Plan	A	A	A	B	A	B	B	B	A	B	B	B	B
2.13 Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	B	B	B	B	B	C	B	C	B	B	B	B	B
2.15 Econ. Evaluation	A	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1 Dam Foundation	B	B	A	A	A	A	A	A	A	A	A	A	A
3.2 Foundation Treat.	A	A	A	A	A	A	A	A	A	A	A	A	A
3.3 Zoning of Embank.	A	A	A	A	A	A	A	A	A	A	A	A	A
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	A	A	A	C	C	C	A	C	A	C	C	C	C
3.6 Layout of Spillway	B	B	B	B	B	B	B	B	B	B	B	B	B
3.7 Layout of Outlet	B	B	B	A	A	A	A	A	A	A	A	A	A
3.8 Diverston Works	A	A	A	A	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance													
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	D-1	D-1	D-1	D-2	D-4	D-2	D-1	D-2	D-1	D-2	D-2	D-2	D-2

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (8/12)

(BSWM-8)

Item	Project NO. Status	BSWM 90 D/D	BSWM 91 D/D	BSWM 92 D/D	BSWM 93 D/D	BSWM 94 D/D	BSWM 95 D/D	BSWM 96 D/D	BSWM 97 D/D	BSWM 98 D/D	BSWM 99 D/D	BSWM 100 D/D	BSWM 101 D/D
I. Survey & Investigation													
1.1	Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A
1.2	Topo Survey	A	A	A	A	A	A	A	A	A	A	A	A
1.3	Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B
1.4	Const. Material	B	B	B	B	B	B	B	B	B	B	B	B
1.5	Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1	Run-off Analysis	B	B	B	B	B	B	B	B	B	B	B	B
2.2	Flood Analysis	A	A	A	A	A	A	A	A	A	B	A	A
2.3	Reser. Capacity	B	B	B	B	B	B	B	B	B	B	B	B
2.4	Agri. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.5	Irri. Dev. Plan	B	B	A	B	B	B	B	A	B	B	A	A
2.6	Agricul. Benefit	A	A	A	A	A	B	A	B	B	A	A	B
2.7	Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.8	Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-
2.9	Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.10	Inland Fish. Plan	A	A	A	A	A	A	A	A	A	A	C	A
2.11	Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C
2.12	Watershed M. Plan	B	B	B	B	B	B	B	B	B	B	B	B
2.13	Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B
2.14	Construction Cost	B	B	C	B	B	B	B	B	B	B	B	B
2.15	Econ. Evaluation	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1	Dam Foundation	A	A	A	A	A	A	A	A	A	A	A	A
3.2	Foundation Treat.	A	A	A	A	A	A	A	A	A	A	A	A
3.3	Zoning of Embank.	A	A	A	A	A	A	A	A	A	A	A	A
3.4	Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B
3.5	Flood of Spillway	A	A	A	A	A	A	A	A	A	C	A	A
3.6	Layout of Spillway	B	B	C	B	B	B	B	B	B	B	B	B
3.7	Layout of Outlet	A	A	A	A	A	A	B	A	A	A	A	B
3.8	Diversion Works	A	A	A	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance													
4.1	OM Study	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project		D-1	D-1	D-2	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (9/12)

(BSWM-9)

Item	Project NO.	BSWM 102	BSWM 103	BSWM 108	BSWM 109	BSWM 110	BSWM 111	BSWM 112	BSWM 113	BSWM 114	BSWM 115	BSWM 117	BSWM 118
Status	D/O	D/O	D/O	D/O	D/O	D/O	D/O	D/O	D/O	D/O	D/O	D/O	D/O
I. Survey & Investigation													
1.1 Mateo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	A	A	A	A	A	A	A	A	A	A	A	A	A
1.3 Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B	B
1.4 Const. Material	B	B	B	B	B	B	B	B	B	B	B	B	B
1.5 Agrl. Condition	A	A	A	A	A	A	A	A	A	A	B	A	A
II. Project Planning													
2.1 Run-off Analysis	B	B	B	B	B	D	B	B	B	B	A	B	B
2.2 Flood Analysis	A	A	A	A	A	A	A	A	A	A	A	A	A
2.3 Reser. Capacity	B	B	B	B	B	D	B	B	B	B	A	B	B
2.4 Agrl. Dev. Plan	A	A	B	A	A	A	A	A	A	A	C	A	A
2.5 Irri. Dev. Plan	A	A	B	A	A	B	A	A	A	A	C	A	A
2.6 Agricul. Benefit	B	D	A	A	A	A	A	A	A	B	C	B	A
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	A	A	A	A	A	A	A	A	A	A	A	A	A
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed M. Plan	B	B	B	D	B	A	B	A	A	A	A	B	B
2.13 Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	C	C	B	B	B	C	B	B	B	B	C	B	B
2.15 Econ. Evaluation	A	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1 Dam Foundation	A	B	A	A	A	A	A	A	A	A	A	A	A
3.2 Foundation Treat.	A	A	A	A	A	A	A	A	A	A	A	A	A
3.3 Zoning of Exbank.	A	A	A	A	A	A	A	A	A	A	A	A	A
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	A	A	A	A	A	C	A	A	A	A	A	A	A
3.6 Layout of Spillway	B	B	B	B	B	B	B	B	B	B	A	B	B
3.7 Layout of Outlet	B	A	A	A	A	A	A	A	A	A	B	B	A
3.8 Diversion Works	A	A	A	A	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance													
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	D-1	D-1	D-3	D-1	D-1	D-2	D-1	D-1	D-1	D-1	D-3	D-1	D-1

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (10/12)

(BSWM-10)

Item	Project NO. Status	BSWM 119 D/D	BSWM 120 D/D	BSWM 121 D/D	BSWM 122 D/D	BSWM 123 D/D	BSWM 124 D/D	BSWM 125 D/D	BSWM 126 D/D	BSWM 127 D/D	BSWM 128 D/D	BSWM 129 D/D	BSWM 130 D/D
I. Survey & Investigation													
1.1	Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A
1.2	Topo Survey	A	A	A	A	A	A	A	A	A	A	A	A
1.3	Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B
1.4	Const. Material	B	B	B	B	B	B	B	B	B	B	B	B
1.5	Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1	Run-off Analysis	B	B	B	B	B	B	B	B	B	B	B	B
2.2	Flood Analysis	A	A	A	A	A	A	A	A	A	A	A	A
2.3	Reser. Capacity	B	B	B	B	B	B	B	B	B	B	B	B
2.4	Agri. Dev. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.5	Irrig. Dev. Plan	A	A	A	B	A	B	A	A	B	B	A	B
2.6	Agricul. Benefit	B	B	B	B	A	B	A	A	B	A	B	A
2.7	Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.8	Mini-hydro. Benefit	-	-	-	-	-	-	-	-	-	-	-	-
2.9	Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-
2.10	Inland Fish. Plan	A	A	A	A	A	A	A	A	A	A	A	A
2.11	Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C
2.12	Watershed M. Plan	B	B	B	B	B	A	B	B	B	B	B	B
2.13	Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B
2.14	Construction Cost	B	C	B	B	B	C	B	B	C	B	C	C
2.15	Econ. Evaluation	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1	Dam Foundation	A	A	A	A	A	A	A	A	A	A	A	A
3.2	Foundation Treat.	A	A	A	A	A	A	A	A	A	A	A	A
3.3	Zoning of Embank.	A	A	A	A	A	A	A	A	A	A	A	A
3.4	Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B
3.5	Flood of Spillway	A	A	A	A	A	A	A	A	A	A	A	C
3.6	Layout of Spillway	B	B	B	B	B	B	B	B	B	B	B	B
3.7	Layout of Outlet	A	B	A	A	B	A	A	A	A	B	A	A
3.8	Diversion Works	A	A	A	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance:													
4.1	O&M Study	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project		D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-1	D-2

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (11/12)

(BSWM-11)

Item	Project NO. Status	BSWM 131 D/O	BSWM 132 D/O	BSWM 133 D/O	BSWM 134 D/O	BSWM 135 D/O	BSWM 136 D/O	BSWM 137 D/O	BSWM 138 D/O	BSWM 139 D/O	BSWM 140 D/O	BSWM 141 D/O	BSWM 142 D/O
I. Survey & Investigation													
1.1 Heteo-Hydro Inves.	A	A	A	A	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	A	A	A	A	A	A	A	A	A	A	A	A	A
1.3 Geological Inves.	B	B	B	B	B	B	B	B	B	B	B	B	B
1.4 Const. Material	B	B	B	B	B	B	B	B	B	B	B	B	B
1.5 Agri. Condition	A	A	A	A	A	A	A	A	A	A	A	A	A
II. Project Planning													
2.1 Run-off Analysis	B	B	B	B	B	B	B	B	B	B	B	B	B
2.2 Flood Analysis	A	A	A	A	A	A	A	A	A	A	A	A	B
2.3 Reser. Capacity	B	B	B	B	B	B	B	B	B	B	B	B	B
2.4 Agri. Dev. Plan	A	A	A	B	A	B	B	A	A	A	A	A	A
2.5 Irri. Dev. Plan	B	A	A	A	B	A	B	B	B	B	B	B	B
2.6 Agricul. Benefit	A	B	A	B	A	A	A	A	B	A	A	A	B
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	A	A	A	A	A	A	A	A	A	A	A	C	A
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C	C	C	C	C
2.12 Watershed M. Plan	B	B	B	A	B	B	B	B	B	B	B	B	A
2.13 Construction Plan	B	B	B	B	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	C	B	C	B	C	B	B	B	B	B	B	B	B
2.15 Econ. Evaluation	A	A	A	A	A	A	A	A	A	A	A	A	A
III. Design													
3.1 Dam Foundation	A	A	C	C	C	A	A	B	A	A	A	C	A
3.2 Foundation Treat.	A	A	B	B	B	A	A	A	A	A	A	A	A
3.3 Zoning of Embank.	A	A	A	A	A	A	A	A	A	A	A	A	A
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	A	A	A	C	A	A	A	A	A	C	A	A	C
3.6 Layout of Spillway	B	B	B	B	B	B	B	B	B	B	B	B	B
3.7 Layout of Outlet	A	A	A	B	A	A	A	A	A	A	A	A	B
3.8 Diversion Works	A	A	A	A	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance:													
4.1 O&M Study	C	C	C	C	C	C	C	C	C	C	C	C	C
Classification of Project	D-1	D-1	D-1	D-4	D-1	D-1	D-1	D-1	D-1	D-1	D-2	D-1	D-1

Table I.2.4 Technical Assessment of the SWIM Project -BSWM- (12/12)

(BSWM-12)

Item	Project NO. Status	BSWM 143 D/O	BSWM 144 D/O	BSWM 145 D/O	BSWM 146 D/O	BSWM 147 D/O	BSWM 149 D/O	BSWM 150 D/O	BSWM 151 D/O
I. Survey & Investigation									
1.1 Meteo-Hydro Inves.	A	A	A	A	A	A	A	A	A
1.2 Topo Survey	A	B	B	A	A	A	A	A	A
1.3 Geological Inves.	B	B	B	B	B	B	B	B	B
1.4 Const. Material	B	B	B	B	B	B	B	B	B
1.5 Agri. Condition	A	A	A	A	A	A	A	A	A
II. Project Planning									
2.1 Run-off Analysis	B	B	B	B	B	B	B	B	B
2.2 Flood Analysis	B	A	A	A	A	A	A	A	A
2.3 Reser. Capacity	B	B	B	B	B	B	B	B	B
2.4 Agri. Dev. Plan	A	B	A	A	A	A	A	A	A
2.5 Irri. Dev. Plan	B	B	B	B	B	A	B	A	A
2.6 Agricul. Benefit	A	A	B	B	B	A	B	A	A
2.7 Mini-hydro. Plan	-	-	-	-	-	-	-	-	-
2.8 Mini-hyd. Benefit	-	-	-	-	-	-	-	-	-
2.9 Water Supply Plan	-	-	-	-	-	-	-	-	-
2.10 Inland Fish. Plan	A	A	A	A	A	C	A	A	A
2.11 Envir. Con. Plan	C	C	C	C	C	C	C	C	C
2.12 Watershed M. Plan	B	B	B	B	B	A	B	B	B
2.13 Construction Plan	B	B	B	B	B	B	B	B	B
2.14 Construction Cost	B	C	C	B	C	B	C	B	B
2.15 Econ. Evaluation	A	A	A	A	A	A	A	A	A
III. Design									
3.1 Dam Foundation	A	A	A	A	A	A	A	A	A
3.2 Foundation Treat.	A	A	A	A	A	A	A	A	A
3.3 Zoning of Embank.	A	A	A	A	A	A	A	A	A
3.4 Embankment Slope	B	B	B	B	B	B	B	B	B
3.5 Flood of Spillway	C	A	A	A	A	C	A	A	A
3.6 Layout of Spillway	B	B	B	B	B	B	B	B	B
3.7 Layout of Outlet	B	A	B	A	B	A	A	A	A
3.8 Diversion Works	A	A	A	A	A	A	A	A	A
IV. Operation & Maintenance:									
4.1 OSM Study	C	C	C	C	C	C	C	C	C
Classification of Project	D-1	D-1	D-1	D-1	D-1	D-2	D-1	D-1	D-1

Table I.3.1 Summary of Results of Technical Assessment (1/4)

Agency No.	Present Status	Group of Tech.Assess.	Next Step and Major Review Works
DPWH 1	D/D	D-3	Review of project planning
DPWH 2 *	D/D	D-1	Ready to construction
DPWH 3	F/S	F-2	Modification of foundation treatment and review of project planning
DPWH 6	D/D	D-3	Review of project planning
DPWH 7	D/D	D-4	Modification of foundation treatment and raising dam height and review of project planning
DPWH 8	D/D	D-4	Modification zoning and review of project planning
DPWH 9 *	D/D	D-2	Modification of foundation treatment, raising dam height, modification of spillway type and diversion work
DPWH 11	F/S	F-1	Ready to detailed design
DPWH 13	D/D	D-1	Ready to construction
DPWH 14	D/D	D-1	Ready to construction
DPWH 15 *	D/D	D-1	Ready to construction
DPWH 16	F/S	F-1	Ready to detailed design
DPWH 17	Pre-F/S	P-1	Ready to feasibility study
DPWH 18	Pre-F/S	P-2	Review of pre-feasibility study
DPWH 19	Pre-F/S	P-1	Ready to feasibility study
DPWH 20	Pre-F/S	P-1	Ready to feasibility study
DPWH 21	Pre-F/S	P-1	Ready to feasibility study
DPWH 22	Pre-F/S	P-2	Review of pre-feasibility study
DPWH 25	Pre-F/S	P-1	Ready to feasibility study
DPWH 26	Pre-F/S	P-1	Ready to feasibility study
DPWH 27	Pre-F/S	P-1	Ready to feasibility study
DPWH 28	Pre-F/S	P-2	Review of pre-feasibility study
DPWH 33	F/S	F-3	Repeat from feasibility study
NIA 4 *	D/D	D-4	Modification of foundation treatment and review of project planning
NIA 6 *	D/D	D-2	Modification of design of diversion work
NIA 7 *	D/D	D-1	Ready to construction
NIA 9	D/D	D-4	Modification of foundation treatment and further study of diversion work, and review of project planning
NIA 11 *	D/D	D-4	Review of design of diversion work, and review of project planning
NIA 12	D/D	D-1	Ready to construction
NIA 14	D/D	D-1	Ready to construction
NIA 15 *	D/D	D-2	Modification of foundation treatment
NIA 20	Pre-F/S	P-1	Ready to feasibility study
NIA 21	Pre-F/S	P-1	Ready to feasibility study
NIA 22	Pre-F/S	P-2	Review of pre-feasibility study
NIA 23	Pre-F/S	P-2	Review of pre-feasibility study
NIA 25	Pre-F/S	P-1	Ready to feasibility study
NIA 26	Pre-F/S	P-2	Review of pre-feasibility study
NIA 27	Pre-F/S	P-1	Ready to feasibility study
NIA 29	Pre-F/S	P-1	Ready to feasibility study
NIA 31	Pre-F/S	P-2	Review of pre-feasibility study
NIA 32	Pre-F/S	P-2	Review of pre-feasibility study
NIA 47	Pre-F/S	P-1	Ready to feasibility study
NIA 48	Pre-F/S	P-1	Ready to feasibility study
NIA 49	Pre-F/S	P-1	Ready to feasibility study
NIA 53	Pre-F/S	P-1	Ready to feasibility study
NIA 55	Pre-F/S	P-2	Review of pre-feasibility study
NIA 56	Pre-F/S	P-2	Review of pre-feasibility study
NIA 57	Pre-F/S	P-1	Ready to feasibility study
NIA 58	Pre-F/S	P-1	Ready to feasibility study
NIA 59	Pre-F/S	P-1	Ready to feasibility study
NIA 72	Pre-F/S	P-2	Review of pre-feasibility study
NIA 97	Pre-F/S	P-1	Ready to feasibility study
NIA 98	Pre-F/S	P-1	Ready to feasibility study
NIA 99	Pre-F/S	P-1	Ready to feasibility study
NIA 100	Pre-F/S	P-1	Ready to feasibility study
NIA 101	Pre-F/S	P-1	Ready to feasibility study
NIA 102	Pre-F/S	P-1	Ready to feasibility study
NIA 103	Pre-F/S	P-1	Ready to feasibility study
NIA 104	Pre-F/S	P-1	Ready to feasibility study
NIA 106	Pre-F/S	P-1	Ready to feasibility study
NIA 107	Pre-F/S	P-1	Ready to feasibility study

Table I.3.1 Summary of Results of Technical Assessment (2/4)

Agency No.	Present Status	Group of Tech.Assess.	Next Step and Major Review Works
NIA 108	Pre-F/S	P-1	Ready to feasibility study
NIA 111	Pre-F/S	P-1	Ready to feasibility study
NIA 112	Pre-F/S	P-1	Ready to feasibility study
NIA 119	Pre-F/S	P-1	Ready to feasibility study
NIA 120	Pre-F/S	P-1	Ready to feasibility study
NIA 121	Pre-F/S	P-1	Ready to feasibility study
NIA 122	Pre-F/S	P-2	Review of pre-feasibility study
NIA 128	Pre-F/S	P-1	Ready to feasibility study
NIA 130	Pre-F/S	P-1	Ready to feasibility study
NIA 131	Pre-F/S	P-1	Ready to feasibility study
NIA 132	Pre-F/S	P-1	Ready to feasibility study
NIA 133	Pre-F/S	P-1	Ready to feasibility study
NIA 136	Pre-F/S	P-1	Ready to feasibility study
NIA 138	Pre-F/S	P-1	Ready to feasibility study
NIA 139	Pre-F/S	P-1	Ready to feasibility study
NIA 141	Pre-F/S	P-1	Ready to feasibility study
NIA 147	Pre-F/S	P-1	Ready to feasibility study
NIA 148	Pre-F/S	P-1	Ready to feasibility study
NIA 149	Pre-F/S	P-1	Ready to feasibility study
NIA 150	Pre-F/S	P-1	Ready to feasibility study
NIA 152	Pre-F/S	P-1	Ready to feasibility study
NIA 154	Pre-F/S	P-1	Ready to feasibility study
NIA 157	Pre-F/S	P-1	Ready to feasibility study
NIA 158	Pre-F/S	P-2	Review of pre-feasibility study
NIA 163	Pre-F/S	P-2	Review of pre-feasibility study
NIA 186	Pre-F/S	P-1	Ready to feasibility study
NIA 187	Pre-F/S	P-1	Ready to feasibility study
NIA 188	Pre-F/S	P-1	Ready to feasibility study
NIA 190	Pre-F/S	P-1	Ready to feasibility study
BSWM 1	D/D	D-3	Review of project planning
BSWM 2	D/D	D-4	Raising dam height and review of project planning
BSWM 3 *	D/D	D-4	Raising dam height and review of project planning
BSWM 4	D/D	D-1	Ready to construction
BSWM 5	D/D	D-2	Raising dam height
BSWM 6	D/D	D-4	Raising dam height and review of project planning
BSWM 7	D/D	D-2	Raising dam height
BSWM 8	D/D	D-1	Ready to construction
BSWM 9	D/D	D-1	Ready to construction
BSWM 10	D/D	D-1	Ready to construction
BSWM 11	D/D	D-2	Raising dam height
BSWM 12	D/D	D-1	Ready to construction
BSWM 13	D/D	D-3	Review of project planning
BSWM 14	D/D	D-1	Ready to construction
BSWM 15	D/D	D-2	No drawing
BSWM 16	D/D	D-1	Ready to construction
BSWM 17	D/D	D-1	Ready to construction
BSWM 18	D/D	D-1	Ready to construction
BSWM 19	D/D	D-1	Ready to construction
BSWM 20	D/D	D-1	Ready to construction
BSWM 21	D/D	D-3	Review of project planning
BSWM 23	D/D	D-4	Raising dam height and review of project planning
BSWM 24	D/D	D-4	Raising dam height and review of project planning
BSWM 25	D/D	D-1	Ready to construction
BSWM 26	D/D	D-3	Review of project planning
BSWM 27	D/D	D-3	Review of project planning
BSWM 28	D/D	D-3	Review of project planning
BSWM 29	D/D	D-1	Ready to construction
BSWM 30	D/D	D-2	Raising dam height
BSWM 31	D/D	D-1	Ready to construction
BSWM 32	D/D	D-1	Ready to construction
BSWM 33	D/D	D-2	No drawing, raising dam height
BSWM 34	D/D	D-2	Raising dam height
BSWM 35	D/D	D-2	Raising dam height
BSWM 36	D/D	D-1	Ready to construction
BSWM 37	D/D	D-2	Raising dam height
BSWM 38	D/D	D-1	Ready to construction
BSWM 39	D/D	D-2	Raising dam height

Table I.3.1 Summary of Results of Technical Assessment (5/4)

Agency No.	Present Status	Group of Tech.Assess.	Next Step and Major Review Works
BSWM 40	O/D	D-2	Raising dam height
BSWM 41	D/D	D-1	Ready to construction
BSWM 42	O/O	D-1	Ready to construction
BSWM 43	O/D	D-2	Raising dam height
BSWM 44	D/D	D-4	Raising dam height and review of project planning
BSWM 45	D/D	D-2	Raising dam height
BSWM 46	O/O	D-1	Ready to construction
BSWM 47	D/D	D-1	Ready to construction
BSWM 48	D/D	D-1	Ready to construction
BSWM 49	O/O	D-1	Ready to construction
BSWM 50	O/D	D-1	Ready to construction
BSWM 51	D/O	D-2	Raising dam height
BSWM 52	O/O	D-1	Ready to construction
BSWM 56	O/O	D-1	Ready to construction
BSWM 57	D/O	D-1	Ready to construction
BSWM 58	D/D	D-1	Ready to construction
BSWM 59	O/O	D-1	Ready to construction
BSWM 60	D/D	D-2	Raising dam height
BSWM 61 *	D/D	D-1	Ready to construction
BSWM 62 *	D/D	D-2	Raising dam height
BSWM 63	O/O	D-1	Ready to construction
BSWM 64	D/O	D-1	Ready to construction
BSWM 65 *	D/D	D-3	Review of project planning
BSWM 66	O/O	D-1	Ready to construction
BSWM 67	D/D	D-1	Ready to construction
BSWM 68	D/O	D-1	Ready to construction
BSWM 69	O/O	D-2	Raising dam height
BSWM 70	D/O	D-1	Ready to construction
BSWM 71	D/D	D-2	Raising dam height
BSWM 72	O/O	D-1	Ready to construction
BSWM 73 *	O/O	D-1	Ready to construction
BSWM 74	O/O	D-1	Ready to construction
BSWM 75	D/O	D-1	Ready to construction
BSWM 76	O/O	D-3	Review of project planning
BSWM 77 *	O/O	D-1	Ready to construction
BSWM 78	D/O	D-1	Ready to construction
BSWM 79 *	D/D	D-1	Ready to construction
BSWM 80 *	O/O	D-2	Raising dam height
BSWM 82 *	D/O	D-4	Raising dam height and review of project planning
BSWM 83 *	D/D	D-2	Raising dam height
BSWM 84	D/D	D-1	Ready to construction
BSWM 85 *	D/O	D-2	Raising dam height
BSWM 86	D/D	D-1	Ready to construction
BSWM 87	D/D	D-2	Raising dam height
BSWM 88 *	O/O	D-2	Raising dam height
BSWM 89	D/D	D-2	Raising dam height
BSWM 90 *	D/O	D-1	Ready to construction
BSWM 91 *	D/D	D-1	Ready to construction
BSWM 92	O/O	D-2	Layout of spillway
BSWM 93	O/D	D-1	Ready to construction
BSWM 94	D/D	D-1	Ready to construction
BSWM 95	D/O	D-1	Ready to construction
BSWM 96	D/O	D-1	Ready to construction
BSWM 97	D/D	D-1	Ready to construction
BSWM 98 *	D/O	D-1	Ready to construction
BSWM 99 *	D/O	D-1	Ready to construction
BSWM 100	D/D	D-1	Ready to construction
BSWM 101	D/D	D-1	Ready to construction
BSWM 102	O/D	D-1	Ready to construction
BSWM 103	O/O	D-1	Ready to construction
BSWM 108	O/O	D-3	Review of project planning
BSWM 109	D/D	D-1	Ready to construction
BSWM 110 *	O/O	D-1	Ready to construction
BSWM 111 *	O/D	D-2	Raising dam height
BSWM 112 *	D/D	D-1	Ready to construction
BSWM 113	O/O	D-1	Ready to construction
BSWM 114 *	O/D	D-1	Ready to construction

Table I.3.1 Summary of Results of Technical Assessment (4/4)

Agency No.	Present Status	Group of Tech.Assess.	Next Step and Major Review Works
BSWM 115	D/D	D-3	Review of project planning
BSWM 117 *	D/D	D-1	Ready to construction
BSWM 118	D/D	D-1	Ready to construction
BSWM 119	D/D	D-1	Ready to construction
BSWM 120 *	D/D	D-1	Ready to construction
BSWM 121	D/D	D-1	Ready to construction
BSWM 122	D/D	D-1	Ready to construction
BSWM 123	D/D	D-1	Ready to construction
BSWM 124	D/D	D-1	Ready to construction
BSWM 125	D/D	D-1	Ready to construction
BSWM 126	D/D	D-1	Ready to construction
BSWM 127	D/D	D-1	Ready to construction
BSWM 128	D/D	D-1	Ready to construction
BSWM 129	D/D	D-1	Ready to construction
BSWM 130	D/D	D-2	Raising dam height
BSWM 131 *	D/D	D-1	Ready to construction
BSWM 132	D/D	D-1	Ready to construction
BSWM 133 *	D/D	D-1	Ready to construction
BSWM 134 *	D/D	D-4	Raising dam height
BSWM 135 *	D/D	D-1	Ready to construction
BSWM 136	D/D	D-1	Ready to construction
BSWM 137	D/D	D-1	Ready to construction
BSWM 138	D/D	D-1	Ready to construction
BSWM 139 *	D/D	D-1	Ready to construction
BSWM 140	D/D	D-2	Raising dam height
BSWM 141 *	D/D	D-1	Ready to construction
BSWM 142	D/D	D-1	Ready to construction
BSWM 143 *	D/D	D-1	Ready to construction
BSWM 144	D/D	D-1	Ready to construction
BSWM 145 *	D/D	D-1	Ready to construction
BSWM 146	D/D	D-1	Ready to construction
BSWM 147	D/D	D-1	Ready to construction
BSWM 149 *	D/D	D-2	Raising dam height
BSWM 150	D/D	D-1	Ready to construction
BSWM 151	D/D	D-1	Ready to construction

Note: * ; Candidate projects for DECF-SWIM Projects

ANNEX J

IMPLEMENTATION SCHEDULE

ANNEX J IMPLEMENTATION SCHEDULE

Table of Contents

	<u>Page</u>
1. BASIC CONCEPT FOR PREPARATION OF IMPLEMENTATION SCHEDULE	J-1
2. REQUIRED STUDIES AND WORKS	J-2
2.1 Pre-construction Activities and Implementation of Priority Projects	J-2
2.2 Re-study of Those Projects with less than 10 % of EIRR	J-3
2.3 OECF-SWIM Candidate Projects	J-4
2.4 Feasibility Studies of Those Projects without Studies . .	J-5
3. FRAMEWORK OF 10 YEAR ACTION PROGRAM	J-6
4. IMPLEMENTATION SCHEDULE	J-8

List of Tables

	<u>Page</u>
Table J.4.1 Present Status of Implementation of Project (1/2) . . .	J-10
Table J.4.1 Present Status of Implementation of Project (2/2) . . .	J-11

List of Figures

	<u>Page</u>
Fig. J.3.1 FRAMEWORK OF 10-YEAR ACTION PROGRAM	J-12
Fig. J.4.1 IMPLEMENTATION SCHEDULE (1/6)	J-13
Fig. J.4.1 IMPLEMENTATION SCHEDULE (2/6)	J-14
Fig. J.4.1 IMPLEMENTATION SCHEDULE (3/6)	J-15
Fig. J.4.1 IMPLEMENTATION SCHEDULE (4/6)	J-16
Fig. J.4.1 IMPLEMENTATION SCHEDULE (5/6)	J-17
Fig. J.4.1 IMPLEMENTATION SCHEDULE (6/6)	J-18

ANNEX J IMPLEMENTATION SCHEDULE

1. BASIC CONCEPT FOR PREPARATION OF IMPLEMENTATION SCHEDULE

The 230 "Qualified Projects" will be implemented during either range of the first or second five years of the 10 Year Action Program (1991-2000). The implementation schedule is prepared under the following considerations:

- (1) The implementation schedule is prepared on half yearly basis.
- (2) The required time for implementation of project is determined by adding construction period of 0.5 to 2 years and the required time for pre-construction works including review works of the previous study, if required.
- (3) The above pre-construction works from feasibility study up to commencement of construction will be continuously done without any idle time for implementation procedure, because all projects are already qualified to be implemented in the 10 Year Action Program.
- (4) Implementation of project can be commenced from the first year of the 10 Year Action Program on the assumption that budget arrangement for the first year shall be done before commencement of the 10 Year Action Program.
- (5) Commencement year of implementation of each project is determined, considering annual fund requirement and equitable regional distribution of fund for the projects.

2. REQUIRED STUDIES AND WORKS

2.1 Pre-construction Activities and Implementation of Priority Projects

The 230 "Qualified Projects" will be implemented during either range of the first or second five years of the 10 Year Action Program. The present status of the "Qualified Projects" are summarized as follows:

(Unit: No. of project)

Implementing Agency	Pre-F/S Completed	F/S Completed	D/D Completed	Total
DPWH	10	4	9	23
NIA	59	0	8	67
BSWM	0	0	140	140
Total	69	4	157	230

The pre-construction works to be completed before construction will be orderly conducted within the following period:

Pre-construction Works	Period
(1) Feasibility study	6 months
(2) Detailed design	6 months
(3) Preparatory works; including land acquisition and contract administration works, etc.	6 months

In addition to the above pre-construction works, the review works such as the re-study of project planning for the projects with less than 10% of EIRR and/or the review works of dam design will be done prior to the preparatory works if they are necessary based on the results of the technical assessment of the projects as mentioned in ANNEX I.

The study on watershed protection works if required will also be made prior to the construction of the project during the following period:

- (1) For Pre-F/S completed project: within the forthcoming feasibility study
- (2) For F/S completed project : within the forthcoming detailed design
- (3) For D/D completed project : within the preparatory works for construction

The necessary pre-construction works for different present status of project are orderly as follows:

Pre-F/S Completed	F/S Completed	D/D Completed
(Review Works)	(Review Works)	(Review Works)
Feasibility Study (Study on Watershed Protection Works)		
Detailed Design	Detailed Design (Study on Watershed Protection Works)	
Preparatory Works	Preparatory Works	Preparatory Works (Study on Watershed Protection Works)
(Construction)	(Construction)	(Construction)

2.2 Re-study of Those Projects with less than 10% of EIRR

According to the results of re-evaluation of the EIRR of project, there exist 34 projects with less than 10% of EIRR as follows:

(Unit: No. of project)

Implementing Agency	Pre-F/S Completed	F/S Completed	D/D Completed	Total
DPWH	3	1	4 (2)	8
NIA	11	0	1 (1)	12
BSWM	0	0	14 (5)	14
Total	14	1	19 (8)	34

Remarks: Figures in the parentheses show the number of projects of which detailed design of dam shall also be reviewed.

In order to re-formulate the projects for confirmation of economic viability and technical soundness, the re-study of those projects with less than 10% of EIRR will be made within the first three years of the 10 Year Action Program. The re-study will be made for different present status of the projects as follows:

- D/D completed projects; re-study of project planning on feasibility level (if review of detailed design is necessary, it will be made at the same time.)
- F/S completed projects; re-study of project planning on feasibility level
- Pre-F/S completed projects; re-study of project planning on pre-feasibility level

Based on the results of the re-study, the projects which have economic viability and technical soundness will be implemented during the second five years of the 10 Year Action Program.

2.3 OECP-SWIM Candidate Projects

Out of the 230 "Qualified Projects", the 39 projects of which the detailed designs are already completed are nominated to be implemented under

the 14th OECF Yen Loan as follows:

Implementing Agency	No. of Projects
DPWH	3
NIA	5
BSWM	31
Total	39

The 39 OECF-SWIM projects will be basically implemented during the first five years of the 10 Year Action Program. The selection of project for implementation under the Loan is subject to further review of the projects under the OECF SWIM Projects.

2.4 Feasibility Studies of Those Projects without Studies

Besides the 230 "Qualified Projects", there exist 170 projects which are nominated in this Study but not supported with any data and report as follows:

Agency	No. of Projects
DPWH	6
NIA	128
BSWM	7
FMB	29
Total	170

In order to materialize for preparation of the next 10 year action program (2001-2010) of the SWIM projects, the feasibility studies for the above projects will be made within the 10 Year Action Program (1991-2000).

3. FRAMEWORK OF 10 YEAR ACTION PROGRAM

The proposed framework of the 10 Year Action Program is shown in Fig.J.3.1. The 10 Year Action Program is formulated within the following framework:

(1) The 230 "Qualified Projects" will be implemented as follows:

(a) The 118 projects including OECF-SWIM projects which are categorized into the Group "A" based on the results of priority ranking study will be implemented during the first five years.

Implementing Agency	No. of Projects
DPWH	9 (3)
NIA	30 (5)
BSWM	79 (31)
Total	118 (39)

Remarks : Figures in the parenthesis show the number of OECF projects.

The 39 projects financed by 14th OECF Loan will be basically implemented during the first five years. However, selection of project for implementation is subject to further review under the OECF SWIM Projects.

(b) The following Group "B" projects (112 nos.) will be implemented during the second five years:

Implementing Agency	No. of Projects
DPWH	14 (8)
NIA	37 (12)
BSWM	61 (14)
Total	112 (34)

Remarks : Figures in the parenthesis show the number of projects with less than 10% of EIRR.

Review works of project planning of 34 projects of which the EIRR's are less than 10% will be made during the first three years.

- (2) Feasibility study for approximate 300 projects including 170 projects which are categorized as "projects which have no data" in the Study, will be prepared for the next 10 year action program (2001-2000).

The allocation of 170 projects which are not supported with data and reports is as follows:

Implementing Agency	No. of Projects
DPWH	6
NIA	128
BSWM	7
not allocated	29
Total	170

Before conducting feasibility study, allocation of 159 projects including the unallocated above 29 projects and remaining 130 projects to the implementing agencies will be determined through the SWIM-TWG meeting.

- (3) Implementation schedule of the second five years will be revised in the fourth year, considering the results of review works for the projects of which the EIRR's are less than 10% and the results of selection of projects under the OECF SWIM Projects. Furthermore, some of the projects of which feasibility studies are newly prepared may be incorporated in the implementation schedule of the second five years.

- (4) The next 10 year action program will be prepared in the 9th year through the same procedure for prioritization of projects applied in this Study, based on the results of feasibility studies for approximate 300 projects.

4. IMPLEMENTATION SCHEDULE

The implementation schedule of each SWIM project is prepared based on the following premises and procedure:

- (1) Referring to the results of technical assessment, there are 59 projects in the five years and 41 projects in the second five years of which detailed design is completed and ready to construction. They will be implemented in early stage of both five years.
- (2) Commencement year of implementation of each project is determined so as to gradually increase the annual fund requirements for 10 years.
- (3) The total required period for implementation of each project is determined based on the required period for pre-construction works and construction period. Construction period for each project is determined based on the following procedure:
 - (a) Construction will be basically commenced from January or July.
 - (a) Mobilization and construction of access road and river diversion works will be made within two (2) months from commencement.
 - (b) Stripping of top soil of foundation for dam and appurtenant structures will be done within 10% period of required period for dam embankment.
 - (c) Operation rate for dam embankment is determined as:
 - Embankment will be done using construction machinery such as dump truck, tamping roller and vibration roller.
 - Daily working hour is 7 hours.

- Daily embankment volume is 1,000 m³/day.
- Monthly operation rate of embankment is:

Average Monthly Rainfall	Operation Rate
0 - 150 mm	80%
150 - 300 mm	40%
more than 300 mm	20%

- (d) Construction period of spillway is not counted for total construction period, because spillway will be constructed in parallel with dam embankment.
- (e) Construction of outlet works is:
 - for DPWH and NIA projects: 2 months
 - for BSWM projects: 1 month
- (f) The above periods are accumulated and rounded up on half yearly basis. Construction period for specific facilities such as irrigation, mini-hydropower and water supply is not accumulated to total construction period, because those construction will be done in parallel with dam construction.

The project status of the each project for implementation is summarized in Table J.4.1. The implementation schedule for each project is shown in Fig.J.4.1.

TABLES

Table J.4.1 Present Status of Implementation of Project (1/2)

(1) For 1st Five Years:

(a) D/D Completed Projects (Unit: number of project)

Group	Status	DPWH	NIA	BSWM	Total
D-1	Ready to Construction	2(2)	2(1)	55(20)	59(23)
D-2	Review of D/D	1(1)	2(2)	20 (7)	23(10)
D-3	Review of F/S	0(0)	0(0)	1 (1)	1 (1)
D-4	Review of F/S & D/D	0(0)	2(2)	3 (3)	5 (5)
Sub-Total		3(3)	6(5)	79(31)	88(39)

(b) F/S Completed Project;

Group	Status	DPWH	NIA	BSWM	Total
F-1	Ready to D/D	0	0	0	0
F-2	Review of F/S	0	0	0	0
F-3	Repeat of F/S	0	0	0	0
Sub-Total		0	0	0	0

(c) Pre-F/S Completed Project;

Group	Status	DPWH	NIA	BSWM	Total
P-1	Ready to F/S	6	24	0	30
P-2	Review of Pre-F/S	0	0	0	0
Sub-Total		6	24	0	30
Total		9(3)	30(5)	79(31)	118(39)

Note: Figures in the parenthesis show the number of OECF-SWIM Projects.

Table J.4.1 Present Status of Implementation of Project (2/2)

(2) For 2nd Five Years

(a) D/D Completed Project; (Unit: number of project)

Group	Status	DPWH	NIA	BSWM	Total
D-1	Ready to Construction	2	1	38	41
D-2	Review of D/D	0	0	9	9
D-3	Review of F/S	2	0	9	11
D-4	Review of F/S & D/D	2	1	5	8
Sub-Total		6	2	61	69

(b) F/S Completed Project;

Group	Status	DPWH	NIA	BSWM	Total
F-1	Ready to D/D	2	0	0	2
F-2	Review of F/S	1	0	0	1
F-3	Repeat of F/S	1	0	0	1
Sub-Total		4	0	0	4

(c) Pre-F/S Completed Project;

Group	Status	DPWH	NIA	BSWM	Total
P-1	Ready to F/S	1	24	0	55
P-2	Review of Pre-F/S	3	11	0	14
Sub-Total		4	35	0	69
Total		14	37	61	112
Grand Total		23(3)	67(5)	140(31)	230(39)

Note: Figures in the parentheses show the number of OECF-SWIM projects.

Fig. J.3.1 FRAMEWORK OF 10-YEAR ACTION PROGRAM

Item	10-Year Period										
	1st Five Year					2nd Five Year					
	'91	'92	'93	'94	'95	'96	'97	'98	'99	2000	
1. Implementation of Qualified Projects (230 Projects)											
(1) Group "A" Projects (118 Projects)											
EIRR >= 10% (78 Projects)											
- D/D Completed Projects (48)											
- Ready to construction 36	Construction										
- Review of D/D 13	Rev. of D/D and Const.										
- F/S Completed Projects (0)											
- Pre-F/S Completed Projects (30)											
- Ready to F/S 30	F/S, D/D and Const.										
OECF Projects (39 Projects)*1											
- Projects to be implemented	Construction										
- Projects to be not implemented	Review of F/S										
(2) Group "B" Projects (112 Projects)											
EIRR >= 10% (78 Projects)											
- D/D Completed Projects (50)											
- Ready to construction 41						Construction					
- Review of D/D 9						Rev. of D/D and Const.					
- F/S Completed Projects (3)											
- Ready to D/D 2						D/D and Construction					
- Repeat from F/S 1						F/S, D/D and Const.					
- Pre-F/S Completed Projects (25)											
- Ready to F/S 25						F/S, D/D and Const.					
EIRR < 10% (34 Projects)											
- D/D Completed Projects (19)											
- Review of F/S 11	Review of F/S					Construction					
- Review of F/S & D/D 8	Review of F/S & D/D					Construction					
- F/S Completed Projects (1)											
- Review of F/S 1	Review of F/S					D/D and Construction					
- Pre-F/S Completed Projects (14)											
- Review of Pre-F/S 14	Review of Pre-F/S					F/S, D/D and Const.					
2. Preparation of Implementation Schedule for 2nd Five Year											
3. Preparation of Feasibility Study for Projects not supported with data (300 Projects)*2	F/S					F/S					
4. Preparation of Next 10 Year Action Program											

Note*1: Subject to further review under the OECF SWIM Projects financed by 14th OECF Loan

*2: (1) Approximate required number of projects for Next 10 Year Action Program

(2) Including 170 projects categorized as "projects which have no existing data"

(3) Some of projects will be scheduled to be implemented in the 2nd Five Year.

FIG. J.4.1 IMPLEMENTATION SCHEDULE (1/6)

F/S: Feasibility Study
 D/D: Detailed Design
 P/N: Preparatory Work
 CON: Construction

W/S: Study for Waterbed Protection
 REV: Review of Previous Study
 * : The implementation schedules will be determined under the OECF SWM Project.

IMPLEMENTATION SCHEDULE

:Rank :No.	: Agency No. : of : Province	: Name	: 1991		: 1992		: 1993		: 1994		: 1995		: 1996		: 1997		: 1998		: 1999		: 2000	
			: 1st	: 2nd	: 1st	: 2nd	: 1st	: 2nd	: 1st	: 2nd	: 1st	: 2nd	: 1st	: 2nd	: 1st	: 2nd	: 1st	: 2nd	: 1st	: 2nd		
DPWH																						
"A" Group																						
(1) IRR-10%																						
:	1	DPWH	21	1	PANGASINAN	F/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	2	DPWH	19	1	PANGASINAN	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	3	DPWH	25	2	ISABELA	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	4	DPWH	27	2	ISABELA	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	5	DPWH	20	1	PANGASINAN	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	6	DPWH	17	1	PANGASINAN	F/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
OECF Projects																						
:	7	DPWH	2	2	CAR - KALINGA-AGUAYO																	
:	8	DPWH	15	12	NORTH COTABATO																	
:	9	DPWH	9	4	RIZAL																	
"B" Group																						
(1) IRR-10%																						
:	10	DPWH	13	8	NORTHERN SAMAR																	
:	11	DPWH	33	11	DANAO DEL NORTE																	
:	12	DPWH	14	12	DANAO DEL SUR																	
:	13	DPWH	25	2	RIEVA VIZCAYA																	
:	14	DPWH	11	5	MASATE																	
:	15	DPWH	16	12	NORTH COTABATO																	
(2) IRR-10%																						
:	16	DPWH	28	4	COR. MIKODIJO	REV																
:	17	DPWH	18	1	PANGASINAN	REV																
:	18	DPWH	22	6	LOLO	REV																
:	19	DPWH	6	4	PALAMAN	REV																
:	20	DPWH	7	4	QUEZON	REV																
:	21	DPWH	8	4	RIZAL	REV																
:	22	DPWH	3	3	BATAAH	REV																
:	23	DPWH	1	1	ILA UNION	REV																
MIA																						
"A" Group																						
(1) IRR-10%																						
:	1	MIA	132	7	BONDOL	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	2	MIA	136	7	BONDOL	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	3	MIA	139	7	BONDOL	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	4	MIA	49	3	MIEVA ECLJA	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	5	MIA	111	5	SORSOGON	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	6	MIA	112	7	BONDOL	F/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	7	MIA	133	7	BONDOL	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	8	MIA	12	7	BONDOL	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	9	MIA	138	7	BONDOL	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	10	MIA	141	7	BONDOL	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	
:	11	MIA	130	7	BONDOL	F/S&W/S	D/D	P/N	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	CON	

Fig. J.4.1 IMPLEMENTATION SCHEDULE (2/6)

F/S: Feasibility Study
 D/S: Detailed Design
 P/N: Preparatory Work
 CON: Construction

W/S: Study for Watershed Protection
 REV: Review of Previous Study
 * : The implementation schedules will be determined under the DECF SHM Project.

IMPLEMENTATION SCHEDULE

Rank No.	Agency No.	Region	Name of Province	1st Five Year				2nd Five Year												
				1991	1992	1993	1994	1995	1996	1997	1998	1999	2000							
12	NIA 27	1	PANGASINAN	F/S&W/S	D/D	P/N	CON													
13	NIA 102	5	MASBATE	F/S&W/S	D/D	P/N	CON													
14	NIA 131	7	BOHOL	F/S&W/S	D/D	P/N	CON													
15	NIA 139	7	BOHOL		F/S&W/S	D/D	P/N	CON												
16	NIA 128	7	BOHOL		F/S&W/S	D/D	P/N	CON												
17	NIA 52	3	NEIVA ECLJA		F/S&W/S	D/D	P/N	CON												
18	NIA 101	5	MASBATE		F/S&W/S	D/D	P/N	CON												
19	NIA 25	1	PANGASINAN		F/S&W/S	D/D	P/N	CON												
20	NIA 152	7	NEGROS ORIENTAL		F/S	D/D	P/N	CON												
21	NIA 99	5	MASBATE		F/S&W/S	D/D	P/N	CON												
22	NIA 120	7	BOHOL		F/S&W/S	D/D	P/N	CON												
23	NIA 57	3	TARLAC		F/S&W/S	D/D	P/N	CON												
24	NIA 108	5	MASBATE		F/S	D/D	P/N	CON												
25	NIA 98	5	MASBATE		F/S	D/D	P/N	CON												
DECF Projects																				
26	NIA 6	5	MASBATE																	
27	NIA 7	5	CAMPANINES SUR																	
28	NIA 4	4	ROMBLON																	
29	NIA 15	9	ZAMBONICA D.SU																	
30	NIA 11	7	BOHOL																	
"B" Group																				
(1) IRR-10%																				
31	NIA 47	3	NEIVA ECLJA							F/S	D/D	P/N	CON							
32	NIA 106	5	MASBATE							F/S&W/S	D/D	P/N	CON							
33	NIA 154	7	NEGROS ORIENTAL							F/S&W/S	D/D	P/N	CON							
34	NIA 121	7	BOHOL							F/S&W/S	D/D	P/N	CON							
35	NIA 48	3	NEIVA ECLJA							F/S	D/D	P/N	CON							
36	NIA 107	5	MASBATE							F/S&W/S	D/D	P/N	CON							
37	NIA 29	1	PANGASINAN							F/S	D/D	P/N	CON							
38	NIA 59	3	TARLAC							F/S	D/D	P/N	CON							
39	NIA 97	5	MASBATE							F/S&W/S	D/D	P/N	CON							
40	NIA 150	7	CEBU							F/S&W/S	D/D	P/N	CON							
41	NIA 100	5	MASBATE							F/S&W/S	D/D	P/N	CON							
42	NIA 58	3	TARLAC							F/S&W/S	D/D	P/N	CON							
43	NIA 14	8	NORTHERN SAMAR							W/S	P/N	CON	CON							
44	NIA 106	8	SOUTHERN LEYTE							F/S&W/S	D/D	P/N	CON							
45	NIA 147	7	CEBU							F/S&W/S	D/D	P/N	CON							
46	NIA 104	5	MASBATE							F/S	D/D	P/N	CON							
47	NIA 103	5	MASBATE							F/S	D/D	P/N	CON							
48	NIA 190	6	SOUTHERN LEYTE							F/S&W/S	D/D	P/N	CON							
49	NIA 20	1	LA UNION							F/S&W/S	D/D	P/N	CON							
50	NIA 187	8	SOUTHERN LEYTE							F/S&W/S	D/D	P/N	CON							
51	NIA 157	7	NEGROS ORIENTAL							F/S&W/S	D/D	P/N	CON							
52	NIA 21	1	LA UNION							F/S&W/S	D/D	P/N	CON							
53	NIA 149	7	CEBU							F/S&W/S	D/D	P/N	CON							

Fig. J.4.1 IMPLEMENTATION SCHEDULE (3/6)

F/S: Feasibility Study
 D/D: Detailed Design
 P/M: Preparatory Work
 CON: Construction

W/S: Study for Watershed Protection
 REV: Review of Previous Study
 * : The implementation schedules will be determined under the OECF SHIM Project.

IMPLEMENTATION SCHEDULE

Rank No.	Agency No.	Region	Name of Province	1991		1992		1993		1994		1995		1996		1997		1998		1999		2000	
				1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
54	NIA 188	6	SOUTHERN LETYE																				
55	NIA 148	7	CEBU																				
(7) IRR-LOA																							
56	NIA 22	1	LA UNION																				
57	NIA 31	1	PANGASTIMAN																				
58	NIA 182	7	SITOUJOR																				
59	NIA 23	1	LA UNION																				
60	NIA 158	7	NEGROS ORIENTAL																				
61	NIA 9	7	NEGROS ORIENTAL																				
62	NIA 56	3	PAMPANGA																				
63	NIA 32	1	PANGASTIMAN																				
64	NIA 26	1	PANGASTIMAN																				
65	NIA 72	4	LAGUNA																				
66	NIA 55	3	PAMPANGA																				
67	NIA 122	7	BOROL																				

BSNM

"A" Group

(1) IRR-LOA																							
1	BSNM 8	1	PANGASTIMAN																				
2	BSNM 35	2	SABELA																				
3	BSNM 19	1	PANGASTIMAN																				
4	BSNM 45	2	SABELA																				
5	BSNM 17	1	PANGASTIMAN																				
6	BSNM 144	12	MAGUINDAWAO																				
7	BSNM 74	3	NUOVA ECLJA																				
8	BSNM 63	3	NUOVA ECLJA																				
9	BSNM 51	2	SABELA																				
10	BSNM 16	1	PANGASTIMAN																				
11	BSNM 37	2	SABELA																				
12	BSNM 15	1	PANGASTIMAN																				
13	BSNM 127	10	BUKIDNON																				
14	BSNM 102	7	BOROL																				
15	BSNM 72	3	NUOVA ECLJA																				
16	BSNM 32	2	SABELA																				
17	BSNM 9	1	PANGASTIMAN																				
18	BSNM 103	7	BOROL																				
19	BSNM 96	7	BOROL																				
20	BSNM 49	2	SABELA																				
21	BSNM 64	3	NUOVA ECLJA																				
22	BSNM 138	11	DAVAO DEL NORTE																				
23	BSNM 14	1	PANGASTIMAN																				
24	BSNM 46	2	OURIWO																				
25	BSNM 124	10	BUKIDNON																				
26	BSNM 18	1	PANGASTIMAN																				

Fig. J.4.1 IMPLEMENTATION SCHEDULE (4/6)

F/S: Feasibility Study
 D/D: Detailed Design
 P/A: Preparatory work
 CON: Construction

W/S: Study for Watershed Protection
 REV: Review of Previous Study
 * : The implementation schedules will be determined under the DECF SHIP Project.

IMPLEMENTATION SCHEDULE

Rank No.	Agency No	Region	Name of Province	1991		1992		1993		1994		1995		1996		1997		1998		1999		2000	
				1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
27	BSMH 94	6	ANTIQUE																				
28	BSMH 97	7	BORNEO																				
29	BSMH 71	3	BUENAVISTA																				
30	BSMH 60	3	BUENAVISTA																				
31	BSMH 147	12	SULUTAN KUDARAT																				
32	BSMH 95	7	BORNEO																				
33	BSMH 42	2	ISABELA																				
34	BSMH 31	2	ISABELA																				
35	BSMH 69	3	BUENAVISTA																				
36	BSMH 34	2	BUENAVISTA																				
37	BSMH 43	2	QUIRINO																				
38	BSMH 36	2	BUENAVISTA																				
39	BSMH 140	11	DAVAO DEL NORTE																				
40	BSMH 75	3	BUENAVISTA																				
41	BSMH 67	3	BUENAVISTA																				
42	BSMH 40	2	BUENAVISTA																				
43	BSMH 150	12	SULUTAN KUDARAT																				
44	BSMH 59	2	CAGAYAN																				
45	BSMH 128	10	AGUSAN D. NORTE																				
46	BSMH 83	2	CAGAYAN																				
47	BSMH 130	10	AGUSAN D. NORTE																				
48	BSMH 66	3	BUENAVISTA																				
DECF Projects																							
49	BSMH 3	1	ILIGOS SUR																				
50	BSMH 85	5	PALAY																				
51	BSMH 120	9	ZAMBOANGA D. SUR																				
52	BSMH 83	5	CAMARINES NORTE																				
53	BSMH 114	8	EASTERN SAMAR																				
54	BSMH 82	5	MASBATE																				
55	BSMH 111	8	EASTERN SAMAR																				
56	BSMH 139	11	DAVAO DEL NORTE																				
57	BSMH 99	7	NEGROS ORIENTAL																				
58	BSMH 80	4	OCCIDENTAL MINDORO																				
59	BSMH 91	6	CAPIZ																				
60	BSMH 141	11	DAVAO DEL SUR																				
61	BSMH 131	10	AGUSAN D. NORTE																				
62	BSMH 79	4	ORIENTAL MINDORO																				
63	BSMH 133	10	BUKIDNON																				
64	BSMH 143	12	NORTH COTABATO																				
65	BSMH 135	11	SOUTH COTABATO																				
66	BSMH 77	4	OCCIDENTAL MINDORO																				
67	BSMH 112	8	LEYTE																				
68	BSMH 145	12	NORTH COTABATO																				
69	BSMH 58	7	BORNEO																				
70	BSMH 73	3	BUENAVISTA																				

Fig. J.4.1 IMPLEMENTATION SCHEDULE (5/6)

F/S: Feasibility Study
 D/D: Detailed Design
 P/W: Preparatory Work
 C/W: Construction

V/S: Study for Watershed Protection
 REV: Review of Previous Study
 * : The implementation schedules will be determined under the OECF SWM Project.

IMPLEMENTATION SCHEDULE

Rank No.	Agency No.	Region	Name of Province	1991		1992		1993		1994		1995		1996		1997		1998		1999		2000	
				1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
71	BSM 88	6	MALABAL																				
72	BSM 65	3	TARLAC																				
73	BSM 217	9	ZAMBANGA D. SUR																				
74	BSM 149	12	SULTAN KUDARAT																				
75	BSM 90	8	MARTINE																				
76	BSM 110	8	SOUTHERN SAMAR																				
77	BSM 134	11	DAVAO ORIENTAL																				
78	BSM 62	3	TARLAC																				
79	BSM 61	3	MINDANAO																				
g Group																							
(1) IRR-10%																							
80	BSM 109	8	WESTERN SAMAR																				
81	BSM 20	1	ILOCOS NORTE																				
82	BSM 100	7	NEGROS ORIENTAL																				
83	BSM 5	1	ILOCOS NORTE																				
84	BSM 84	5	CAMARINES NORTE																				
85	BSM 30	2	MINDANAO																				
86	BSM 52	2	ISABELA																				
87	BSM 10	1	PANGASINAN																				
88	BSM 146	12	NORTH COTABATO																				
89	BSM 123	9	ZAMBANGA D. SUR																				
90	BSM 47	2	QUEZON																				
91	BSM 50	2	ISABELA																				
92	BSM 39	2	CAGAYAN																				
93	BSM 78	4	ORIENT. MINDORO																				
94	BSM 142	11	DAVAO DEL SUR																				
95	BSM 86	5	CANTONABLES																				
96	BSM 119	9	ZAMBANGA D. SUR																				
97	BSM 132	10	MINDANAO																				
98	BSM 57	2	CAGAYAN																				
99	BSM 11	1	ILOCOS NORTE																				
100	BSM 151	12	NORTH COTABATO																				
101	BSM 43	2	ISABELA																				
102	BSM 38	2	MINDANAO																				
103	BSM 92	6	MALABAL																				
104	BSM 7	1	ILOCOS NORTE																				
105	BSM 25	1	ILOCOS NORTE																				
106	BSM 125	10	MINDANAO																				
107	BSM 79	2	CAGAYAN																				
108	BSM 121	9	ZAMBANGA D. SUR																				
109	BSM 101	7	NEGROS ORIENTAL																				
110	BSM 118	9	ZAMBANGA D. SUR																				
111	BSM 93	6	MALABAL																				
112	BSM 129	10	MINDANAO																				
113	BSM 113	8	SOUTHERN SAMAR																				

Fig. J.4.1 IMPLEMENTATION SCHEDULE (6/6)

F/S: Feasibility Study
 D/D: Detailed Design
 P/H: Preparatory Work
 COM: Construction

W/S: Study for Watershed Protection
 REV: Review of Previous Study
 * : The implementation schedules will be determined under the OECF SWM Project.

IMPLEMENTATION SCHEDULE

Rank No.	Agency No.	Name of Region	Province	1991		1992		1993		1994		1995		1996		1997		1998		1999		2000	
				1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
114	BSM 137	11 : SOUTH COTABATO																					
115	BSM 87	6 : Aklan																					
116	BSM 56	2 : CAGAYAN																					
117	BSM 58	2 : CAGAYAN																					
118	BSM 41	2 : NUEVA VISCAYA																					
119	BSM 89	6 : Aklan																					
120	BSM 4	1 : ILOCOS SUR																					
121	BSM 12	1 : ILOCOS SUR																					
122	BSM 126	10 : SURIGAO D. NORTE																					
123	BSM 136	21 : DAVAO ORIENTAL																					
124	BSM 68	3 : BULACAN																					
125	BSM 122	9 : ZAMBONGA D. SUR																					
126	BSM 70	3 : BULACAN																					
(2) TRR-JICA																							
127	BSM 6	1 : ILOCOS NORTE																					
128	BSM 21	1 : ILOCOS NORTE																					
129	BSM 44	2 : CAGAYAN CLAYER																					
130	BSM 1	1 : ILOCOS NORTE																					
131	BSM 28	CAR : ABRA																					
132	BSM 2	1 : ILOCOS SUR																					
133	BSM 76	3 : NUEVA ECLJA																					
134	BSM 26	CAR : ABRA																					
135	BSM 23	1 : ILOCOS NORTE																					
136	BSM 24	1 : ILOCOS NORTE																					
137	BSM 108	8 : MONTERRI SARAR																					
138	BSM 13	1 : ILOCOS NORTE																					
139	BSM 27	CAR : ABRA																					
140	BSM 115	8 : WESTERN SARAR																					

