

8.5 Service Coverage by Target Year

8.5.1 Water Supply

(1) Population to be served by Level II system in Phase I

Fifteen (15) untapped spring sources were listed up as shown in Chapter 7 during the course of PW4SP preparation. One (1) untapped spring source in Basey, among them, may be utilized for Level II system considering the additional population to be served and the required discharge (minimum 0.5 l/s or 40 - 50 m³/d).

Table 8.5.1 Population to be Served by Level II System in Phase I

Name of Municipality/City	Number of Untapped Spring	Number of Barangay to be Served	Number of Households to be Served	Population to be Served
Almagro				
Basey	1	1	100	471
Calbayog City				
Calbiga				
Caibalogan (Capital)				
Daram				
Gandara				
Hinabangan				
Jiabong				
Marabut				
Matuguinao				
Motiong				
Pagsanghan				
Paranas (Wright)				
Pinabacdao				
San Jorge				
San Jose De Buan				
San Sebastian				
Santa Margarita				
Santa Rita				
Santo Niño				
Tagapul-An				
Talalora				
Tarangnan				
Villareal				
Zumarraga				
Provincial Total	1	1	100	471

(2) Population to be served by target year

Phase I

For urban area, the additional service coverage was estimated to be served by Level III service. For rural area, the additional population to be served by Level II systems with untapped springs was first calculated and the rest of additional service coverage was estimated to be served by Level I facilities.

Phase II

For urban area, the population served by Level I and II facilities in base year was considered to be absorbed by Level III service aside from the additional service coverage to be estimated by the sector target. For rural area, all existing facilities in Phase I was assumed to be utilized through the future.

The population to be served by target year is exhibited in Table 8.5.2 and Table 8.5.3.

Table 8.5.2. Population to be Served in Phase I (Water Supply)

Name of Municipality	Area	Population Served in the Base Year					Phase I Coverage (2004)							
		Population Served in the Base Year			Total Population	Service Coverage			Additional Population to be Served					
		Level III	Level II	Level I		Total	Level III	Level II	Level I	Total	Level III	Level II	Level I	Total
Almagro	Urban		222		222	321	76	222		298	76			76
	Rural		1,908	6,366	8,274	11,661		1,908	6,366	8,274				
	Total		2,130	6,366	8,496	11,982	76	2,130	6,366	8,572	76			76
Basy	Urban	3,957	589	3,350	7,896	11,961	6,792	589	3,350	10,731	2,835			2,835
	Rural	6,767	1,083	8,337	16,187	29,142	6,767	1,554	9,719	18,040	471	1,382		1,853
	Total	10,724	1,672	11,687	24,083	41,103	13,559	2,143	13,069	28,771	2,835	471	1,382	4,688
Calbayog City	Urban	39,358	1,729	18,417	59,504	119,709	67,730	1,729	18,417	87,876	28,372			28,372
	Rural	12,588	7,944	22,047	42,579	23,500	12,588	7,944	22,047	23,500				
	Total	51,946	9,673	40,464	102,083	143,209	80,318	9,673	21,385	111,376	28,372			28,372
Calbiga	Urban	3,567			3,567	4,772	4,698			4,698	1,131			1,131
	Rural	5,384		4,799	10,183	14,263	5,384		4,799	10,183				
	Total	8,951		4,799	13,750	19,035	10,082		4,799	14,881	1,131			1,131
Catbalogan (Capital)	Urban	32,979	365	14,834	48,178	59,495	32,979	365	14,834	48,178				
	Rural	2,588	1,033	7,442	11,063	22,753	2,588	1,033	8,889	12,510				
	Total	35,567	1,398	22,276	59,241	82,248	35,567	1,398	23,723	60,688				
Darang	Urban		1,434	5,359	6,793	12,718	3,014	1,434	5,359	9,807	3,014			3,014
	Rural		2,445	14,394	16,839	23,469	2,445	14,394	16,839					
	Total		3,879	19,753	23,632	36,187	3,014	3,879	19,753	26,646	3,014			3,014
Gandara	Urban		210	3,076	3,286	7,121	1,688	210	3,076	4,974	1,688			1,688
	Rural			13,371	13,371	23,775			14,883	14,883				
	Total		210	16,447	16,657	30,896	1,688	210	17,959	19,857	1,688			1,688
Hinabangan	Urban	4,799			4,799	6,100	4,799			4,799				
	Rural			4,408	4,408	6,299			4,408	4,408				
	Total	4,799		4,408	9,207	12,399	4,799		4,408	9,207				
Jiabong	Urban	3,634			3,634	4,647	3,634			3,634				
	Rural		1,526	4,829	6,355	13,603		1,526	5,694	7,220				
	Total	3,634	1,526	4,829	9,989	18,250	3,634	1,526	5,694	10,854				
Marabut	Urban		171	585	756	1,309	310	171	585	1,066	310			310
	Rural		1,482	2,991	4,473	8,855		1,482	3,554	5,036				
	Total		1,653	3,576	5,229	10,164	310	1,653	4,139	6,102	310			610
Mataguinao	Urban		610	1,411	2,021	3,380	801	610	1,411	2,822	801			801
	Rural			955	955	3,238			1,160	1,160				
	Total		610	2,366	2,976	6,608	801	610	2,571	3,982	801			205
Motiong	Urban		1,404	2,329	3,733	5,493	1,302	1,404	2,329	5,035	1,302			1,302
	Rural			4,981	4,981	8,759			5,538	5,538				
	Total		1,404	7,310	8,714	14,252	1,302	1,404	7,867	10,573	1,302			557
Pagsanghan	Urban			648	648	1,715	406		648	1,054	406			406
	Rural			3,981	3,981	6,953			4,423	4,423				
	Total			4,629	4,629	8,668	406		5,071	5,477	406			442

Table 8.5.2. Population to be Served in Phase I (Water Supply) (Cont'd.)

Name of Municipality	Area	Population Served in the Base Year					Phase I Coverage (2004)											
		Level III			Level II		Level I		Total		Service Coverage			Additional Population to be Served				
		Level III	Level II	Level I	Total	Level III	Level II	Level I	Total	Level III	Level II	Level I	Total	Level III	Level II	Level I	Total	
Paranas (Wright)	Urban	2,540	1,282	2,001	5,823	5,577	1,282	2,001	8,840	3,017								3,017
	Rural	370	2,116	5,702	8,188	13,059	370	2,116	6,533	9,019								831
	Total	2,910	3,398	7,703	14,011	25,787	5,927	3,398	8,534	17,859	3,017							3,848
Pinabacdao	Urban			742	742	1,210	287											287
	Rural			7,503	7,503	11,623												
	Total			8,245	8,245	12,833	287											287
San Jorge	Urban		422		422	3,520	834	422										834
	Rural		1,145	6,106	7,251	10,261												834
	Total		1,567	6,106	7,673	13,781	834	1,567	6,106	8,507	834							650
San Jose De Buan	Urban		479	1,135	1,614	2,741	650	479	1,135	2,264	650							254
	Rural		509		509	3,999												254
	Total		988	1,135	1,614	6,740	650	479	1,898	3,027	650							904
San Sebastian	Urban		419		419	2,410	571											571
	Rural		2,589	2,589	4,627													294
	Total		3,008	3,008	7,037	571												865
Santa Margarita	Urban			11,019	11,019	16,868	3,998											3,998
	Rural		1,374		1,374	4,573												291
	Total		12,393	12,393	21,441	3,998												4,289
Santa Rita	Urban		920	6,899	7,819	17,200	4,076	920	6,899	11,895	4,076							4,076
	Rural		667	10,646	11,313	15,502												986
	Total		1,587	17,545	19,132	32,702	4,076	1,587	18,531	24,194	4,076							5,062
Santo Niño	Urban		332	477	809	3,087	732	332	477	1,541	732							732
	Rural		917	4,411	5,328	10,704												681
	Total		1,249	4,888	6,137	13,791	732	1,249	5,569	7,550	732							1,413
Tagapul-An	Urban			789	789	2,307	547											547
	Rural		587	4,119	4,706	6,845												
	Total		587	4,908	5,495	9,152	547	587	4,908	6,042	547							547
Taalora	Urban		75	1,226	1,301	2,230	529	75	1,226	1,830	529							529
	Rural		351	3,474	3,825	4,793												
	Total		426	4,700	5,126	7,023	529	426	4,700	5,655	529							529
Tarangnan	Urban			1,621	1,621	3,702	877											877
	Rural		458	10,043	10,501	18,020												
	Total		458	11,664	12,122	21,722	877	458	11,664	12,999	877							877
Villareal	Urban		160	1,076	1,236	3,543	840	160	1,076	2,076	840							840
	Rural		238	3,167	3,405	19,424												
	Total		398	4,243	4,641	22,967	840	398	4,243	4,641	840							1,235
Zumarraga	Urban			953	953	1,296	307											307
	Rural			10,756	10,756	14,405												
	Total			11,709	11,709	15,701	307											307
Provincial Total	Urban	90,834	10,404	78,366	179,604	311,583	148,034	10,404	78,366	236,803	57,200							57,199
	Rural	27,697	23,900	169,300	220,897	314,095	27,697	24,371	155,071	207,139								471
	Total	118,531	34,304	247,666	400,501	645,678	175,731	34,775	233,437	443,942	57,200							69,215

Table 8.5.3 Population to be Served in Phase II (Water Supply)

Name of Municipality	Area	Population Served in 2004				Phase II Coverage (2010)															
		Population Served in 2004			Total Population	Service Coverage			Additional Population to be Served												
		Level III	Level II	Level I		Total	Level III	Level II	Level I	Total	Level III	Level II	Level I	Total							
Almagro	Urban	76	222		298	351	333		333								257			257	
	Rural		1,908	6,366	8,274	12,766		1,908	9,864	11,872										3,598	3,598
	Total	76	2,130	6,366	8,572	13,117	333	333	1,908	12,205	12,205	257	257							3,598	3,855
Basey	Urban	6,792	589	3,350	10,731	12,152	11,544		1,554	19,214	27,535									9,495	9,495
	Rural	6,767	1,554	9,719	18,040	29,607	6,767	1,554	19,214	39,079	4,752									9,495	14,247
	Total	13,559	2,143	13,069	28,771	41,759	18,311	1,554	19,214	121,092	53,362									19,990	53,362
Calbayog City	Urban	67,730	1,729	18,417	87,876	127,465	121,092		7,944	2,968	23,500										
	Rural	12,588	7,944	2,968	23,500	25,022	12,588		7,944	2,968	144,592										
	Total	80,318	9,673	21,385	111,376	152,487	133,680	7,944	4,698	4,698	137,111										3,528
Calbiga	Urban	4,698			4,698	4,932	4,698		8,327	13,711											
	Rural	5,384	10,082	14,831	29,675	10,082	5,384		8,327	18,409											
	Total	10,082	10,082	14,831	29,675	10,082	5,384		8,327	18,409											26,240
Carabolan (Capital)	Urban	32,979	363	14,834	48,178	62,336	59,219		1,033	18,550	22,171									9,661	9,661
	Rural	2,588	1,033	8,889	12,510	23,840	2,588		1,033	18,550	81,390									9,661	35,901
	Total	35,567	1,398	23,723	60,688	86,176	61,807	1,033	18,550	81,390	26,240									9,661	9,661
Daram	Urban	3,014	1,434	5,350	9,807	13,287	12,623		2,445	20,358	22,803									5,964	5,964
	Rural	2,445	14,594	16,839	34,878	37,806	12,623		2,445	20,358	9,609									5,964	15,573
	Total	3,014	3,879	19,753	26,646	72,694	50,446	12,623	2,445	20,358	32,412	5,604								5,964	21,177
Candara	Urban	1,688	210	3,076	4,974	7,676	7,292		23,835	23,835										8,952	8,952
	Rural	1,688	210	14,883	17,781	25,629	7,292		23,835	31,127	5,604									8,952	14,556
	Total	1,688	210	17,959	19,857	33,305	7,292		23,835	31,127	5,604									8,952	1,073
Hinabangan	Urban	4,799		4,408	4,799	6,181	5,872		5,935	5,935										1,527	1,527
	Rural			4,408	4,408	6,382	4,408		5,935	11,307	1,073									1,527	2,600
	Total	4,799		4,408	9,207	12,563	5,872		5,935	11,307	1,073									1,527	2,600
Jiabong	Urban	3,634			3,634	5,114	4,858		1,526	13,922	1,224									6,702	6,702
	Rural		1,526	5,694	7,220	14,970	4,858		1,526	13,922	1,224									6,702	7,926
	Total	3,634	1,526	5,694	10,854	20,084	4,858		1,526	13,922	1,224									6,702	9,34
Marabut	Urban	310	171	585	1,066	1,309	1,244		1,482	6,636	8,118									3,082	3,082
	Rural		1,482	3,554	5,036	8,729	3,663		1,482	6,636	9,362									3,082	4,016
	Total	310	1,653	4,139	6,102	10,038	1,244		1,482	6,636	9,362									3,082	2,862
Matuguinao	Urban	801	610	1,160	2,822	3,663	3,663		3,424	3,424										2,264	2,264
	Rural		610	1,160	1,770	3,663	3,663		3,424	7,087	2,862									2,264	5,126
	Total	801	1,220	2,320	4,592	7,326	7,326		3,424	7,087	2,862									2,264	7,992
Motiong	Urban	1,302	1,404	5,338	9,197	14,965	5,480		8,553	8,553										3,015	3,015
	Rural		1,404	5,338	9,197	14,965	5,480		8,553	14,033	4,178									3,015	7,193
	Total	1,302	1,404	7,867	14,965	29,930	10,965		8,553	14,033	4,178									3,015	1,388
Pagsanghan	Urban	406		648	1,054	1,858	1,794		7,118	7,118										2,695	2,695
	Rural			4,423	4,423	7,654	1,794		7,118	8,912	1,388									2,695	2,695
	Total	406		5,071	5,477	9,542	1,794		7,118	8,912	1,388									2,695	4,083

Table 8.5.3 Population to be Served in Phase II (Water Supply) (Cont'd.)

Name of Municipality	Area	Population Served in 2004				Phase II Coverage (2010)							
		Total Population			Service Coverage			Additional Population to be Served					
		Level III	Level II	Level I	Total	Level III	Level II	Level I	Total	Level III	Level II	Level I	Total
Pinaras (Wright)	Urban	5,557	1,282	2,001	8,840	12,574			12,574	7,017			7,017
	Rural	370	2,116	6,533	9,019	370	2,116	10,143	12,629			3,610	3,610
	Total	5,927	3,398	8,534	17,859	12,944	2,116	10,143	25,203	7,017		3,610	10,627
Pinaltao	Urban	287		742	1,029	1,224			1,224	937			937
	Rural			7,503	7,503	12,370			11,504	11,504			4,001
	Total	287		8,245	8,532	13,658	1,224		11,504	12,728	937		4,938
San Jorge	Urban	834	422	1,256	3,833	3,641			9,245	10,390			3,139
	Rural		1,145	6,106	7,251	3,641	1,145	9,245	14,031	2,807			2,807
	Total	834	1,567	7,362	11,084	7,282	1,145	9,245	14,031	2,807			2,807
San Jose De Buan	Urban	650	479	763	4,498	2,929			4,183	4,183			3,420
	Rural			1,898	3,027	7,581	2,929		4,183	7,112	2,279		3,420
	Total	650	479	2,661	7,525	10,560	2,929		8,366	11,295	2,279		5,699
San Sebastian	Urban	571		419	990	2,431			4,569	4,569			1,686
	Rural			2,883	2,883	4,913			4,569	7,000	1,860		1,686
	Total	571		3,302	3,873	7,472	2,431		9,138	11,569	3,720		3,372
Santa Margarita	Urban	3,998		11,019	15,017	17,162			4,555	4,555			2,890
	Rural			1,665	1,665	4,898			4,555	4,555			2,890
	Total	3,998		12,684	16,682	22,060	17,162		9,110	9,110			5,780
Santa Rita	Urban	4,076	920	6,899	18,515	17,589			667	14,853	15,520		3,221
	Rural		667	11,632	12,299	16,688			667	14,853	15,520		3,221
	Total	4,076	1,587	18,531	30,814	34,277	17,589		15,520	30,403	31,040		6,442
Santo Niño	Urban	732	332	477	1,541	3,078			917	9,531	10,448		4,439
	Rural			5,092	6,009	11,234			917	9,531	10,448		4,439
	Total	732	332	9,869	11,550	22,272	3,078		9,531	13,226	20,896		8,878
Tagapul-an	Urban	547	587	789	1,336	2,508			587	6,334	6,921		2,215
	Rural			4,119	4,706	7,442			587	6,334	6,921		2,215
	Total	547	587	12,908	16,042	24,884	2,508		6,921	13,266	13,842		4,436
Talaora	Urban	529	351	3,474	3,825	5,000			351	4,299	4,650		825
	Rural			4,700	5,655	7,327			351	4,299	4,650		825
	Total	529	351	8,174	9,480	12,327	5,000		7,599	8,949	9,300		1,650
Taraigan	Urban	877		1,621	2,498	4,033			458	17,801	18,259		7,758
	Rural			10,043	10,501	19,633			458	17,801	18,259		7,758
	Total	877		11,664	12,999	23,666	4,033		9,259	36,060	36,518		15,516
Villareal	Urban	840	160	1,076	3,602	3,422			238	18,127	18,365		13,725
	Rural			4,402	4,640	19,747			238	18,127	18,365		13,725
	Total	840	160	5,478	8,242	23,194	3,422		2,276	36,494	36,730		27,450
Zumaraga	Urban	307		953	1,260	1,161			1,293	14,073	14,073		3,317
	Rural			10,756	10,756	15,132			1,293	14,073	14,073		3,317
	Total	307		11,709	12,016	16,293	1,293		2,586	28,146	28,146		6,634
Provincial Total	Urban	148,034	10,404	78,306	236,804	329,965			24,371	276,495	328,563		114,729
	Rural	27,697	24,371	161,766	353,047	27,697			24,371	276,495	328,563		114,729
	Total	175,731	34,775	240,132	450,638	683,012	34,177		24,371	276,495	328,563		114,729

8.5.2 Sanitation

Table 8.5.4 Additional Number of Households to be Served in Phase I (Household Toilets)

Name of Municipality/City	Area	No. of Household Served in the Based Year				Phase I Coverage (2004)									
		Flush	Pour Flush	VIP/Dry	Total	Total No. of HHs	Household Coverage			Additional No. of HHs to be Served					
							Flush	Pour Flush	VIP/Dry	Total	Flush	Pour Flush	VIP/Dry	Total	
Almagro	Urban		25	2	27	65	7	33	4	44	7	8	2	17	
	Rural		439	209	648	2,323		871	291	1,162		432	82	514	
	Total		464	211	648	2,388	7	904	295	1,206	7	440	84	531	
Basey	Urban	90	791	68	949	2,441	249	1,245	166	1,660	159	454	98	711	
	Rural		1,309	623	1,932	6,187		2,320	774	3,094		1,011	151	1,162	
	Total	90	2,100	691	1,932	8,628	249	3,565	940	4,754	159	1,465	249	1,873	
Calbayog City	Urban	572	5,009	429	6,010	23,199	2,366	11,831	1,578	15,775	1,794	6,822	1,149	9,765	
	Rural		2,556	1,217	3,773	4,776		2,830	943	3,773		274		274	
	Total	572	7,565	1,646	3,773	27,975	2,366	14,661	2,521	19,548	1,794	7,096	1,149	10,039	
Calbiga	Urban	31	267	23	321	927	95	472	63	630	64	205	40	309	
	Rural		622	296	918	2,923		1,096	366	1,462		474	70	544	
	Total	31	889	319	918	3,850	95	1,568	429	2,092	64	679	110	853	
Catbalogan (Capital)	Urban	424	3,713	318	4,455	11,376	1,160	5,802	774	7,736	736	2,089	456	3,281	
	Rural		926	441	1,367	4,409		1,654	551	2,205		728	110	838	
	Total	424	4,639	759	1,367	15,785	1,160	7,456	1,325	9,941	736	2,817	566	4,119	
Daram	Urban		768	59	827	2,263	231	1,154	154	1,539	231	386	95	712	
	Rural		937	446	1,383	4,462		1,673	558	2,231		736	112	848	
	Total		1,705	505	1,383	6,725	231	2,827	712	3,770	231	1,122	207	1,560	
Gandara	Urban		395	30	425	1,359	139	693	92	924	139	298	62	499	
	Rural		982	467	1,449	4,803		1,801	601	2,402		819	134	953	
	Total		1,377	497	1,449	6,162	139	2,494	693	3,326	139	1,117	196	1,452	
Hinabangan	Urban	37	326	28	391	1,089	111	556	74	741	74	230	46	350	
	Rural		264	126	390	1,129		424	141	565		160	15	175	
	Total	37	590	154	390	2,218	111	980	215	1,306	74	390	61	525	
Jiabong	Urban	28	245	21	294	824	84	420	56	560	56	175	35	266	
	Rural		487	232	719	2,538		952	317	1,269		465	85	550	
	Total	28	732	253	719	3,362	84	1,372	373	1,829	56	640	120	816	

Table 8.5.4 Additional Number of Households to be Served in Phase I (Household Toilets) (Cont'd.)

Name of Municipality/City	Area	No. of Household Served in the Based Year				Phase I Coverage (2004)								
		Flush	Pour Flush	VIP/Dry	Total	Total No. of HHs			Household Coverage			Additional No. of HHs to be Served		
						Flush	Pour Flush	VIP/Dry	Flush	Pour Flush	VIP/Dry	Flush	Pour Flush	VIP/Dry
Marabut	Urban		105	8	113	268	27	137	18	182	27	32	10	69
	Rural		370	176	546	1,736		651	217	868		281	41	322
	Total		475	184	546	2,004	27	788	235	1,050	27	313	51	391
Mauquinao	Urban		171	13	184	609	62	311	41	414	62	140	28	230
	Rural		125	59	184	594		223	74	297		98	15	113
	Total		296	72	184	1,203	62	534	115	711	62	238	43	343
Motiong	Urban		344	26	370	1,017	104	519	69	692	104	175	43	322
	Rural		353	168	521	1,681		631	210	841		278	42	320
	Total		697	194	521	2,698	104	1,150	279	1,533	104	453	85	642
Pageanghan	Urban		88	7	95	343	35	175	23	233	35	87	16	138
	Rural		251	120	371	1,251		469	157	626		218	37	255
	Total		339	127	371	1,594	35	644	180	859	35	305	53	393
Paranas (Wright)	Urban	69	604	52	725	2,471	252	1,260	168	1,680	183	656	116	955
	Rural		643	306	949	2,521		946	315	1,261		303	9	312
	Total	69	1,247	358	949	4,992	252	2,206	483	2,941	183	959	125	1,267
Pinabacdao	Urban		84	6	90	225	23	115	15	153	23	31	9	63
	Rural		445	212	657	2,275		853	285	1,138		408	73	481
	Total		529	218	657	2,500	23	968	300	1,291	23	439	82	544
San Jorge	Urban		158	12	170	626	64	319	43	426	64	161	31	256
	Rural		433	206	639	2,060		772	258	1,030		339	52	391
	Total		591	218	639	2,686	64	1,091	301	1,456	64	500	83	647
San Jose De Buan	Urban		174	13	187	572	58	292	39	389	58	118	26	202
	Rural		168	80	248	853		320	107	427		152	27	179
	Total		342	93	248	1,425	58	612	146	816	58	270	53	381
San Sebastian	Urban		141	11	152	448	46	228	31	305	46	87	20	153
	Rural		195	93	288	924		346	116	462		151	23	174
	Total		336	104	288	1,372	46	574	147	767	46	238	43	327

Table 8.5.4 Additional Number of Households to be Served in Phase I (Household Toilets) (Cont'd.)

Name of Municipality/City	Area	No. of Household Served in the Based Year				Phase I Coverage (2004)									
		Flush	Pour Flush	VIP/Dry	Total	Total No. of HHs	Household Coverage			Additional No. of HHs to be Served					
							Flush	Pour Flush	VIP/Dry	Total	Flush	Pour Flush	VIP/Dry	Total	
Santa Margarita	Urban		1,083	83	1,166	3,478	355	1,773	237	2,365	355	690	154	1,199	
	Rural		266	127	393	904	339	339	113	452	452	73	73	73	
	Total		1,349	210	393	4,382	355	2,112	350	2,817	355	763	154	1,272	
Santa Rita	Urban		896	69	965	3,461	353	1,765	235	2,353	353	869	166	1,388	
	Rural		765	365	1,130	3,016	1,131	1,131	377	1,508	366	366	12	378	
	Total		1,661	434	1,130	6,477	353	2,896	612	3,861	353	1,235	178	1,766	
Santo Niño	Urban		225	17	242	651	66	333	44	443	66	108	27	201	
	Rural		440	209	649	2,162	811	811	270	1,081	371	61	432		
	Total		665	226	649	2,813	66	1,144	314	1,524	66	479	88	633	
Tagapul-An	Urban		135	10	145	533	54	272	36	362	54	137	26	217	
	Rural		282	134	416	1,342	503	503	168	671	54	221	34	255	
	Total		417	144	416	1,875	54	775	204	1,033	54	358	60	472	
Taalora	Urban		169	13	182	446	45	228	30	303	45	59	17	121	
	Rural		177	84	261	889	334	334	111	445	157	27	27	184	
	Total		346	97	261	1,335	45	562	141	748	45	216	44	305	
Tarangnan	Urban		251	19	270	730	74	372	50	496	74	121	31	226	
	Rural		680	324	1,004	3,540	1,327	1,327	443	1,770	74	647	119	766	
	Total		931	343	1,004	4,270	74	1,699	493	2,266	74	768	150	992	
Villareal	Urban		251	19	270	663	68	338	45	451	68	87	26	181	
	Rural		761	363	1,124	3,679	1,380	1,380	460	1,840	619	619	97	716	
	Total		1,012	382	1,124	4,342	68	1,718	505	2,291	68	706	123	897	
Zumarraga	Urban		92	7	99	240	24	123	16	163	24	31	9	64	
	Rural		536	255	791	2,698	1,012	1,012	337	1,349	476	476	82	558	
	Total		628	262	791	2,938	24	1,135	333	1,512	24	507	91	622	
Provincial Total	Urban	1,251	16,510	1,363	19,124	60,324	6,152	30,766	4,101	41,019	4,901	14,256	2,738	21,895	
	Rural		15,412	7,338	22,750	65,675	25,669	25,669	8,560	34,229	10,257	10,257	1,510	11,767	
	Total	1,251	31,922	8,701	41,874	125,999	6,152	56,435	12,661	75,248	4,901	24,513	4,248	33,662	

Table 8.5.5 Additional Number of Households to be Served in Phase II (Household Toilets)

Name of Municipality/City	Phase II Coverage (2010)														
	No. households Served in 2004					Household Coverage					Additional No. of HHs to be Served				
	Area	Flush	Pour Flush	VIP/Dry	Total	Total No. of HHs	Flush	Pour Flush	VIP/Dry	Total	Flush	Pour Flush	VIP/Dry	Total	
Almagro	Urban	7	33	4	44	88	41	37	4	82	34	4		38	
	Rural		871	291	1,162	3,192		1,880	291	2,171		1,009		1,009	
	Total	7	904	295	1,206	3,280	41	1,917	295	2,253	34	1,013		1,047	
Basey	Urban	249	1,245	166	1,660	3,038	1,413	1,246	166	2,825	1,164	1		1,165	
	Rural		2,320	774	3,094	7,402		3,756	774	5,033	503	1,436		1,939	
	Total	249	3,565	940	4,754	10,440	1,916	5,002	940	7,858	1,667	1,437		3,104	
Calbayog City	Urban	2,366	11,831	1,578	15,775	31,866	14,818	13,239	1,578	29,635	12,452	1,408		13,860	
	Rural		2,830	943	3,773	6,256		2,886	943	4,254	425	56		481	
	Total	2,366	14,661	2,521	19,548	38,122	15,243	16,125	2,521	33,889	12,877	1,464		14,341	
Calbiga	Urban	95	472	63	630	1,233	574	510	63	1,147	479	38		517	
	Rural		1,096	366	1,462	3,686		2,51	366	2,506	251	793		1,044	
	Total	95	1,568	429	2,092	4,919	825	2,399	429	3,653	730	831		1,561	
Catbalogan (Capital)	Urban	1,160	5,802	774	7,736	15,584	7,247	6,472	774	14,493	6,087	670		6,757	
	Rural		1,654	551	2,205	5,960		3,097	551	4,053	405	1,443		1,848	
	Total	1,160	7,456	1,325	9,941	21,544	7,652	9,569	1,325	18,546	6,492	2,113		8,605	
Daram	Urban	231	1,154	154	1,539	3,322	1,545	1,390	154	3,089	1,314	236		1,550	
	Rural		1,673	558	2,231	6,130		3,610	558	4,168		1,937		1,937	
	Total	231	2,827	712	3,770	9,452	1,545	5,000	712	7,257	1,314	2,173		3,487	
Gandara	Urban	139	693	92	924	1,919	893	800	92	1,785	754	107		861	
	Rural		1,801	601	2,402	6,407		3,756	601	4,357		1,955		1,955	
	Total	139	2,494	693	3,326	8,326	893	4,556	693	6,142	754	2,062		2,816	
Hinabangan	Urban	111	556	74	741	1,545	719	644	74	1,437	608	88		696	
	Rural		424	141	565	1,596		944	141	1,085		520		520	
	Total	111	980	215	1,306	3,141	719	1,588	215	2,322	608	608		1,216	
Jiabong	Urban	84	420	56	560	1,279	595	538	56	1,189	511	118		629	
	Rural		952	317	1,269	3,743		2,228	317	2,545		1,276		1,276	
	Total	84	1,372	373	1,829	5,022	595	2,766	373	3,734	511	1,394		1,905	

Table 8.5.5 Additional Number of Households to be Served in Phase II (Household Toilets) (Cont'd.)

Name of Municipality/City	Phase II Coverage (2010)														
	No. households Served in 2004					Household Coverage					Additional No. of HHs to be Served				
	Area	Flush	Pour Flush	VIP/Dry	Total	Total No. of HHs	Flush	Pour Flush	VIP/Dry	Total	Flush	Pour Flush	VIP/Dry	Total	
Marabut	Urban	27	137	18	182	327	152	134	18	304	125			125	
	Rural		651	217	868	2,182	1,267		217	1,484		616		616	
	Total	27	788	235	1,050	2,509	1,52	1,401	235	1,788	125	616		741	
Matigumiao	Urban	62	311	41	414	964	449	407	41	897	387	96		483	
	Rural		223	74	297	921	552		74	626		329		329	
	Total	62	534	115	711	1,885	449	959	115	1,523	387	425		812	
Motionsg	Urban	104	519	69	692	1,442	671	601	69	1,341	567	82		649	
	Rural		631	210	841	2,299	1,353		210	1,563		722		722	
	Total	104	1,150	279	1,533	3,741	671	1,954	279	2,904	567	804		1,371	
Pagsanghan	Urban	35	175	23	233	472	220	196	23	439	185	21		206	
	Rural		469	157	626	1,914	1,145		157	1,302		676		676	
	Total	35	644	180	859	2,386	220	1,341	180	1,741	185	697		882	
Paranas (Wright)	Urban	252	1,260	168	1,680	3,309	1,539	1,370	168	3,077	1,287	110		1,397	
	Rural		946	315	1,261	3,395	231	1,763	315	2,309	231	817		1,048	
	Total	252	2,206	483	2,941	6,704	1,770	3,133	483	5,286	1,518	927		2,445	
Pinabacdao	Urban	23	115	15	153	322	150	134	15	299	127	19		146	
	Rural		853	285	1,138	3,093	1,818		285	2,103		965		965	
	Total	23	968	300	1,291	3,415	150	1,952	300	2,402	127	984		1,111	
San Jorge	Urban	64	319	43	426	958	446	402	43	891	382	83		465	
	Rural		772	258	1,030	2,793	1,641		258	1,899		869		869	
	Total	64	1,091	301	1,456	3,751	446	2,043	301	2,790	382	952		1,334	
San Jose De Buan	Urban	58	292	39	389	771	359	319	39	717	301	27		328	
	Rural		320	107	427	1,125	658		107	765		338		338	
	Total	58	612	146	816	1,896	359	977	146	1,482	301	365		666	
San Sebastian	Urban	46	228	31	305	640	298	266	31	595	252	38		290	
	Rural		346	116	462	1,228	719		116	835		373		373	
	Total	46	574	147	767	1,868	298	985	147	1,430	252	411		663	

Table 8.5.5 Additional Number of Households to be Served in Phase II (Household Toilets) (Cont'd.)

Name of Municipality/City	Phase II Coverage (2010)														
	No. households Served in 2004					Household Coverage					Additional No. of HHs to be Served				
	Area	Flush	Pour Flush	VIP/Dry	Total	Total No. of HHs	Flush	Pour Flush	VIP/Dry	Total	Flush	Pour Flush	VIP/Dry	Total	
Santa Margarita	Urban	355	1,773	237	2,365	4,516	2,100	1,863	237	4,200	1,745	90		1,835	
	Rural		339	113	452	1,225		720	113	833		381		381	
	Total	355	2,112	350	2,817	5,741	2,100	2,583	350	5,033	1,745	471		2,216	
Santa Rita	Urban	353	1,765	235	2,353	4,629	2,153	1,917	235	4,305	1,800	152		1,952	
	Rural		1,131	377	1,508	4,172		2,460	377	2,837		1,329		1,329	
	Total	353	2,896	612	3,861	8,801	2,153	4,377	612	7,142	1,800	1,481		3,281	
Santo Niño	Urban	66	333	44	443	810	377	332	44	753	311			311	
	Rural		811	270	1,081	2,809		1,640	270	1,910		829		829	
	Total	66	1,144	314	1,524	3,619	377	1,972	314	2,663	311	829		1,140	
Tagapul-An	Urban	54	272	36	362	627	292	255	36	583	238			238	
	Rural		503	168	671	1,861		1,097	168	1,265		594		594	
	Total	54	775	204	1,033	2,488	292	1,352	204	1,848	238	594		832	
Taalora	Urban	45	228	30	303	582	271	240	30	541	226	12		238	
	Rural		334	111	445	1,250		739	111	850		405		405	
	Total	45	562	141	748	1,832	271	979	141	1,391	226	417		643	
Tarangnan	Urban	74	372	50	496	1,008	469	418	50	937	395	46		441	
	Rural		1,327	443	1,770	4,908		2,894	443	3,337		1,567		1,567	
	Total	74	1,699	493	2,266	5,916	469	3,312	493	4,274	395	1,613		2,008	
Villareal	Urban	68	338	45	451	901	419	374	45	838	351	36		387	
	Rural		1,380	460	1,840	4,937		2,897	460	3,357		1,517		1,517	
	Total	68	1,718	505	2,291	5,838	419	3,271	505	4,195	351	1,553		1,904	
Zumarraga	Urban	24	123	16	163	340	158	142	16	316	134	19		153	
	Rural		1,012	337	1,349	3,783		2,235	337	2,572		1,223		1,223	
	Total	24	1,135	353	1,512	4,123	158	2,377	353	2,888	134	1,242		1,376	
Provincial Total	Urban	6,152	30,766	4,101	41,019	82,492	38,368	34,246	4,101	76,715	32,216	3,501		35,717	
	Rural		25,669	8,560	34,229	88,267	1,815	49,644	8,560	60,019	1,815	23,975		25,790	
	Total	6,152	56,435	12,661	75,248	170,759	40,183	83,890	12,661	136,734	34,031	27,476		61,507	

Table 8.5.6 Additional Number of Public School Students to be Served in Phases I and II (School Toilets)

Name of Municipality/ City	Std. No. of Public School Student that can be Served in the Base Year (1998)	Projected No. of Public School Student in 2004	Phase I Coverage (2004)		Projected Number of Public School Students in 2010	Phase II Coverage (2010)	
			Public School Students Coverage	Additional No. of Public School Student to be Served		Public School Students Coverage	Additional No. of Public School Students to be Served
Almagro	1,360	2,552	2,161	801	2,957	2,661	500
Bacay	3,600	10,377	6,859	3,259	10,542	9,488	2,629
Calbayog City	1,640	33,415	12,133	10,493	35,580	32,022	19,889
Calbiga	3,280	4,993	4,848	1,568	5,161	4,645	
Catbalogan (Capital)	7,880	20,620	14,355	6,475	21,605	19,445	5,090
Daram	4,560	7,883	7,036	2,476	8,785	7,907	871
Gandara	3,840	6,830	5,985	2,145	7,718	6,946	961
Hinabangan	1,520	3,370	2,578	1,058	3,414	3,073	495
Jiabong	2,240	3,762	3,421	1,181	4,416	3,974	553
Marabut	1,040	2,742	1,901	861	2,708	2,437	536
Mataguinao	560	944	856	296	1,175	1,058	202
Motiong	2,560	3,672	2,560		4,070	3,663	1,103
Pagsanghan	960	2,028	1,597	637	2,356	2,120	523
Paranas (Wright)	3,600	7,054	5,815	2,215	7,335	6,602	787
Pinabacdao	1,840	3,266	2,866	1,026	3,669	3,302	436
San Jorge	1,200	2,531	1,995	795	2,952	2,657	662
San Jose De Buan	918	1,291	918		1,452	1,307	389
San Sebastian	720	1,683	1,249	529	1,787	1,608	359
Santa Margarita	2,760	4,333	4,121	1,361	4,950	4,455	334
Santa Rita	3,600	6,921	5,773	2,173	7,947	7,152	1,379
Santo Niño	1,200	3,213	2,209	1,009	3,560	3,204	995
Tagapul-An	1,120	2,196	1,810	690	2,520	2,268	458
Talalora	800	1,842	1,378	578	1,922	1,730	352
Tarangnan	3,040	5,109	4,644	1,604	5,894	5,305	661
Villareal	2,640	6,138	4,568	1,928	6,240	5,616	1,048
Zumarraga	1,760	3,266	2,786	1,026	3,612	3,251	465
Provincial Total	60,238	152,031	106,422	46,184	164,327	147,896	41,677

Table 8.5.7 Additional Number of Public Utilities with Sanitary Toilets in Phase I and II

Name of Municipality/City	Type	Coverage in Base Year (1998)			Phase I Coverage (2004)			Phase I Coverage (2010)		
		No. of PU with Toilets Facilities	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	
Almagro	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Basey	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Calbayog City	Public Market	1	1	1		1	1	1	1	
	Bus/Jeepney Terminal	8	8	8		8	8	8	8	
	Parks/Playground	3	3	3		3	3	3	3	
	Total	12	12	12		12	12	12	12	
Calbiga	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Catalbagan (Capital)	Public Market									
	Bus/Jeepney Terminal			1	1	1	1	1	1	
	Parks/Playground	1	1	1		1	1	1	1	
	Total	1	1	2	1	2	2	2	2	
Dararn	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Gandara	Public Market	1	1	1		1	1	1	1	
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total	1	1	1		1	1	1	1	

Table 8.5.7 Additional Number of Public Utilities with Sanitary Toilets in Phase I and II (Cont'd.)

Name of Municipality/City	Type	Coverage in Base Year (1998)		Phase I Coverage (2004)			Phase I Coverage (2010)		
		No. of PU with Toilets Facilities	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l. No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l. No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets
Hinabangan	Public Market								
	Bus/Jeepney Terminal								
	Parks/Playground								
	Total								
Jiabong	Public Market								
	Bus/Jeepney Terminal								
	Parks/Playground								
	Total								
Marabut	Public Market								
	Bus/Jeepney Terminal								
	Parks/Playground								
	Total								
Matugumao	Public Market								
	Bus/Jeepney Terminal								
	Parks/Playground								
	Total								
Motiong	Public Market								
	Bus/Jeepney Terminal								
	Parks/Playground								
	Total								
Pagsanghan	Public Market								
	Bus/Jeepney Terminal								
	Parks/Playground								
	Total								
Paranas (Wright)	Public Market								
	Bus/Jeepney Terminal								
	Parks/Playground								
	Total								

Table 8.5.7 Additional Number of Public Utilities with Sanitary Toilets in Phase I and II (Cont'd.)

Name of Municipality/City	Type	Coverage in Base Year (1998)			Phase I Coverage (2004)			Phase I Coverage (2010)		
		No. of PU with Toilets Facilities	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l. No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l. No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	
Pinacdao	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
San Jorge	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
San Jose De Buan	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
San Sebastian	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Santa Margarita	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Santa Rita	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Santo Niño	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									

Table 8.5.7 Additional Number of Public Utilities with Sanitary Toilets in Phase I and II (Cont'd.)

Name of Municipality/City	Type	Coverage in Base Year (1998)			Phase I Coverage (2004)			Phase I Coverage (2010)		
		No. of PU with Toilets Facilities	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	
Tagapulan	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Talaora	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Taraugman	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Villaral	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Zumarraga	Public Market									
	Bus/Jeepney Terminal									
	Parks/Playground									
	Total									
Provincial Total	Public Market	2	2	2	1	2	2	2	2	
	Bus/Jeepney Terminal	8	8	9	1	9	9	9	9	
	Parks/Playground	4	4	4	4	4	4	4	4	
	Total	14	14	15	1	15	15	15	15	

8.6 Facilities, Equipment and Rehabilitation Required to Meet the Target Services

8.6.1 Water Supply

(1) Required water supply facilities

Urban water supply:

Urban water supply facilities required by target year shown in Table 8.6.1 were estimated as the required number of house connections based on the additional service coverage.

As reference, the following requirements were also estimated:

- daily average water demand at 100 lpcd consumption rate, and
- number of deep wells to meet the daily maximum water demand based on the groundwater productivity.

(daily maximum water demand = 1.3 x daily average water demand)

Information pertaining to the expansion plan of Level III systems was arranged to be indicated in Table 8.6.1 and details presented in Table 8.6.2, however, the required data were not available during this PW4SP preparation.

Rural water supply:

Rural water supply facilities required by target year shown in Table 8.6.3(a) were estimated as the number of Level II systems with number of communal faucets and the number of Level I wells broken-down to deep and shallow wells. One (1) untapped spring in Basey was identified suitable for Level II system during this PW4SP preparation.

(2) Required well drilling and rehabilitation equipment

Presently, the DPWH-DEO (in Catbalogan) has one unit of hand feed rotary type drilling rig applicable for shallow well only (6" of bit diameter and 40 ft. of depth).

Taking into account the existing equipment, the number of required equipment is estimated as described below.

Applicable type of well drilling equipment is determined considering the geological formation of the province, the easiness to technically operate. Both types of percussion and rotary are suitable for the soft and hard formations, and the percussion type can be easily operated and maintained without special training to drillers compared with the latter, it is very useful to bores in the boulders or cobbles formations. Thus, the drilling equipment of percussion type is recommendable to be selected in the PW4SP preparation.

Table 8.6.1 Urban Water Supply Facilities Required by Target Year

Name of Municipality/City	Reference on Expansion of Existing Level III System				Phase I (2004) Requirements				Phase II (2010) Requirements					
	Name of Operating Body	Area	Coverage in 1998		Type of Water Source	Plan for Expansion	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m ³ /day)	Number of Spring Dev't/ Deep Well	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m ³ /day)	Number of Spring Dev't/ Deep Well
			No. of Barangay Served	Population										
Almagro	Not Applicable	Urban	N.A.	N.A.	N.A.	76	15	8	1	257	64	26	1	
		Rural	N.A.	N.A.										
		Total												
Bacay	Bacay WD	Urban	6	3,957	Surf	2,835	579	284	1	4,752	1,188	475	1	
		Rural	8	6,767										
		Total	14	10,724										
Calbayog City	Calbayog City WD	Urban	15	39,358	Surf	28,372	5,498	2,837	4	53,362	13,341	5,536	7	
		Rural	15	12,588										
		Total	30	51,946										
Calbiga	Calbiga WD	Urban	8	3,567	SP	1,131	220	113	1					
		Rural	6	5,384										
		Total	14	8,951										
Catbalogan (Capital)	Catbalogan WD	Urban	16	32,979	SP					26,240	6,560	2,624	4	
		Rural	1	2,588										
		Total	17	35,567										
Daram	Not Applicable	Urban	N.A.	N.A.	N.A.	3,014	536	301	1	9,609	2,402	961	2	
		Rural	N.A.	N.A.										
		Total												
Gandara	Not Applicable	Urban	N.A.	N.A.	N.A.	1,688	322	169	1	5,604	1,401	560	1	
		Rural	N.A.	N.A.										
		Total												
Hinabangan	Hinabangan WWS	Urban	5	4,799						1,073	268	107	1	
		Rural												
		Total	5	4,799										
Jiabong	Jiabong	Urban	8	3,634	SP					1,224	306	122	1	
		Rural												
		Total	8	3,634										
Marabut	Not Applicable	Urban	N.A.	N.A.	N.A.	310	64	31	1	934	234	93	1	
		Rural	N.A.	N.A.										
		Total												
Mataguinao	Not Applicable	Urban	N.A.	N.A.	N.A.	801	144	80	1	2,862	716	286	1	
		Rural	N.A.	N.A.										
		Total												
Montong	Not Applicable	Urban	N.A.	N.A.	N.A.	1,302	241	130	1	4,178	1,045	418	1	
		Rural	N.A.	N.A.										
		Total												
Pagsanghan	Not Applicable	Urban	N.A.	N.A.	N.A.	406	81	41	1	1,388	347	139	1	
		Rural	N.A.	N.A.										
		Total												
Paranas (Wright)	Paranas WWS	Urban	6	2,540	SP	3,017	586	302	1	7,017	1,754	702	1	
		Rural	3	370										
		Total	9	2,910										

Table 8.6.1 Urban Water Supply Facilities Required by Target Year

Name of Municipality/City	Reference on Expansion of Existing Level III System						Phase I (2004) Requirements				Phase II (2010) Requirements			
	Name of Operating Body	Area	Coverage in 1998		Type of Water Source	Plan for Expansion	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m ³ /day)	Number of Spring Dev't/ Deep Well	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m ³ /day)	Number of Spring Dev't/ Deep Well
			No. of Barangay Served	Population Served										
Pinabacdao	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.	287	53	29	1	937	234	94	1
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
San Jorge	Not Applicable	Urban	N.A.	N.A.	N.A.	834	148	83	1	2,807	702	281	1	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
San Jose De Buan	Not Applicable	Urban	N.A.	N.A.	N.A.	650	136	65	1	2,279	570	228	1	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
San Sebastian	Not Applicable	Urban	N.A.	N.A.	N.A.	571	106	57	1	1,860	465	196	1	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
Santa Margarita	Not Applicable	Urban	N.A.	N.A.	N.A.	3,998	824	400	1	13,164	3,291	1,316	2	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
Santa Rita	Not Applicable	Urban	N.A.	N.A.	N.A.	4,076	820	408	1	13,513	3,378	1,351	2	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
Santo Niño	Not Applicable	Urban	N.A.	N.A.	N.A.	732	154	73	1	2,346	587	235	1	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
Tagapul-An	Not Applicable	Urban	N.A.	N.A.	N.A.	547	126	55	1	1,836	459	184	1	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
Talaora	Not Applicable	Urban	N.A.	N.A.	N.A.	529	106	53	1	1,682	421	168	1	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
Tarangnan	Not Applicable	Urban	N.A.	N.A.	N.A.	877	173	88	1	2,954	739	295	1	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
Villareal	Not Applicable	Urban	N.A.	N.A.	N.A.	840	157	84	1	2,582	646	258	1	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
Zumarraga	Not Applicable	Urban	N.A.	N.A.	N.A.	307	57	31	1	986	247	99	1	
		Rural	N.A.	N.A.										
		Total	N.A.	N.A.										
Provincial Total		Urban	64	90,834		57,200	11,146	5,722	26	165,446	41,365	16,544	37	
		Rural	33	21,697										
		Total	97	118,531										

Table 8.6.2 Plan for Expansion of Existing Level III Systems

Name of Municipality/ City	Name of Operating Body	Additional Areas Barangay to be Covered	Additional Population to be Served	Additional Water Sources	
				Type	Capacity (m ³ /day)
Basey	Basey WD				
Calbayog City	Calbayog City WD				
Calbiga	Calbiga WD				
Catbalogan (Capital)	Catbalogan WD				
Jiabong	Jiabaong				
Paranas (Wright)	Paranas WWS				

Table 8.6.3(a) Rural Water Supply Facilities Required by Target Year

Name of Municipality	Phase I (2004) Requirements							Phase II (2010) Requirements																												
	Number of System	Level II		Level I				Total	Level I			Total	Level I			Total																				
		No. of Communal Faucets	Number of Deep Wells		No. of Shallow Wells	Sub-total	Total		Number of Deep Wells				No. of Shallow Wells	Sub-total	Total																					
			40 m	80 m					120 m	40 m	80 m						120 m																			
Almagro	1																			60			60													
Bacay		20		8			8															64			64	95	159									
Calbayog City																												53	59							
Calbiga																													48	162						
Carbalogan (Capital)																													100	100						
Daram																														150	150					
Gandara																														26	26					
Hinabangan																														112	112					
Jiabong																														52	52					
Marabut																														19	19	38	38			
Matuguiniao																														26	26	51	51			
Motiong																														45	45	45	45			
Pagsanghan																														7	7	7	7	61	61	
Paranas (Wright)																														27	27	40	40	67	67	
Pinabacdao																														16	16	37	37	53	53	
San Jorge																														4	4	4	4	57	57	
San Jose De Buan																														27	27	2	2	29	29	
San Sebastian																														49	49	49	49	49	49	
Santa Margarita																														22	22	32	32	54	54	
Santa Rita																														150	150	150	150	150	150	
Santo Niño																														37	37	37	37	37	37	
Tagapul-An																														2	2	12	12	14	14	
Talalora																														130	130	130	130	130	130	
Tarangnan																														229	229	229	229	229	229	
Villareal																														56	56	56	56	56	56	
Zumarraga																														844	844	19	903	1,097	2,000	
Provincial Total	1	20		6	73	2	81	72	153	40	844	19	903	1,097	2,000																					

Table 8.6.3(b) Rural Water Supply Facilities Required by Target Year

Name of Municipality	Phase I (2004) Requirements													Phase II (2010) Requirements									
	Percentage Allocated to Public Facility (70%)													Percentage Allocated to Public Facility (70%)									
	Percentage Allocated for Public Wells (80%) and Percentage Allocated for Public Spring Development (20%)													Percentage Allocated for Public Wells (80%) and Percentage Allocated for Public Spring Development (20%)									
	Number of Deep Wells				No. of Shallow Wells		Total		No. of Spring Dev.		Grand Total			Number of Deep Wells			No. of Shallow Wells		Total		No. of Spring Dev.		Grand Total
40 m	80 m	120 m	Sub-total	Shallow Wells		40 m	80 m	120 m	Sub-total	40 m	80 m	120 m	Sub-total	40 m	80 m	120 m	Sub-total	40 m	80 m	120 m	Sub-total	Grand Total	
Almagro																							
Basey		5		5	6				11	3													
Calbayog City																							
Calbiga		7		7	3				10	3													
Catbalogan (Capital)																							
Daram		8		8	3				11	3													
Gandara																							
Hinabangan																							
Jiabong	1			1	5				6	2													
Marabut					4				4	1													
Manguinao					1				2	2													
Motong	2			2	2				4	1													
Pagsanghan		3		3	3				3	1													
Paranas (Wright)		1		1	5				6	2													
Pinabacdao																							
San Jorge																							
San Jose De Buen					2				2	1													
San Sebastian		2		2					2	1													
Santa Margarita		2		2					2	1													
Santa Rita		3		3	4				7	2													
Santo Niño					5				5	1													
Tagapul-An																							
Talalora																							
Tarangnan																							
Villareal		9		9					9	2													
Zumarraga																							
Provincial Total	3	40	1	44	40		23	474	11	508	612	1,120	279	1,399									

Medium size percussion drilling rig (truck-mounted type for deep well):

Average performance

- 1 well/30 days (5 m/day of drilling rate with finishing work)

Annual accomplishment

- 9 wells/year (365 days/year ÷ 30 days/well x 0.75)

Required number

- 1 set for the total 44 deep wells

Well rehabilitation equipment:

Average performance

- 1 well/7 days (well redevelopment and finishing work)

Annual accomplishment

- 39 wells/year (365 days/year ÷ 7 days/well x 0.75)

Required number

- 1 set for 10% of 44 Level I deep wells

Support vehicle:

Type - pick-up truck with winch, double cab

Required number

- 1 unit for well rehabilitation

Considering the utilization of the existing rotary drilling rigs (applicable for shallow well only), it is necessary for the province to procure/mobilize 1 unit of medium size percussion rig for the medium-term development plan. Likewise, the following equipment shall be considered to meet the physical targets:

- 1 set of well rehabilitation equipment for 10% of deep wells (at least 1 set shall be held by the provincial government); and
- 1 unit of support vehicle for well rehabilitation.

In addition to the above, 1 unit of service truck equipped with crane are required for percussion rigs for hauling drilling tools and water.

Table 8.6.4 Urban Household Toilets Required by Target Year

Name of Municipality/City	Phase I (2004) Requirements						Phase II (2010) Requirements					
	Additional HHs to be Served			No. of HHs to be Served			Additional HHs to be Served			No. of HHs to be Served		
	Flush	Pour	Total	Flush	Pour	Total	Flush	Pour	Total	Flush	Pour	Total
Almagro	7	8	17	2	8	17	34	4	38	34	4	38
Bacay	159	454	711	98	454	711	1,164	1	1,165	1,164	1	1,165
Calbayog City	1,794	6,822	9,765	1,149	6,822	9,765	12,452	1,408	13,860	12,452	1,408	13,860
Calbiga	64	205	309	40	205	309	479	38	517	479	38	517
Catbalogan (Capital)	736	2,089	3,281	456	2,089	3,281	6,087	670	6,757	6,087	670	6,757
Daram	231	386	712	95	386	712	1,314	236	1,550	1,314	236	1,550
Gandara	139	298	62	499	139	298	754	107	861	754	107	861
Hinabangan	74	230	46	350	74	230	608	88	696	608	88	696
Ibabong	56	175	266	35	175	266	511	118	629	511	118	629
Mambut	27	32	69	27	32	69	125	125	125	125	125	125
Matiguino	62	140	28	230	62	140	387	96	483	387	96	483
Montong	104	175	43	322	104	175	567	82	649	567	82	649
Pagsanghan	35	87	16	138	35	87	185	21	206	185	21	206
Paranas (Wright)	183	656	116	955	183	656	1,287	110	1,397	1,287	110	1,397
Pinabacdao	23	31	9	63	23	31	127	19	146	127	19	146
San Jorge	64	161	31	256	64	161	382	83	465	382	83	465
San Jose De Buan	58	118	26	202	58	118	301	27	328	301	27	328
San Sebastian	46	87	20	153	46	87	252	38	290	252	38	290
Santa Margarita	355	690	154	1,199	355	690	1,745	90	1,835	1,745	90	1,835
Santa Rita	353	869	166	1,388	353	869	1,800	152	1,952	1,800	152	1,952
Santo Niño	66	108	27	201	66	108	311	311	311	311	311	311
Tajapuñ-An	54	137	26	217	54	137	238	238	238	238	238	238
Talalora	45	59	17	121	45	59	226	12	238	226	12	238
Tarangani	74	121	31	226	74	121	395	46	441	395	46	441
Villareal	68	87	26	181	68	87	351	36	387	351	36	387
Zumarraga	24	31	9	64	24	31	134	19	153	134	19	153
Provincial Total	4,901	14,256	2,738	21,895	4,901	14,256	32,216	3,501	35,717	32,216	3,501	35,717

Table 8.6.5 Rural Household Toilets Required by Target Year

Name of Municipality/City	Phase I (2004) Requirements						Phase II (2010) Requirements					
	Additional HHs to be Served			No. of HHs to be Served			Additional HHs to be Served			No. of HHs to be Served		
	Flush	Pour Flush	Total	Flush	Pour Flush	Total	Flush	Pour Flush	Total	Flush	Pour Flush	Total
Almagro	432	82	514	432	82	514	1,009	503	1,009	503	1,009	1,009
Bacay	1,011	151	1,162	1,011	151	1,162	1,436	503	1,939	1,436	1,939	1,939
Calbayog City	274		274	274		274	56	425	481	56	481	481
Calbija	474	70	544	474	70	544	793	251	1,044	793	1,044	1,044
Carabugan (Capital)	728	110	838	728	110	838	1,443	405	1,848	1,443	1,848	1,848
Duram	736	112	848	736	112	848	1,937	405	1,937	1,937	1,937	1,937
Gandara	819	134	953	819	134	953	1,955		1,955	1,955	1,955	1,955
Hinabangan	160	15	175	160	15	175	520		520	520	520	520
Jiabong	465	85	550	465	85	550	1,276		1,276	1,276	1,276	1,276
Marabut	281	41	322	281	41	322	616		616	616	616	616
Matuguinao	98	15	113	98	15	113	329		329	329	329	329
Motiong	278	42	320	278	42	320	722		722	722	722	722
Pagsanghan	218	37	255	218	37	255	676		676	676	676	676
Paranas (Wright)	303	9	312	303	9	312	817	231	1,048	817	1,048	1,048
Pinabacdao	408	73	481	408	73	481	965		965	965	965	965
San Jorge	339	52	391	339	52	391	869		869	869	869	869
San Jose De Buan	152	27	179	152	27	179	338		338	338	338	338
San Sebastian	151	23	174	151	23	174	373		373	373	373	373
Santa Margarita	73		73	73		73	381		381	381	381	381
Santa Rita	366	12	378	366	12	378	1,329		1,329	1,329	1,329	1,329
Santo Niño	371	61	432	371	61	432	829		829	829	829	829
Tagapui-An	221	34	255	221	34	255	594		594	594	594	594
Talalora	157	27	184	157	27	184	405		405	405	405	405
Tarangnan	647	119	766	647	119	766	1,567		1,567	1,567	1,567	1,567
Villareal	619	97	716	619	97	716	1,517		1,517	1,517	1,517	1,517
Zumarraga	476	82	558	476	82	558	1,223		1,223	1,223	1,223	1,223
Provincial Total	10,257	1,510	11,767	10,257	1,510	11,767	23,975	1,815	25,790	23,975	25,790	25,790

Table 8.6.6 Public School Toilets Required by Target Year

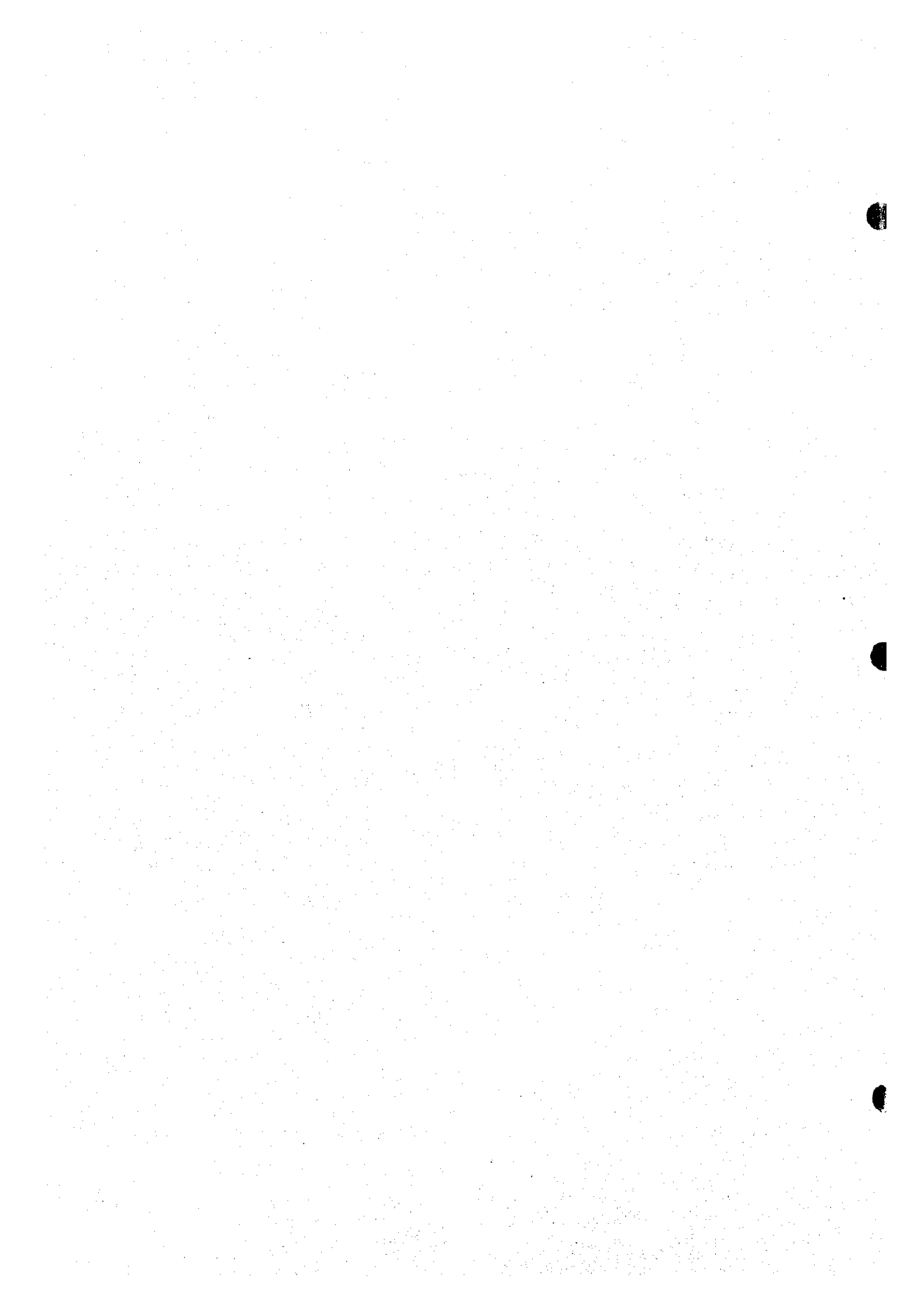
Name of Municipality	Phase I (2004) Requirements			Phase II (2010) Requirements		
	Additional Public School Students to be Served	No. of Toilet Unit	No. of Toilet Facilities	Additional Public School Students to be Served	No. of Toilet Unit	No. of Toilet Facilities
Almagro	801	21	5	500	13	3
Basey	3,259	82	17	2,629	66	14
Calbayog City	10,493	263	53	19,889	498	100
Calbiga	1,568	40	8			
Catbalogan (Capital)	6,475	162	33	5,090	128	26
Daram	2,476	62	13	871	22	5
Gandara	2,145	54	11	961	25	5
Hinabangan	1,058	27	6	495	13	3
Jiabong	1,181	30	6	553	14	3
Marabut	861	22	5	536	14	3
Matuguiniao	296	8	2	202	6	2
Motong				1,103	28	6
Pagsanghan	637	16	4	523	14	3
Paranas (Wright)	2,215	56	12	787	20	4
Pimabacdao	1,026	26	6	436	11	3
San Jorge	795	20	4	662	17	4
San Jose De Buan				389	10	2
San Sebastian	529	14	3	359	9	2
Santa Margarita	1,361	35	7	334	9	2
Santa Rita	2,173	55	11	1,379	35	7
Santo Niño	1,009	26	6	995	25	5
Tagapul-An	690	18	4	458	12	3
Talalora	578	15	3	352	9	2
Tarangnan	1,604	41	9	661	17	4
Villareal	1,928	49	10	1,048	27	6
Zumarraga	1,026	26	6	465	12	3
Provincial Total	46,184	1,168	244	41,677	1,054	220

Table 8.6.7 Public Toilets Required by Target Year

Name of Municipality/City	Phase I (2004) Requirements				Phase II (2010) Requirements			
	Number of Public Toilets				Number of Public Toilets			
	Public Market	Bus/Jeepney Terminal	Parks/Playground	Total	Public Market	Bus/Jeepney Terminal	Parks/Playground	Total
Almagro								
Basey								
Calbayog City								
Calbiga								
Catbalogan (Capital)		1		1				
Daram								
Gandara								
Hinabangan								
Jiabong								
Marabut								
Mariguiniao								
Motiong								
Pagsanghan								
Paranas (Wright)								
Pinabacdao								
San Jorge								
San Jose De Buan								
San Sebastian								
Santa Margarita								
Santa Rita								
Santo Niño								
Tagapul-An								
Talalora								
Taranguan								
Villareal								
Zumarraga								
Provincial Total		1		1				

**SECTOR IMPLEMENTATION
ARRANGEMENTS**

C



9. SECTOR MANAGEMENT FOR MEDIUM-TERM DEVELOPMENT

9.2 Sector Management

Accessing ODA Funds for Level III Systems

When considering sources of financing for new Level III systems or for existing Level III systems that are expanding, LGUs may tap their IRA or they may borrow funds from commercial or ODA institutions. In the case of LGUs that have formed a Water District to operate their system, a ready source of loan funds is the LWUA.

This section discusses how an LGU can access funds from an ODA agency in order to develop its Level III water system. It is presumed that the proposed Level III project has gone through the Project Development process stipulated by the NEDA in Rule 7, Articles 24 – 26 of its IRR of Board Resolution No. 4 (Series of 1994), Clause (G). Specifically, the proposed Level III project must be consistent with the Provincial/City/Municipal Water Supply, Sewerage and Sanitation Sector Plan that has been prepared and annually updated by their respective Planning and Development Office(s). On the basis of these local council approved sector plans, water supply investments will have been identified and developed into a local investment program that includes an appropriate financing plan.

It is worthwhile to reiterate the following NEDA prescriptions regarding project identification:

- “proposed investments shall be developed according to a demand-driven approach that would allow beneficiaries to select from among cost-effective technical options and from financing options. The LGUs may avail of technical assistance from the DILG in the preparation of these project packages (Rule 5).”
- “LGU systems shall be constructed on the basis of choosing among technical options that are affordable through the financial resources made available by users, communities and LGUs. The process of determining demand for a particular service delivery shall be concluded through a negotiated agreement between the LGU, water utility and the users, on how the costs will be shared at the town, barangay, and household levels.”
- “for any Level III service, at least two technical options shall be explored: those of an inter-LGU service delivery organization involving amalgamation of service areas and of single LGU management systems.”

(1) Project Initiation Stage

Based on their respective approved water sector plans, the province/municipality proposes a specific Level III water system following the NEDA guidelines on project identification. The provinces and component municipalities may submit their respective project proposals for ODA funding to the DILG. The DILG examines such requests and ensures that they are in conformity with the NEDA's Medium Term Public Investment Program (MTPIP), a master list of projects from which ODA agencies can select specific projects that they can fund. From the MTPIP, the ODA loan agency prepares its own short list of potential province and municipality beneficiaries/ grantees of its loan program. The ODA loan agency then proceeds to conduct its own feasibility study concerning its loan program and discusses this extensively with both the NEDA and the DILG (since the DILG will be the implementing agency for the ODA loan).

While the DILG is designated as the implementing agency for the ODA loan program, a domestic lending institution (e.g. the Development Bank of the Philippines or DBP) can be contracted to administer the loan package and on-lend ODA funds to specific LGUs. [Note that the LWUA has served and continues to serve as a conduit for loans to Water Districts.] Under such a working arrangement, the DILG, the ODA agency, and the domestic lending institution affix their signatures on the ODA program loan documents.

The DILG now pre-screens LGUs who have expressed intent to borrow funds from the ODA loan facility. Together with consultants from the ODA agency, the DILG conducts briefings on the loan conditions to make sure that the province/municipality fully understands the financial and institutional commitments they have to make once they contract the loan. The respective local councils (e.g. Sanggunians) deliberate whether they are able to and will partake of the loan. Should the Sanggunian decide that they can meet the loan commitments, they submit an official letter of interest (LOI) to the DILG. The DILG, with assistance provided by the ODA agency, evaluates the various LOIs from different LGUs and selects which specific projects will be eligible to borrow from the ODA loan facility.

(2) Project Implementation Stage

At this point, the province/municipality with the Level III system project can now sign the loan documents with the designated local on-lending institution. For the construction of the Level III water system, the LGU itself (or the LGU company formed to undertake the project) is expected to bid out the job to contractors from the private sector. The bidding process should be a transparent one with a public announcement of the bidding,

publication of pre-qualified construction companies, and a well-documented decision by the bids and awards committee. During the construction of the Level III water system, the LGU unit tasked to monitor the construction activity should carry out periodic inspections. Final inspection is done upon completion of the construction contract. Throughout the period of the bidding process and actual construction, the DILG can be tapped by the LGU for assistance on various technical and institutional-building matters.

The private sector contractor submits its periodic billings to the LGU. After the necessary inspections are done, the LGU in turn forwards this bill to the domestic lending institution for payment. Given that all documents are in order, the domestic lending institution requests for fund remittance from the ODA agency. Once the funds are remitted, the domestic lending institution settles the bills with the private contractor.

As far as repayment of the loan is concerned, the LGU is responsible for paying the loan since it was the signatory of the loan. Through the operations of the completed Level III water system, the LGU is able to collect the corresponding tariffs from the different consumer households. From these revenues, the LGU re-pays the loan capital and interest to the domestic lending institution, which in turn remits these proceeds to the ODA loan agency. This process is repeated throughout the term of the loan.

9.4 Project Management Arrangements

9.4.1 Project Approach/Strategy

Integration of Waterworks

The province may also initiate the establishment of an Integrated Waterworks (IWW) facility that will merge the management operations of adjoining municipalities, which have existing or proposed Level III water systems. This may not necessarily involve the integration of the physical facilities because of the distance and sparse location of municipalities, but rather only the management aspect of it. Article 8 of the IRR of NEDA Board Resolution No. 4 (Series of 1994), Clause (G) states that: "An LGU may also consider amalgamating or consolidating its system with that of its neighboring LGUs in order to benefit from economies of scale that could expand water supply services to consumers at the lowest possible cost."

The advantages of an IWW facility are as follows:

- Comprehensive water sector planning at the provincial level is facilitated. Investments in developing larger water sources and reservoirs can be considered at the planning stage (in the case of municipalities that are in close proximity with each other).

- The overhead cost involved in maintaining and operating a large waterworks system can be reduced since redundancies in equipment and manpower resources will be eliminated. Municipalities will no longer have to purchase and maintain their own waterworks construction equipment. As a result, there will be greater utilization of such equipment. Engineering and management staff that are currently needed to run the municipal waterworks system can be transferred to other functions.
- The province will be able to hire and retain professional engineering and management staff who will assume greater responsibilities and duties. This will eventually translate to a higher level of service to the communities served by the IWW facility.
- Access to loan funds (from both ODA and commercial sources) for the construction of the waterworks system will be easier since the lending institution will deal with a single entity. Lending institutions prefer such a set-up since the loan evaluation and the corresponding loan monitoring is simpler.
- The IWW facility will be more attractive to more reputable private sector corporations, both local and foreign. The province will be able to generate more interest from private sector players who may want to develop waterworks systems on a BOT/BO/BOO basis or jointly with the LGU. The LGU may also tap these same private sector players to operate and maintain the existing distribution network under any form of contract – service, management, lease, or concession.

The organizational structure of the IWW should contain, at the least, 5 sections – Administration, Finance, Engineering, Operations & Maintenance, and a Meter Reading and Tariff Collection unit. The Administration and Finance departments will handle matters related to human resources development, financial planning and control, and other related concerns. The Engineering section is expected to concentrate on water system planning and design. The Operations & Maintenance unit will ensure that the water system is operating efficiently (e.g. minimal system losses) and that water quality is always satisfactory by conducting strict monitoring activities. Any construction activity, including the installation of water meters, will be contracted out to the private sector so there will be no need for a large pool of both equipment and manpower. Water samples can be tested in existing private or government laboratories if the IWW will not maintain its own laboratory. The Meter Reading and Tariff Collection unit will be in charge of the all-important task of determining individual household consumption and collecting the corresponding tariff due. The actual conduct of these two activities can be contracted out to the private sector through a service contract.

The financial and operating condition of the IWW facility should be reported periodically to the provincial and municipal governments. In addition, the rates that the IWW will charge

consumers will be set under the supervision of a regulatory authority and any proposed changes should first be presented and discussed in a public hearing.

The success of the IWW facility depends on the full support of the local governments of both the province and the component municipalities. Such support shall be in the form of strengthening the management and engineering capabilities of the IWW staff. Any loan needed by the IWW should be endorsed, and if possible guaranteed, by the LGUs concerned. Initial capital requirements can even be sourced from these LGUs.

9.4.2 Project Implementation Arrangements

Project Implementation Arrangement and Procedure

Together with the Figures (Figure 9.4.1 and 9.4.2), the following are the project implementation arrangement and procedure for Level I and sanitation from national level to barangay levels, which are designed to encourage active participation of implementers and beneficiaries in undertaking the project.

(1) National Government Level

Project Planning/Launching Workshop as start-up activity will be conducted to introduce and orient the implementers on the Project, define their roles, responsibilities and relationships among them and formulate provincial action plans. The Consultant, upon completion of the training needs assessment and development of appropriate training programs shall conduct capacity enhancement for the WSS-PMO Staff, NGOs, DPWH and DOH representatives. This activity aims to strengthen their competence in technical, managerial, training and community organizing and gender responsiveness. The trained members are responsible to facilitate the organization/reactivation of the PWSU and information dissemination for the provincial officials to secure their support and commitment to the Project. With the assistance from the Consultant, they will enhance the capacity of the PWSU, the MSLT and COs/NGOs in planning, implementing, monitoring and evaluating the project.

(2) Local Government Level

The PWSU shall assist the MSLT in each municipality and conduct information dissemination for the municipal officials to orient them on the project and obtain their support and commitment. With the PWSU assistance, the trained MSLT members shall select priority barangays, in coordination with the municipal development council. The Team will be responsible for facilitating barangay activities such as consultation meetings with barangay officials and community members, barangay survey and spot mapping,

formation of BWSA/RWSA, pre-construction conference, and supervision of construction. Skills training will be conducted for the operating body in maintaining and managing the project. They shall also provide continuing assistance and monitor the activities of the beneficiaries and status of the project.

(3) Barangay Level

The barangay officials/development councils shall provide support to the PWSU and MSLT members in conducting activities and mobilizing resources in the barangay. Men and women volunteer shall conduct barangay survey and spot mapping to confirm their demand for the level of service, HH latrines and willingness to operate and maintain the facilities and counterpart. The community members decide on the operating body, tap existing community-based organization or organize a BWSA/RWSA. They have also to agree on the monthly water fees and provide labor and local materials during the construction of facilities. The BOD/Officers, Bookkeeper and Caretaker of the operating body shall attend skills training to develop their competence in performing their jobs. The beneficiaries shall provide information and request assistance from the PWSU/MSLT members, if necessary.

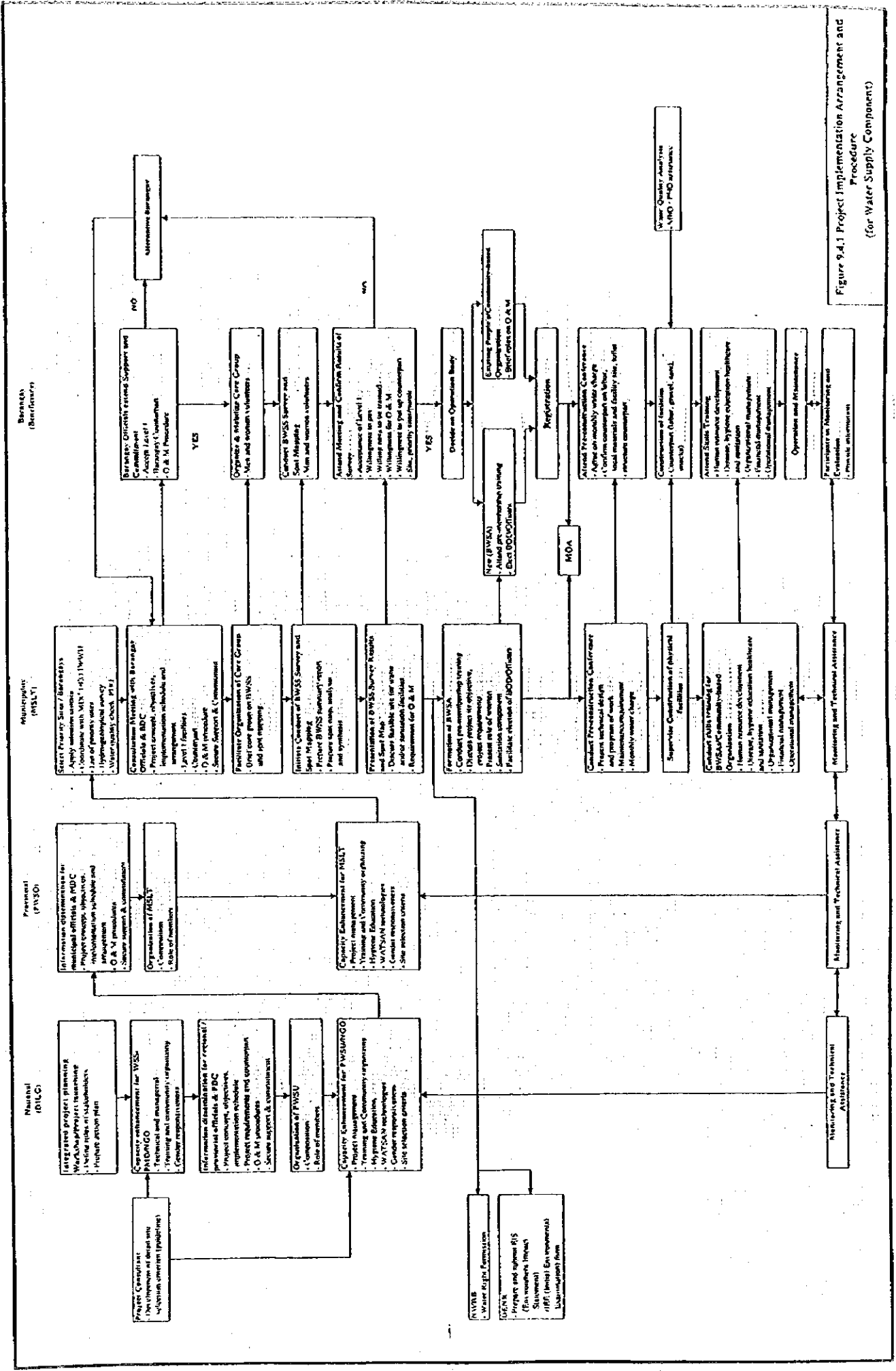


Figure 9.4.1 Project Implementation Arrangement and Procedure (for Water Supply Component)

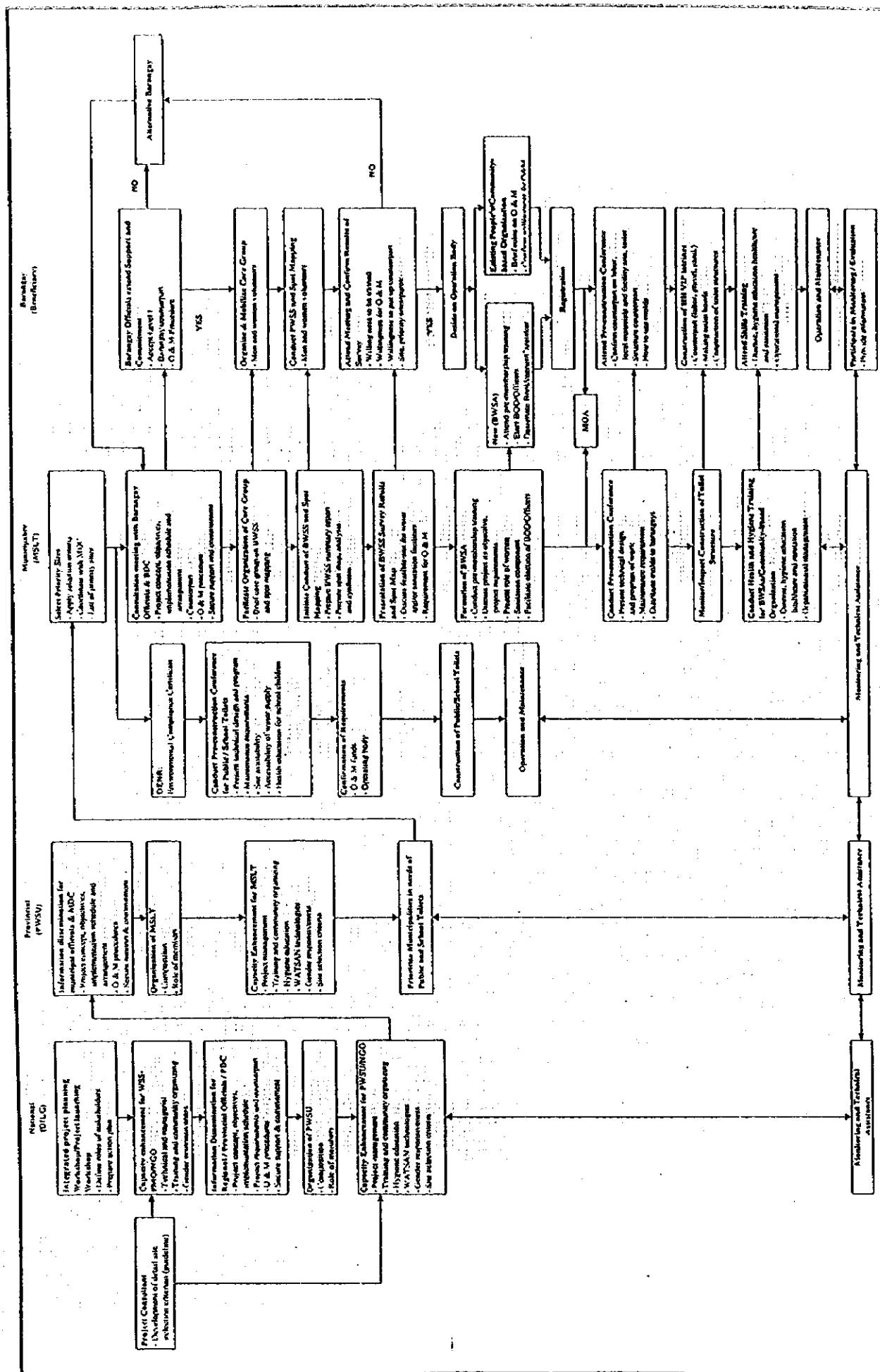


Figure 9.4.2 Project Implementation Arrangement and Procedure (for Sanitation Component)

Note: Procurement of toilet models shall be conducted by DILC and that distribute to beneficiaries through provincial and municipal office.

PROPOSED SITE SELECTION CRITERIA

Barangay: _____ Municipality: _____ Province: _____

(1). Required Items

Item No.	Description	Score
1.	No alternative water source except ground water	OK or Not
2.	Acceptance of Level I facility	OK or Not

(2) Technical & Socio Economical Requirements 60%

Item No.	Description	Score
1.	Water source availability (quality and quantity)	20%
2.	Incidence of water-borne disease	25%
3.	Accessibility of well drilling machine to water source	15%

(3) Community Interest and Involvement 40%

Item No.	Description	Score
1.	Willingness to assume responsibility for operating and maintenance of the facility/ies	10%
2.	Willingness to be trained on O&M	5%
3.	Willingness to pay for water fees	15%
4.	Willingness to put up counterpart	10%

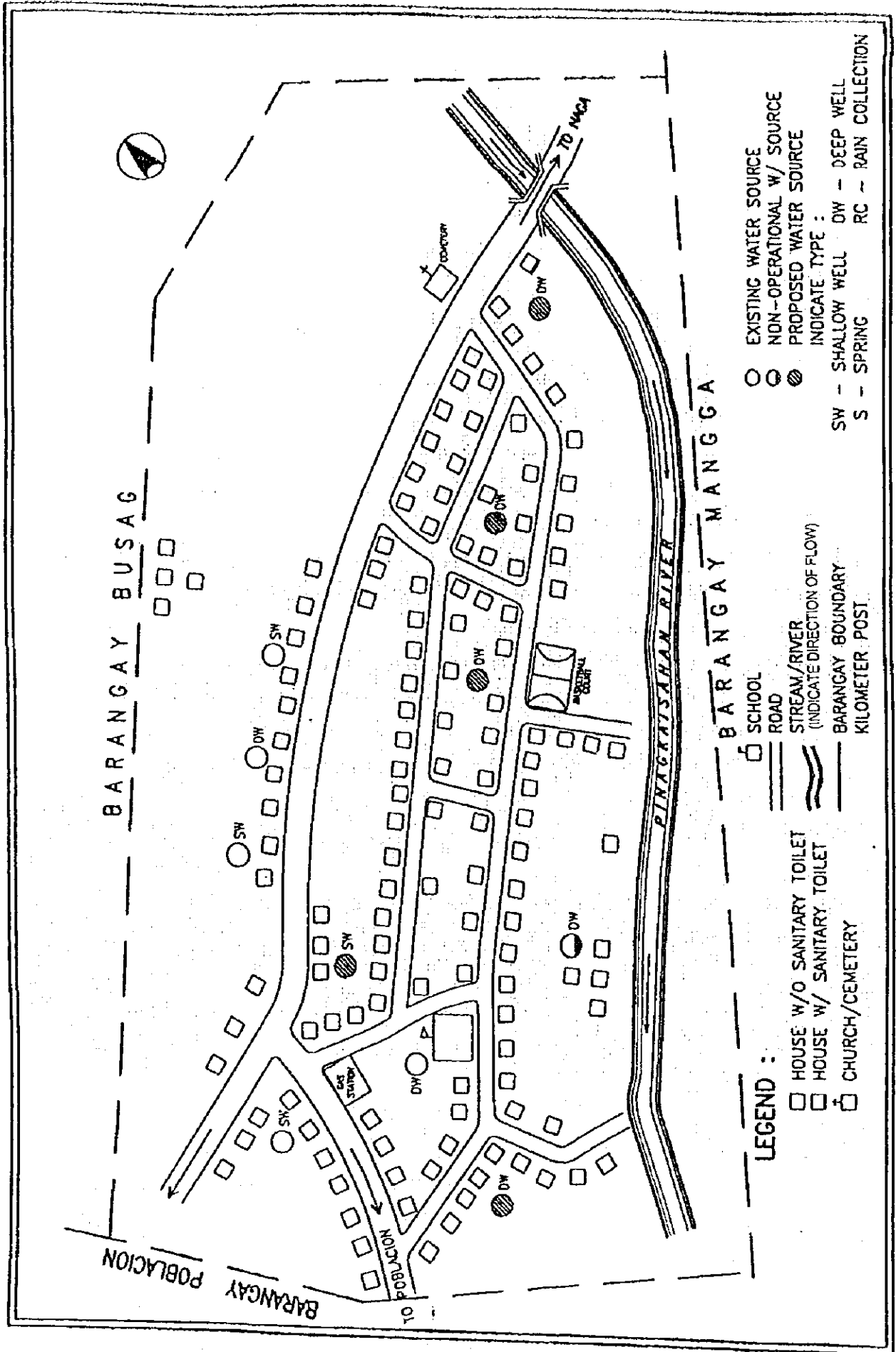
(4) Total Score

Item No.	Description	Score
(1)	Required items	OK or Not
(2)	Physical requirements	
(3)	Community interest and involvement	

Total Score

Proposed Capacity Enhancement Program

Activity/Participation	Course Content
<p>1. Project Planning/Launching Workshop DILG (WSS-PMO) DPWH, DOH, NWRB NEDA, DOF, OECF</p>	<ol style="list-style-type: none"> 1. Project Concept, Objective, Project Requirements, Implementation schedule and arrangements 2. Role and responsibility of national government agencies, LGUs (provide and municipalities and project beneficiaries) 3. Action Plan by province
<p>2. Capacity Enhancement for WSS-PMO, NGOs, DOH and DPWH</p>	<ol style="list-style-type: none"> 1. Project Concept (objectives, components, requirements, implementation arrangement, O&M systems and procedure, etc.) 2. Sector Development and existing Policies 3. Project Planning, Management and Control 4. Team Building Exercise 5. Presentation and Facilitating Skills 6. Methods of Instruction 7. Community Organization/Community Development 8. Barangay Surveys and Spot Mapping 9. Formulation of BWSA 10. Health and Hygiene Education 11. Technical Training <ul style="list-style-type: none"> - Designing and Construction - Water Source Investigation 12. Skills Training for Operating Body <ul style="list-style-type: none"> - Organizational Management - Financial Management - Operational Management 13. Gender Responsiveness 14. Monitoring
<p>3. Capacity Enhancement for LGUs (PWSU, MSLT, CO/NGOs)</p>	<ol style="list-style-type: none"> 1. Project Concept (objectives, components, requirements, implementation arrangement, O&M systems and procedure, etc.) 2. Sector Development and existing Policies 3. Project Planning, Management and Control 4. Team Building Exercise 5. Methods of Instruction 6. Presentation and Facilitating Skills 7. Community Organization/Community Development 8. Barangay Surveys and Spot Mapping 9. Formulation of BWSA 10. Health and Hygiene Education 11. Technical Training <ul style="list-style-type: none"> - Designing and Construction of WATSAN facilities - Water Source Investigation 12. Skills Training for Operating Body <ul style="list-style-type: none"> - Organizational Management - Financial Management - Operational Management 13. Gender Responsiveness 14. Monitoring
<p>4. Capacity Enhancement for Operating body (BOD/Officers, Bookkeeper, Caretakers)</p>	<ol style="list-style-type: none"> 1. Project concept (objectives, components, requirements, implementation arrangements, O&M systems and procedures, etc.) 2. Human Resources Development (Team Building, Leadership and Value Formation) 3. Disease, Hygiene, Education, Health Care and Sanitation (Excreta, Liquid and Solid Waste Disposal) 4. Organizational Management (BWSA Management Skills) 5. Operational Management (Operation, repair and maintenance skills) 6. Financial Management (Simplified Bookkeeping Procedures) 7. Greater Participation of Women 8. Monitoring and Evaluation



- LEGEND :**
- HOUSE W/O SANITARY TOILET
 - HOUSE W/ SANITARY TOILET
 - CHURCH/CEMETERY
 - SCHOOL
 - ROAD
 - STREAM/RIVER (INDICATE DIRECTION OF FLOW)
 - BARANGAY BOUNDARY
 - KILOMETER POST
 - EXISTING WATER SOURCE
 - NON-OPERATIONAL W/ SOURCE
 - PROPOSED WATER SOURCE
 - INDICATE TYPE :
 - SW - SHALLOW WELL
 - S - SPRING
 - DW - DEEP WELL
 - RC - RAIN COLLECTION

Instructions for Completing Barangay Map

This sample barangay map is a rough sketch of an entire barangay showing the households, with and without sanitation facilities. The map also shows location, type and condition of existing water facilities and plot location of proposed water sources.

- 1) The map will be used for BWSA planning
- 2) The map can be used as a planning tool to determine best locations for future water sources.
- 3) The map can also be used to support funding request for other water and/or sanitation facilities.
- 4) The map may also be entered into a national data base.

To make a map of your barangay, use the legend at the bottom of the sample to indicate information and landmarks. Follows these procedures when completing the map:

- 1) Indicate location of highways and road, including name and number of road if any.
- 2) Draw approximate boundaries for your barangay and indicate names of adjacent barangays
- 3) Indicate direction of north line.
- 4) Locate public building, cemeteries, schools, or other prominent landmarks.
- 5) Locate natural land features (like river, rice field, hills, etc.) and animal pens.
- 6) Show households by drawing a clear square.
- 7) Show all sanitation facilities in households by darkening bottom of square.
- 8) Show water sources location and condition by drawing a clear circle for existing water sources, a half dark circle if source is not in operation and a darkened circle for proposed facility. (Proposed facilities should be at least thirty (30) meters away from the nearest latrine and animal pen).
- 9) Show water source type like deepwell, shallow well, spring, etc. Following legend on the map.
- 10) Next to existing facilities, write the distance in meters to the nearest latrine or animal pen. Proposed facilities should be at least 30 meters away from the nearest latrine and animal pen.
- 11) Show kilometer posts along the road by drawing a darkened small square.

BWSA Formation

A BWSA (Barangay Waterworks and Sanitation Association) is an organization of water supply and sanitation beneficiaries in a barangay whose objective is to own, operate and maintain the water systems. RA 6716 requires its formation to ensure the provision of adequate, potable and accessible water supply to its members through proper operation and

maintenance of the water facilities. The organizational structure of BWSA is quite simple and depends on the number of facilities, need, culture and situation in a particular barangay.

The decision to tap existing community-based organization, merge/consolidate with the existing water association or to form a new association is lodged with the community members. Should the decision is to form a new association as operating body of the facilities, it shall be known as BWSA.

The formation activities of the BWSA are divided into three phases: pre-formation/social preparation, formation and post formation (refer to Proposed Community Management Program attached here for the detailed activities in each phase). During the formation phase, pre-membership training and election of BDO and Officers are held. In this phase, individual member interest and community commitment are manifested through application for membership in the association and signing of Manifesto Resolution (refer to the sample formats attached hereafter).

Proposed Community Management Program

Barangay Activities		Responsible Party	Duration (Day)	Cost
A. Pre-Formation/Social Preparation Phase				
1. Consultation with barangay officials/development councils (First Meeting) The activity aims to obtain the support, commitment and active participation in planning, implementation and managing the project. They are primarily responsible for the identification and prioritization of community needs. The decision on the acceptance of Level I water facility and barangay counterpart shall emanate from them.				
		CONGO; PWSU/MSLT; Barangay Officials Development Council	0.5	
2. Barangay Water Supply and Sanitation Survey/Spot Map A core group composed of men and women volunteers will conduct BWSS and spot mapping. The BWSS results provide information on the prospective users willingness to undertake the responsibility for the O&M as well as provision of counterpart. Spot map will identify the most feasible site for Level I facilities, HH latrines, school and public toilets.				
		CONGO; PWSU/MSLT; Men and Women Volunteers	5	P600
3. Presentation of survey results and spot map (Second Meeting) The survey results and spot map will be presented to the barangay officials, core group and prospective water users of the facilities. The decisions of the community members will be confirmed in terms of acceptance of Level I water facilities, site of the water facility/ies, willingness to contribute for water fee, operate and maintain the facilities, to be trained and to put up counterpart such as labor, site, and local materials. The results of the survey and spot map are discussed relative to the most feasible site of the water facilities in the barangay as well as the most feasible site of sanitation facilities and houses in need of latrine. The community members will decide among themselves which sitios/puroks will be given priority in the provision of water and sanitation facilities. The community members will also decide on the operating body, whether to tap existing community-based organization, form a new one (BWSA) or merge/consolidate with existing water association.				
		CONGO; PWSU/MSLT; Prospective Users	0.5	P500

Barangay Activities	Responsible Party	Duration (Day)	Cost
B. Formation Phase			
<p>4. Pre-membership Training and election of BOD and Officers (Third Meeting) A core group will be mobilized to conduct house to house campaign to ensure membership attendance in the Pre-membership Training. The training is conducted for prospective water users of the facilities. The project concept is discussed including its objectives, importance and role of BWSA and members. Other modules such as women's role, sanitation, technical aspects, success factors, etc. are discussed during the pre-membership training.</p> <p>The Board of Directors is elected by the general membership and the Board elects among themselves the officers of the BWSA. Bookkeeper and Caretaker are designated by the President. With the initiative of the newly elected officers, the organizational documents are accomplished.</p>	CO/NGO; PWSU/MSLT; Prospective Water Users	1	P1,000
<p>5. Meeting of the Board of Directors (Fourth Meeting) The first meeting of the BOD is conducted to discuss in details the duties and responsibilities of the Board /Officers, how to conduct a meeting, formulate administrative and operational policies (collection of water fees, dates and place of regular meetings, etc.) and prepare an action plan. The registration procedures and requirements are also discussed.</p>	CO/NGO; PWSU/MSLT; BOD/Officers	1	P1,000
<p>6. Registration The operating body (existing community organization or BWSA is registered to give it legal personality to enter into a contractual obligation)</p>	BOD/Officers CO/NGO; PWSU/MSLT;		
<p>7. Pre-construction Conference (Fifth Meeting) The technical design and program of work for the construction of water and sanitation facilities are presented to the officers and members of the operating body. Based on the technical design, the financial computation to determine the operation and maintenance requirements of the facilities is discussed. The proposed estimates on monthly water fees are presented and the beneficiaries must agree among themselves the monthly water charge to be collected. The commitment of the beneficiaries to actively participate in the construction and counterpart shall be confirmed.</p>	CO/NGO; PWSU/MSLT; BOD/Officers members	5	P500

Barangay Activities	Responsible	Duration (Day)	Cost
<p>8. Construction of Water and Sanitation Facilities The operating body shall ensure that the materials delivered are all accounted for and in accordance with the approved specifications in the technical design. Labor, local materials such as gravel and sand, and snacks are provided as counterpart. The prospective users actively participate during construction and test run of water facilities. Upon completion, the facility is turned-over to the operating body. The President, in behalf of the association, shall receive the water systems from the LGUs. Simple turn-over ceremony is held witnessed by barangay officials/leaders, BOD/officers and members of the association and P/MSLT members.</p>	<p>CONGO; PWSU/MSLT; BOD/Officers members</p>	<p>10</p>	
<p>9. Skills Training (Sixth Meeting) Skills training aims to build the capacity of project beneficiaries in planning, proper operation, repair and maintenance of water and sanitation facilities. This will also create an awareness among the project beneficiaries on the importance of proper hygiene and the need to maintain a healthy environment. BOD/officers will be trained on organizational management, bookkeeper on financial management/bookkeeping and caretaker on operational management (operation, maintenance and repair of wells hand-pumps, etc).</p>	<p>CONGO; PWSU/MSLT; BOD/Officers Bookkeeper/Caretaker</p>	<p>5</p>	<p>P4,400</p>
<p>10. Health and Hygiene Education Health and hygiene education services shall be continuously provided to the community members focusing on the interdependence of safe water supply and sanitary toilet facilities to achieve overall health and environmental benefits.</p>	<p>MSLT/RHW/BHW</p>	<p>Continuous</p>	<p>P1,800</p>
<p>C. Post Formation Phase</p>			
<p>11. Monitoring, Evaluation and Technical Assistance Periodic monitoring and evaluation will be conducted in partnership between MSLT and beneficiaries. M&E will start from project implementation. Technical assistance will be provided, if necessary.</p>	<p>PWSU/MSLT; BOD/Officers</p>	<p>Continuous</p>	
<p>TOTAL</p>			<p>23.5</p>

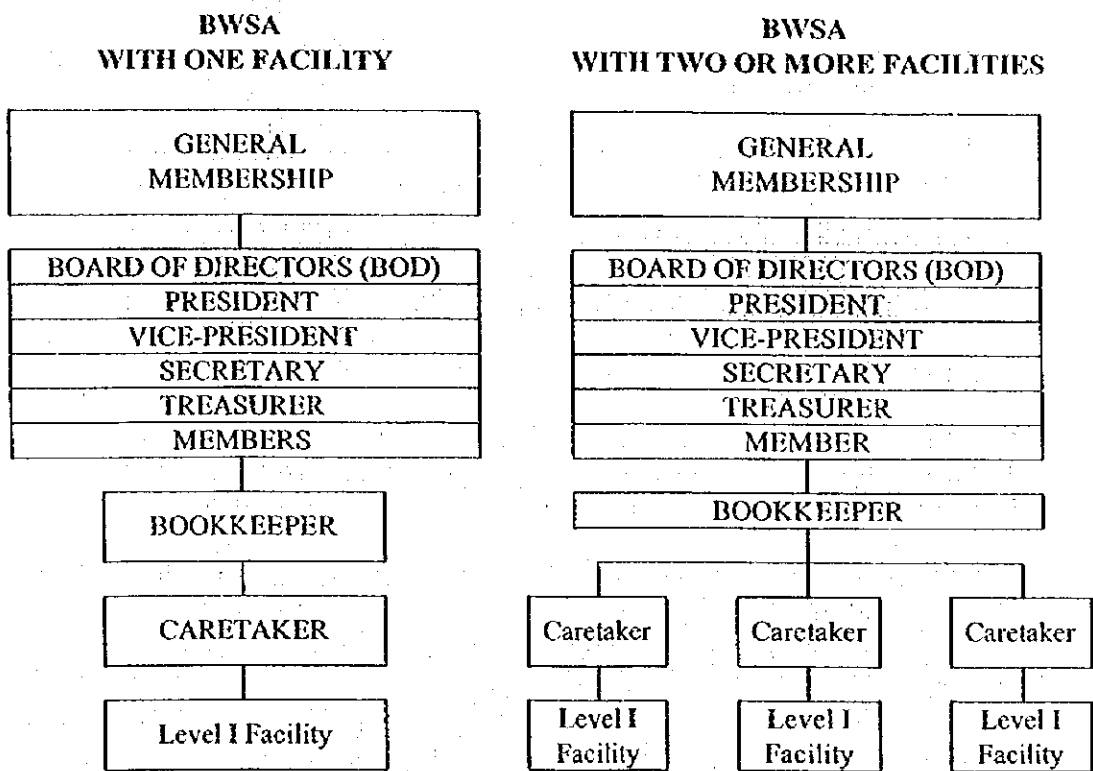


Figure 9.4.1 Organization Structure of BWSA

Sample Manifesto

MANIFESTO RESOLUTION

We, household heads (men or women) of Barangay _____, Municipality of _____, Province of _____, seek the assistance of the Provincial Government in putting up a Level I water system in our area.

Conscious of the attendant responsibilities in operating and maintaining the facilities, we constitute ourselves into an association in accordance with R.A. 6716 and hereby declare:

1. That the name of the association shall be _____ Barangay Waterworks and Sanitation Association;
2. That the association is formed primarily to own, operate and maintain the water facilities and provide members with adequate supply of water for domestic use;
3. That the association shall maintain office at Barangay _____;
4. That the following shall maintain office at Barangay _____:
President _____
Vice-President _____
Secretary _____
Treasurer _____
Board Member _____
5. That membership shall be open to household heads (men or women) who shall use the water facilities; and
6. That this Resolution may be amended or repealed by majority vote of all members of the association.

To ensure the construction, smooth operation and proper maintenance of the water supply system, we bind ourselves to the following:

1. That we will provide a suitable site for the project;
2. That we will collect monthly contributions for water fees to raise funds for the repair, maintenance and cost recovery of the system;
3. That we will attend meetings and seminars conducted by PWSU/MSLT for the association;
4. That we will provide counterpart needed for the water facilities;

5. That we will exercise the following rights:

- a. Right to vote
- b. Right to hold elective office
- c. Right to be informed of the association's affairs
- d. Right to use the association's facilities

6. That we will hold an annual meeting every _____, to discuss the association's business and to elect officers for one year.

NOW, THEREFORE, we hercunto set our hands this _____ day of _____, 19__.

	PRINTED NAME	SIGNATURE	CTN
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____
11.	_____	_____	_____
12.	_____	_____	_____
13.	_____	_____	_____
14.	_____	_____	_____
15.	_____	_____	_____
16.	_____	_____	_____
17.	_____	_____	_____
18.	_____	_____	_____

(Name of BWSA)

(Barangay, Municipality)

(Province)

The Board of Directors

Barangay Waterworks
and Sanitation Association

Date _____

Gentlemen:

I hereby apply for membership in _____ Barangay Waterworks and Sanitation Association to avail of its services of providing potable water for domestic use. I pledge to faithfully obey and comply with the rules and regulations, which may be promulgated by the Board of Directors.

I hereby further pledge to:

1. Attend all meetings which will be called by the BWSA Board of Directors/Officers;
2. Attend training/seminars which will be conducted by PWSU/MSLT for BWSA members;
3. Pay monthly water fee contributions for operation, repair, maintenance and cost recovery of the facilities as may be prescribed by the Board;
4. Observe proper utilization of water and preventive maintenance of facilities as required by the Association;
5. Assist in the installation of the water facility by providing labor, local materials and snacks, and
6. Help attain the objectives of the Association.

For information about myself and my household, please refer to my information sheet at the back page.

Signature of Applicant
Over Name in Print

Right Thumbmark

BWSA Member Information Sheet

Name of Prospective Member: _____

Age: _____ Civil Status: _____ Sex: _____

Place of Birth: _____ Date of Birth: _____

Household Members (include household help):

Name	Age	Relation to Member
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Present Water Source used by Household (Please Check):

Handpump _____
Dug Well _____
Others _____

Artesian Well _____
Spring _____

Present Expenses for Water per Month _____

Distance of Water Source to the House _____ meters

I hereby certify that the information above are true and correct to the best of my knowledge.

Signature

Date

Duties and Responsibilities of BOD/Officers and Members

The management of the BWSA rests on the Board of Directors/Officers who are elected by the general membership. The Board elects from among themselves the Officers of the association: President, Vice-President, Treasurer and Secretary. The President designates the Bookkeeper and Caretaker of the BWSA. The duties and responsibilities of the Board/Officers, Bookkeeper and Caretakers are shown below.

(1) Duties and responsibilities of the Board of Directors

- Oversee the activities of the BWSA
- Formulate policies and procedures to carry out the affairs of the BWSA
- Elect the BWSA officers
- Attend all meetings of the Board and the General Assembly
- Attend training for BOD/Officers conducted by PWSU/MSLT

(2) Duties and responsibilities of the President

- Conduct/Preside over all meetings of the General Assembly and BOD meetings
- Execute policies relative to the management of the Association and the maintenance of the water facility
- Act as arbitrator in settling conflicts among members regarding BWSA operations
- Represent the Association in any activity involving BWSA operations
- Investigate the current condition of the Association and recommend measures for its improvement or solutions to its problems
- Perform such other duties as may be assigned by the Board of Directors

(3) Duties and responsibilities of the Vice-President

In the event of death, incapacity or refusal of the President to perform higher duties and responsibilities, the Vice-President shall assume the Presidency. He shall perform the duties of the President and such other duties as may be assigned by the BOD.

(4) Duties and responsibilities of the Secretary

- Attend all meetings and record the minutes
- Call meetings in the absence of the President and the Vice-President and preside until a temporary presiding officer is chosen
- Prepare and send notice to all Association meetings
- Keep all papers/documents pertinent to the Association
- Perform such other duties as may be assigned by the Board of Directors

(5) Duties and responsibilities of the Treasurer

- Attend all meetings of the Board and the General Assembly
- Take proper custody of all funds and properties of the Association
- Ensure the proper issuance of official receipts for money received by the Association
- Ensure that all expenses are authorized by the Board and covered by official receipts
- Deposit all funds of the Association in a bank designated by the Board; and
- Produce periodic reports and account reconciliation as prescribed
- Perform such other duties as may be assigned by the Board of Directors

(6) Duties and responsibilities of Bookkeeper

- Keep the financial records of the Association;
- Collect water fee contributions from and issue receipts to user members;
- Remit collected water contributions to the BWSA treasurer;
- Submit a quarterly financial status report to the Board of Directors or as often as the Board may require;
- Attend BOD meetings and BWSA training/activities conducted by the PWSU/MSLT
- Perform such other duties as may be assigned by the Board of Directors

(7) Duties and responsibilities of Caretaker

- Remind the members of the proper use of the facility
- Ensure that the water facility is in good operating condition
- Keep the record of the operation and maintenance of the water facility
- Report to the Board of Directors (BOD) any damage or repair needs of the facility
- Perform minor repairs of the water facility
- Assist in the collection of water fee contributions
- Attend meetings of the Board as may be required
- Attend skills training on operation and maintenance conducted by the PWSU/MSLT
- Perform such other duties as may be assigned by the Board of Directors

(8) Duties and responsibilities of Members

- Pay monthly water fee contribution;
- Attend meetings and training activities designed for members;
- Observe rules and regulations and policies approved by the BOD/Officers;
- Remind other water users to use the facility properly;
- Keep the premises of the water facility clean, sanitary and free from excess water which may cause contamination of the water source; and
- Adopt proper health and sanitation practices.

Procedures for BWSA Financial Operations

Bookkeeping records an organization's financial transactions involving the receipt and expenditure of money in an organization. The organization may be a small business or large corporation. It may be government or a non-government organization. Regardless of the size of the organization, it provides a standard method for recording and reporting financial transactions of all kinds. The information obtained from accurate and timely bookkeeping provides timely information on the financial health of the operation.

The information contained herein will enable the BWSA bookkeepers to record financial transactions and prepare financial reports. The manual presents the overall picture, through the General Accounting Plan procedures. A step-by-step guide follows the General Accounting Plan through all the transactions, entries and reports. Each transactions, entry and report has a corresponding form. Each form is presented with explanations on its function and how it relates to the other forms. Instructions are provided line-by-line for a clear understanding.

(1) BWSA Business Operation

The BWSA business operation is simple. Funds are generated through water fees. Although there may be other sources of income, user fees will be the main source of income. Money is spent to maintain the barangay water system and other properties owned by the association. Other funds spent include expenses for administration, parts and supplies.

With only a few sources of income and expenses, financial transaction entries can be made quickly as they occur. If transactions pile up, even a simple operation can become very complicated. It is recommended that all transactions be recorded daily. If this is done regularly, periodic reports can be prepared quickly and accurately.

(2) Maintenance and Custody of Documents and Records

Safekeeping the books of accounts, related records, accounting forms and reports is a major responsibility of the bookkeeper. Accounting forms used as the basis for recording should be arranged and filed separately in sequence. All records and documents should be locked up and access should be limited to authorized BWSA officers and personnel.

The BWSA officers should agree on the reports to be prepared, who receives the reports and how frequently. It is recommended that certain records be maintained and certain reports be compiled. It is up to the BWSA officers to determine how often these reports are to be made and if

additional reports are necessary. Some larger BWSAs may need monthly reports. Smaller BWSAs may only require quarterly reports.

(3) General Accounting Plan (GAP)

The flow of accounting and reporting is shown in the General Accounting Plan, Figure 1. The GAP will guide users through this section as each procedure is explained. The GAP contains four columns of boxes. Columns are headed:

- Transactions - consisting of cash and non-cash transactions
- Document - for recording different types of financial transactions
- Books - to maintain a record of financial transactions
- Reports - to summarize all financial transactions for given period.

(4) Transaction Defined

The BWSA financial transactions are classified as:

- Cash Transactions
 - Cash-In (cash receipts)
 - Cash Out (cash disbursements)
- Non-Cash Transactions

Money, incoming and outgoing, is classified as cash transactions. The GAP shows two kinds of cash transactions, cash-in (cash receipts) and cash-out (disbursement). There are also non-cash transactions, which document money owed to the BWSA or money that the BWSA owes.

1) Documents for Cash Transactions

The Official Receipt (OR), (See Figure 2) and the Voucher (See Figure 3) are the source documents for cash transactions. ORs and vouchers are called source document because they initiate the bookkeeping process.

Each time a person gives money or its equivalent to the BWSA, an OR is issued to the person. Each time the BWSA pays money to a person, a voucher is completed to show that it is an authorized expenditure. The voucher also records to whom the money was given and for what purpose.

Both the OR and voucher are numbered and all numbered documents should be accounted for. This means that if an OR or a voucher has been incorrectly filled out, it must be kept for the record.

- a) The OR records all money received by the BWSA and must specify:
 - The date funds are actually received
 - The name and address of the person paying the money
 - The amount received, both in words and in figures
 - An explanation or purpose of the payment
 - Confirmation of receipt as shown by the authorized collector's signature, usually the bookkeeper
 - The billing form number, if money is for payment of water fees

- b) The voucher records all money paid out by the BWSA. Each numbered voucher must specify:
 - The date money is actually paid
 - The name and address of the person receiving the money
 - The total amount of money paid, in words and in figures
 - Details of payment, including invoice number
 - Signature of person authorized to approve payment
 - Confirmation of receipt as shown by the authorized collector's signature, usually the bookkeeper, of the person paying money
 - Signature of person receiving the money and date received

2) Document for Non-Cash Transactions

The sources for recording non-cash transactions are the billing form and the invoices. The billing form documents money that is owed to the BWSA. Invoices or statements of account are documents made by others showing money owed by the BWSA. These are transactions, which do not involve cash collection or payments, and therefore, are not to be recorded in the Cash Record Book.

- a) The Billing Form (See Figure 4) is used to notify water consumers of the fees owed to the BWSA covering a certain billing period. Billing forms may be made monthly or quarterly as the Association decides. Billing forms must specify:
 - List of services rendered
 - The name and address of the person being billed
 - Period covered by this bill, beginning and ending dates

- The total amount of money owed
- Date of billing
- Date the bill should be paid
- Official signature, usually the bookkeeper

Unaccounted Water Fees are examples of non-cash transactions which should be recorded in the Receivable Book.

b) The Invoice or Statement of Account (See Figure 5) is a document prepared by the seller and presented to the BWSA showing money owed to the seller by the BWSA. Invoices usually contain:

- An invoice number
- The person or company sending the invoice
- The name of the BWSA that owes the money
- Particulars of goods or service provided
- The breakdown of money owed and total amount due
- A payment due date
- Name or signature of the person requesting payment

Unpaid invoices on repair and maintenance and other unpaid expenses, such as honoraria are recorded in the Payable Book.

(5) Book of Accounts

The book of accounts are basic records used to record all financial transactions. Three books of accounts are maintained as described below.

1) Cash Record Book

The Cash Record Book is used to record all cash incoming and out-going transactions. The OR is recorded in the Credit column (Money Received). The voucher is recorded in the Debit Column (Money Disbursed). All entries are recorded by date, including all cancelled forms, properly noted. After each credit or debit entry, the amount is added or subtracted from the Daily Balance. At the end of the month, the entries form the bases for preparing the Statement of Operation and the Cash Position Statement.

2) Receivable Book

Unaccounted accounts from the members and outside parties are recorded in the Receivable Book (See Figure 7). This book shows the transaction date, the billing number, household head, the amount and explanation or remarks about the nature/condition of the account.

3) Payable Book

Unpaid accounts on the expenses incurred by the BWSA such as salaries or wages, repair and maintenance and other expenses are recorded in the Payable Book (See Figure 8). This book shows the transaction date, the payee, the nature/explanation of the unpaid account and the amount.

(6) Financial Reports

The BWSA reports are usually prepared monthly or quarterly. The financial reports are prepared to inform the BWSA financial members of the Association's financial status. In preparing the BWSA financial reports, the bookkeeper reviews all source documents supporting the transaction to countercheck the amount appearing in the books. The recorded transactions should be summarized and arranged chronologically to produce a report easily understood by BWSA officers and members.

1) Statement of Operations

The statement of Operations (See Figure 9) is prepared monthly to record the income and expenses incurred by the Association in its operation during the period. The statement shows the revenues earned, the operating expenses incurred and the income or loss as a result of operation.

2) Cash Position Statement

The sources of information when preparing the Cash Position Statement (See Figure 10) are the cash record books and the statement of operations. The report is prepared to determine if the Association can cover its operating expenses. This statement shows the beginning cash balance, the cash receipts for the period, the cash disbursement, and the cash balance ending for the period.

3) Financial Summary Report (Annual Report)

The financial Summary Report (See Figure 11) is prepared to summarize the periodic reports prepared during the year and the supporting schedules.

(7) Bookkeeping Procedures

A step-by-step review of all BWSA transactions can be accomplished by following the accounting entries and reports.

GENERAL ACCOUNTING PLAN (GAP)
FOR BWSA TRANSACTIONS

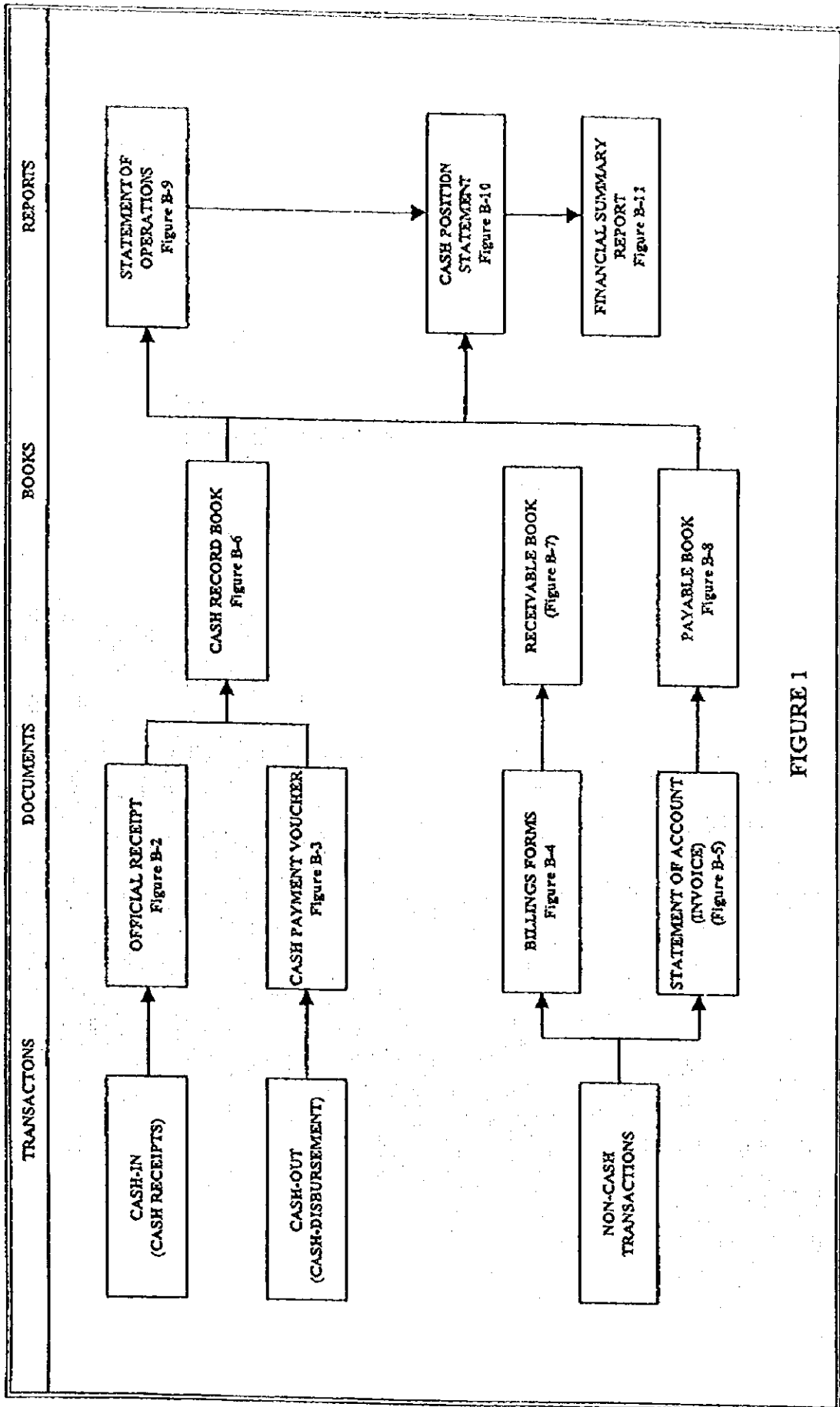


FIGURE 1

OFFICIAL RECEIPT
BWSA _____

OR. NO. _____
Date: _____

Received from _____

the sum of _____ (P _____)

in payment of _____

Billing Form # _____ (For payment of water fees only).

Treasurer/Collector
(Bookkeeper)

Note: Print Name Below Signature

(IN TRIPLICATE)

Complete Official Receipt in Triplicate

Official Receipt must be issued for all payments received by the Bookkeeper.

FIGURE 2

**CASH PAYMENT
VOUCHER** _____

CPV No. _____

Date: _____

Paid to : _____

Address : _____

In the sum of : _____ (₱ _____)

PARTICULARS	AMOUNT

Approved By: _____

Received from _____

The amount of _____

As payment for the above described.

Received By _____

Date Received _____

Note: Print Name Below Signature

**VOUCHER
(IN TRIPLICATE)**

Each time a disbursement is made, a cash payment voucher must be prepared to support such disbursement.

FIGURE 3

Name of BWSA

Barangay, Municipality

Province

BILLING FORM
for
WATER CONSUMPTION

Name of Member _____

Address: _____

No. _____

PERIOD COVERED					AMOUNT
FROM		TO			
MONTH	DAY	MONTH	DAY	YEAR	

Date of Billing: _____ Please pay On or Before: _____

Please pay your bill at the Office on or before the date shown above.

BWSA Treasurer

Note: Print Name Below Signature

Billing must be prepared and sent to all BWSA members for their monthly dues as their monthly obligation to the Association.

FIGURE 4

Date: _____

Invoice # _____

INVOICE

Sold to: _____

ITEM	NO.	UNIT PRICE	PRICE
TOTAL			P

Received By: _____
(Print Name below Signature)

FIGURE 5

BWSA _____

CASH RECORD BOOK
COLLECTION/DISBURSEMENT
Month: _____ Year: _____

DATE	PARTICULARS	CREDIT (Money Received)	DEBIT (Money Disbursed)	DAILY BALANCE

This book records all cash transactions (collection/disbursements) made by the BWSA, and calculates a daily balance.

FIGURE 6

Name of BWSA

Barangay, Municipality

Province

RECEIVABLE BOOK

DATE	BILLING FORM NO.	HOUSEHOLD HEAD (Family Name)	AMOUNT DUE	REMARKS

This form records all accounts due to the Association

FIGURE 7

BWSA _____

Barangay, Municipality

Province

PAYABLE BOOK

DATE	INVOICE NO. AND DATE	CREDITOR	EXPLANATION	AMOUNT DUE	VOUCHER NO. DATE PAID

This form records all incoming invoices that have not been paid by the Association.

FIGURE 8

Name of BWSA _____

Barangay, Municipality _____

Province _____

STATEMENT OF OPERATIONS
For the Month _____, _____

Revenues:			
Water Fees	_____	P	_____
Others (Specify)	_____		_____
Total Revenues	_____	P	_____
 Operating Expenses:			
Salaries	_____	P	_____
Supplies	_____		_____
Repair and Maintenance	_____		_____
Others (Specify)	_____		_____
Total Operating Expenses	_____	P	_____
 Net Income/Loss		P	_____

Prepared By:

Date Prepared:

Certified true and correct:

BWSA Treasurer

Date Certified:

Note: Print Name below signature

At the end of each month, the bookkeeper prepares the Statement of Operations for the previous month.

FIGURE 9

 Name of BWSA

 Barangay, Municipality

 Province

CASH POSITION STATEMENT
 For the Month _____, _____

Revenues:			
Water Fees	_____	P	_____
Contribution	_____		_____
Others (Specify)	_____		_____
Total Revenues	_____	P	_____
Less: Operating Expenses:			
Salaries	_____	P	_____
Supplies	_____		_____
Repair and Maintenance	_____		_____
Others (Specify)	_____		_____
Total Operating Expenses	_____	P	_____
Cash Balance, During the Period	_____	P	_____
Add: Cash Balance, Beginning	_____	P	_____
Cash Balance, Ending	_____	P	_____

Prepared By: _____

 BWSA Bookkeeper

Date Prepared: _____

Note: Print Name below signature

Cash Position Statement summarizes the Association's transactions for the month ended. The Bookkeeper fills up this form every end of the month.

FIGURE 10

Name of BWSA

Barangay, Municipality

Province

FINANCIAL SUMMARY REPORT
Year End _____

I. Financial Results

1. Total Revenues	_____	P	_____
2. Total Expenditures	_____	P	_____
3. Total Cash on Hand	_____	P	_____
4. Total Cash in Bank	_____	P	_____
5. Total Accounts Receivable	_____	P	_____
6. Total Accounts Payable	_____	P	_____

II. Findings/Recommendations:

Prepared By: _____ Date Prepared: _____

BWSA Bookkeeper

Note: Print Name below signature

Financial summary report is made after a year of operation. It provides information to show whether the association profited or not.

FIGURE 11

Table 9.4.1 Format for Level I Project Data

Form _____

PROPOSED LEVEL I PROJECT DATA	
Notice : This form shall be accomplished upon instruction of PST/PWSD	
LOCATION	1.1 Barangay/Sitio _____
	1.2 Municipality _____
POP. DATA	1.3 Province _____
	1.4 Region _____
POP. DATA	2.1 Total Community/Barangay Population _____
	2.2 Total Number of Households _____
INFORMATION ON THE WELL SITE	2.3 Proposed Population to be Served _____
	2.4 Proposed Number of Households to be Served _____
	3.1 Ownership : <input type="checkbox"/> Public <input type="checkbox"/> Private
	3.2 Description : _____ _____ _____
INFORMATION ON THE WELL SITE	3.3 Location: _____ _____ _____
	3.4 Donor (if Private Lot): _____ _____ _____
	4.1 Type of Point Source: <input type="checkbox"/> Deep Well <input type="checkbox"/> Shallow Well <input type="checkbox"/> Spring <input type="checkbox"/> Others (dug well pond)
	4.2 Ownership : <input type="checkbox"/> Public <input type="checkbox"/> Private
INFORMATION ON THE WELL SITE	4.3 For wells : Casing diameter _____ in. or _____ m. Casing depth _____ ft. or _____ m. Water level Well _____ ft. or _____ m. Well capacity/yield _____ gpm. or _____ lps.
	4.4 For Springs : Capacity/yield _____ gpm. or _____ lps. Approx. elevation above or below _____ Service Area _____ ft. or _____ m. Location <input type="checkbox"/> Inside of service area <input type="checkbox"/> Outside of service area Approximate distance from center of service area _____ km.
Prepared by : _____	
_____ Municipal Liason Staff Date	

Table 9.4.2 Format for Level II Feasibility Study

FEASIBILITY STUDY (Level II)		Barangay	Municipality
Notice: This form shall be accomplished upon instruction of the PST/PWSO.		Province	Region
PROJECT SUMMARY			
POPULATION DATA	1. Present Population	2. Design Population	3. Number of Households
			6. Number of Faucets
TECHNICAL DATA	4. Type of Source <input type="checkbox"/> Spring <input type="checkbox"/> Well <input type="checkbox"/> Surface Water	5. Type of System <input type="checkbox"/> Gravity <input type="checkbox"/> Pumped	8. Pumping Time _____ Hours per Day
	9. Total Average Daily Demand _____ Liters	7. Pump Horsepower _____ HP	11. Pump Discharge Capacity _____ LPS
	10. Storage Tank Capacity _____ Liters		
FINANCIAL DATA	12. Total System Cost P _____	13. Maximum Loan Amount P _____	14. Interest Rate _____
	15. Local Equity P _____	16. Funding Cost per Household P _____	17. Repayment Period (months) _____
	18. Type of Local Equity <input type="checkbox"/> Cash <input type="checkbox"/> Labor <input type="checkbox"/> Materials <input type="checkbox"/> Others, _____		
	19. Total Monthly Expenses P _____	20. Monthly Fee Per Household P _____	
ANNEXES	<input type="checkbox"/> 1 Survey Form <input type="checkbox"/> 5 Design of Pipe Lines <input type="checkbox"/> 9A Fittings Schedule <input type="checkbox"/> 12 Financial Analysis <input type="checkbox"/> 2 Map of the Project Area <input type="checkbox"/> 6 Design of Reservoir (G.I. Pipes) <input type="checkbox"/> 13 Availability of Local <input type="checkbox"/> 3 Design Criteria and and Pump <input type="checkbox"/> 9B Fittings Schedule Equity Basic Design Data <input type="checkbox"/> 7 Detailed Design Plan <input type="checkbox"/> 10 Bill of Materials <input type="checkbox"/> 4 Schematic Diagram of <input type="checkbox"/> 8 Pipes Schedule <input type="checkbox"/> 11 Cost Summary the System		
	Prepared by : _____ Date		Endorsed by : _____ Date
Municipal Liason Staff		PST/PWSO Coordinator	

Annex 1

SURVEY FORM
Rural Water Supply Project

A. LOCATION

Barangay : _____
Municipality : _____

Province : _____
Region Number : _____

B. GENERAL INFORMATION

1. Population _____
2. Number of households _____
3. Distance from poblacion _____ kilometers
4. Availability of electricity Yes No
5. Distance from electric line _____ kilometers
6. Power cost per kilowatt hour _____ p
7. Availability of public transportation _____
8. Main livelihood of residents
 Land transport
 Water transport
 Farming
 Industry Others
 Fishing

C. TECHNICAL INFORMATION

1. Are there reliable sources of potable water?
 Yes No

a) For Wells

Well capacity : _____ lps

Casing diameter : _____

Casing depth : _____

Water level from top of well : _____

Location : Within service area
 Outside _____ M. from service area

b) For Springs

Average dry season flow : _____ GPM LPS

Relative elevation of spring

a. _____ ft. m. above service area
b. _____ ft. m. below service area

Location : Within service area
 Outside _____ m. from service area

2. Are there water supply system materials and equipment (pumps, pipes, fittings) which can be donated for this project from other source?

Yes No

For pumps : Type : _____ Power : _____ HP

For pipes : Galvanized Iron PVC
 Others, specify _____

3. Is there an existing water tank that can be used? Yes No

Type : Steel Reinforced Concrete

Capacity : _____ Gallons Cubic Meters

Location: (Please indicate in the map of the project area)

Relative elevation with respect to service area _____ ft. _____ m.

4. Are there other sites where water tanks may be erected? Yes No

Location: (please indicate in the map of the project area)

Relative elevation with respect to service area _____ ft. _____ m.

5. Does the barangay have skilled personnel? Yes No

If yes, how many? Estimated Number

Plumbers : _____
Masons : _____
Carpenters : _____
Others : _____

If no, are there competent contractors near the area?

Plumbing contractor : Yes No

Tank fabricator : Yes No

Are there suppliers of materials (pumps, pipes, fittings) in the municipality?

Yes No

D. FINANCIAL INFORMATION

1. What can the barangay provide as local equity?

Cash : P _____
 Labor : _____ man-days
 Materials :
 Sand : _____ cu. m.
 Gravel : _____ cu. m.
 Cement : _____ bags
 Others, specify : _____

2. Have the people been informed of the current financing policies for Level II systems, particularly the monthly fees required to repay loan & provide for O & M?

Yes No

3. How much are the people willing to pay per household per month as a water fee?

Below P 6.00 P 10.00 - 15.00 Others
 P 6.00 - 10.00 15.00 - 20.00 Specify : _____

4. Average income per household P _____ per month

E. INSTITUTIONAL INFORMATION

1. Is there an existing association who is ready, willing and able to manage the system

Yes No

If yes, please specify. _____

2. Are people willing to join a water association to operate and manage a water supply system?

Yes No

3. How many households are willing to be members? _____ households.

4. Name at least three (3) leaders of the community who can act as officers of the association, if required.

Name	Address
_____	_____
_____	_____
_____	_____

F. MAP OF THE AREA

Please attach map of the area proposed to be served. Indicate location of houses, buildings and other structures to be served including roads, the water source(s) and possible locations of storage tanks. The map should preferably be drawn to scale.

Important : If map cannot be drawn to scale, indicate distance measurements between important points along roads, or possible routes of distribution pipes with households properly indicated. For rolling terrain, indicate elevation differences between measurement points.

G. REMARKS :