

4.1.5 Level I Facilities

Safe and Unsafe Classification of Level I Facilities

According to definition of DOH, the protected deep well, protected shallow well, covered /improved dug well and developed spring are classified as safe sources, while unprotected shallow well, open dug well, undeveloped spring and rain water collector are classified as unsafe sources.

In the 1990 population census data, "Households by Main Source of Drinking Water and City /Municipality", it was shown that 48 % of households depended on shallow well, dug well, undeveloped spring, lake, river and rain water collector, etc. This figure was arrived as the percentage of underserved/unserved sources, if all shallow wells were regarded as doubtful.

The PHO has conducted water quality examination on the samples collected at public and private Level I wells in the province. Table 4.1.3. presents the results of water quality examination on existing shallow wells.

Under the limited data available, the following conditions may be considered to assume safe/unsafe percentage for this planning purpose.

- The number of samples examined (3,017 samples) was limited compared with the number of existing shallow wells (11,457) and water sampling by PHO is usually conducted where problems on water quality and/or incidence of water related diseases have experienced.
- There might be some cases that examination at the same Level I sources/facilities was conducted until the safety of the water was confirmed.
- The sources such as dug wells, which are defined as unsafe sources may have been included in the above examination results.

Considering the above conditions on the manner of sampling, unsafe percentage (30%) of shallow wells derived from the municipalities may be somewhat overestimated, although the number of samples examined was limited.

Table 4.1.3 Results of Water Quality Examination of Shallow Wells

Municipality	No. of Existing Shallow Well	Results of Water Quality Examination				Total No. of Sample
		Safe Water Source		Unsafe Water Source		
		Number	Percentage	Number	Percentage	
Bago City	1,011	15	100%	0	0%	15
Binalbagan	218	12	67%	6	33%	18
Cadiz City	78	NA	NA	NA	NA	NA
Calatrava	42	77	67%	38	33%	115
Candoni	66	NA	NA	NA	NA	NA
Cauayan	66	45	34%	88	66%	133
Escalante	337	357	94%	22	6%	379
E B. Magalona	251	81	78%	23	22%	104
Himamaylan	27	40	62%	25	38%	65
Hinigaran	1,383	38	68%	18	32%	56
Hinobaan	437	218	62%	132	38%	350
Ilog	387	121	93%	9	7%	130
Isabela	814	75	29%	184	71%	259
Kabankalan City	576	79	86%	13	14%	92
La Carlota City	272	79	86%	13	14%	92
La Castellana	460	31	100%	0	0%	31
Manapla	225	75	91%	7	9%	82
Murcia	48	38	36%	68	64%	106
Moises Padilla	63	6	16%	32	84%	38
Pontevedra	415	44	36%	78	64%	122
Pulupandan	431	351	71%	144	29%	495
Sagay City	268	18	47%	20	53%	38
San Carlos City		9	75%	3	25%	12
San Enrique	37	425	84%	80	16%	505
Silay City	796	330	96%	13	4%	343
Sipalay	686	1	8%	12	92%	13
S. Benedicto	760	NA	NA	NA	NA	NA
Talisay City	281	254	65%	138	35%	392
Toboso	105	46	43%	60	57%	106
Valladolid	728	17	55%	14	45%	31
Victorias City	189	135	77%	41	23%	176
Province	11,457	3,017	70%	1,281	30%	4,298

Source: PHO, 1998

As a reference information, on the other hand, the experiences in 1st to 3rd batch provinces (16 provinces) in Mindanao and Visayas area in the preparation of PW4SP show the unsafe percentage of 20-60 as summarized below.

Surigao der Norte 20%	Agusan der Norte 50%	Agusan der Sur 23%	Bukidnon 50%	Misamis Oriental 50%	Davao Oriental 40%	Davao der Norte 20%	Davao der Sur 46%
Sarangani 30%	South Cotabato 50%	Northern Samar 40%	Eastern Samar 40%	Samar 50%	Biliran 30%	Leyte 40%	Southern Leyte 60%

Compared with those figures, the unsafe percentage of 30 (%) is considered within common level experienced in the 1st to 3rd batch study. Thus, 30% may be adopted as an unsafe

percentage to all municipalities both in urban and rural area in unsafe classification of shallow wells. While, those sources other than shallow wells are processed as classified in the questionnaire. Table 4.1.4 presents numbers of Level I facilities by safe and unsafe classification.

Public and Private Level I Facilities for Rural Water Supply

Table 4.1.4 (b) presents the number and proportion of Level I facilities by public and private sources for rural water supply in the province. Public and private facilities share 53% and 47% of the total number of Level I facility, respectively. Developed springs occupy 7% of the total number of public facilities.

Table 4.1.4 (b) Public and Private Level I Facilities for Rural Water Supply

Facility	Public Source		Private Source		Total
	Number	%	Number	%	
Deep Well	2,331	59%	1,626	41%	3,957
Shallow Well	3,927	59%	2,693	41%	6,620
Spring Development	654	100%			654
Others	2,376	38%	3,877	62%	6,253
Total	9,288	53%	8,196	47%	17,484

4.1.6 Water Supply Service Coverage

Estimation of Service Coverage in Terms of Safe, Unsafe and Unserved Classification

Through review of the number of water supply systems/facilities and the number of households that were derived from the questionnaire, it was found out that a great number of unserved population would be accounted as a balance between the total population and the population with any levels of services (including unsafe facilities) in application of the service level standard for Level I and II. To come up with more realistic service coverage, the unserved population in 1998 was referred to using the profile in the 1990 population census data, "Households by Main Source of Drinking Water and City/Municipality" prepared by NSO. The rest of the population, those who are not served by Level III and/or II systems, were considered to be covered by shared or own use of Level I facilities. The calculation procedure is as follows:

- Service percentage/population of Level III and Level II systems was estimated based on the questionnaire survey results.
- Percentage of unserved population (using undeveloped spring, lake water, river water, peddler, etc.) of respective municipality by urban and rural area, which were studied in

Table 4.1.4 Number of Level I Facilities by Safe and Unsafe Classification

Name of Municipality/City	Area	Safe Sources						Unsafe Source						Grand Total										
		Public			Private			Public			Private													
		Deep Well	Shallow Well	Covered/Improved Dug Well	Developed Spring	Sub-total	Deep Well	Shallow Well	Covered/Improved Dug Well	Sub-total	Total	Shallow Well	Open Dug Well		Undeveloped Spring	Rain Water Collection	Sub-total	Shallow Well	Open Dug Well	Rain Water Collector	Sub-total	Total		
Bago City	Urban	7	53		11	61	11	78		89	150	23				23					33		56	
	Rural	131	316		17	464	117	260		377	842	136				136					112		2,457	
	Total	138	370		18	526	128	266		466	992	159				159					145		1,689	
	Urban	3	21		21	75	99	57	52	86	395	494	9			9					22	145	13	189
Binalbagan	Rural	26	40		21	87	210	31	18	259	357	21				21					33	168	1	203
	Total	29	61		22	107	467	83	104	654	851	30				30					35	361	1	232
	Urban	222	8		81	312	410	8	130	540	852	3				3					93	96	948	
	Rural	360	39		112	711	74	81	54	136	847	17				17					18	98	101	1,119
Cádiz City	Total	282	47		193	1,023	484	8	184	676	1,699	20				20					3	191		1,912
	Urban	26			8	41	9		4	13	54													54
	Rural	79	29		19	467	13			13	480	131				131							17	
	Total	105	29		28	508	22		4	26	534	131				131							17	
Candiani	Urban	9	11		6	26	4	20		26	54	5				5					8	10	27	45
	Rural	4	13		4	30	3	7	10	39	3				3						11	8	20	
	Total	13	24		10	56	7	27	20	42	37	8				8					19	18	47	
	Urban	7	4		4	15	13	5	13		18										2	27	29	47
Cauayan	Rural	6	24		6	45	4	18		31	75	10				10					8	10	27	45
	Total	13	24		10	58	4	22	9	35	93	10				10					11	10	28	39
	Urban	11	60		17	88	1	26		29	117	26				26					12	12	38	154
	Rural	6	137		24	149	9	11		20	189	59				59					5	12	17	76
Enrique B. Magalona	Total	17	197		41	257	10	39		49	306	84				84					17	12	29	113
	Urban	173	45		163	381		389		389	19													25
	Rural	136	131		413	680	741	56		741	56												25	
	Total	309	176		576	1,061	1,121	91		1,121	75													50
Escalante	Urban	20	6		26	52	1	26		53														81
	Rural	13	3		3	19	50	7		62														83
	Total	33	9		29	71	51	9		115														164
	Urban	46	32		26	104	18	117		125														11
Hinigan	Rural	105	335		178	618	150	590		740														1
	Total	151	367		204	515	268	601		812														1
	Urban	1	78		13	45		102		102														1
	Rural	1	88		49	138	151	38		189														1
Hinoban (Asia)	Total	2	167		62	170	247	139		309														1
	Urban	22	77		58	157	39	130		189														1
	Rural	40	57		33	130	133	7		137													1	
	Total	62	134		91	287	72	167		326														1
Ilog	Urban	5	117		23	147	1	128		129														1
	Rural	5	196		30	231	197	1	186															1
	Total	10	313		53	478	204	214		315														1
	Urban	6	83		427	516	40	567		607														1
Kabankalan City	Rural	33	67		272	372	470	14	53															1
	Total	39	150		699	888	480	601		1,089														1
	Urban	26	5		2	33	13	3		36														1
	Rural	6	117		2	125	142	75		162														1
La Carlota City	Total	32	122		4	159	285	77		298														1
	Urban	1	270		7	278	4	283		287														1
	Rural	61	46		53	160	188	6		194													1	
	Total	62	316		60	438	192	22		481														1
La Castellana	Urban	62	46		60	37	470	6	6															1
	Rural	61	46		53	160	188	6		194													1	
	Total	123	92		113	530	656	12	6														1	
	Urban	62	46		60	37	470	6	6														1	

Table 4.1.4 Number of Level 1 Facilities by Safe and Unsafe Classification (Cont'd)

Name of Municipality/City	Area	Safe Sources						Unsafe Source						Grand Total									
		Public			Private			Public			Private												
		Deep Well	Shallow Well	Covered/ Improved Dug Well	Developed Spring	Sub-total	Deep Well	Shallow Well	Covered/ Improved Dug Well	Sub-total	Total	Shallow Well	Open Dug Well		Undeveloped Spring	Rain Water Collection	Sub-total	Total					
Manapla	Urban	65	38	19		122	9	8	181	35	157	16		1		17	3	3	6	12	30	186	
	Rural	41	110	140		291	3	2	7	12	303	47				47	1	2	3	50	353		
	Total	106	148	159		413	12	10	25	47	460	63		1		64	4	5	6	15	80	539	
Moises Padilla	Urban	73	13			86	81	8	4	93	179	5									4	9	185
	Rural	60	4			64	66			74	139	2									4	5	144
	Total	133	17			150	147	17	4	168	318	7				7	7			7	14	332	
Murcia	Urban	37	6	20	2	65	67			67	132	2									2	134	
	Rural	82	37	18	26	163	179	1	31	211	375	16				16	1			1	17	391	
	Total	119	43	38	28	228	246	11	31	278	506	18				18	1			1	19	525	
Pontevedra	Urban	75	61			145	75	44		119	264	26				27	19	21		41	68	332	
	Rural	69	79	19	9	177	36	106	13	155	333	34				34				99	133	465	
	Total	144	140	19	19	322	111	151	13	275	597	50				61	65	72	3	140	201	797	
Pulupandan	Urban	33	86	85		204	14	139	80	233	437	37				37	59	65		121	158	592	
	Rural	95	52	6		153	54	25		79	232	22				22	11			11	33	265	
	Total	128	138	91		357	68	164	80	312	669	59				59	70	62		132	191	860	
Sagay City	Urban	23	39			62	6	8		14	78	17				17	3			12	15	32	108
	Rural	55	109	10	11	185	6	32		38	223	47				54	14	5	67	86	139	362	
	Total	78	148	20	11	247	12	39		51	299	64				71	17	5	79	101	171	470	
Salvador Benedicto	Urban			38	67	105					105												105
	Rural			38	67	105					105												105
	Total																						
San Carlos City	Urban	40				40	57			57	97												97
	Rural	22	26	2	30	80				80	11					20			23	23	43	123	
	Total	62	26	2	30	120	57			57	177	11				20			23	23	43	220	
San Enrique	Urban	6	144			150		146		146	295	62				62				62	124	419	
	Rural	5	218			223		50		50	273	94				94	21			21	115	388	
	Total	11	362			373		195		195	568	155				155	84			84	239	807	
Silay City	Urban	124	234	215	25	598	214	46	57	317	915	100				100	20	173		193	293	1,208	
	Rural	20	160	104		384	14	40	6	60	346	69				69				69	130	545	
	Total	144	394	319	27	884	228	86	63	377	1,261	169				169	37	228	60	323	492	1,753	
Sipalay	Urban	368	155	33	2	558		108	12	120	678	66				66				46	125	802	
	Rural	424	92	338	48	902	139	178	28	445	1,247	39				41	76	27	43	146	188	1,434	
	Total	792	246	371	50	1,459	139	286	40	465	1,924	106				120	122	27	43	192	312	2,236	
Talisay City	Urban	299	69	2		370	257	25	8	290	661	30				30	11	19	11	41	71	731	
	Rural	90	90			180	45	13	9	67	246	38				38	5		2	7	46	292	
	Total	389	159	2		550	302	38	17	357	907	68				68	16	19	13	48	116	1,023	
Toboso	Urban	21	4	5		30	8	6		22	52					2	3	18	82	103	103	157	
	Rural	32	29	84	74	219	13	32	8	126	346	13				7	20	14	3	23	40	59	
	Total	53	33	89	74	250	21	40	87	148	398	14				7	21	21	105	143	165	562	
Valladolid	Urban	64	214	4		282	323	65	277	665	947	92				92	28	31		59	150	1,097	
	Rural	83	128	47		258	363	103	135	601	859	55				55	44	59		103	158	1,017	
	Total	147	342	51		540	686	168	412	1,266	1,806	146				146	72	90		162	308	2,114	
Victoria City	Urban	58	81	40		179	17	16		33	212	35				35	7	19		26	61	273	
	Rural	41	23	44	1	109	28	12	29	69	178	10				10	5	21		76	86	269	
	Total	99	104	84		248	45	28	29	102	390	45				45	12	90		102	147	537	
Provincial Total	Urban	1,865	2,007	1,537	120	5,329	1,931	1,379	1,279	4,589	9,918	869				865	591	1,665	262	2,518	3,403	13,321	
	Rural	2,331	2,749	2,338	654	8,072	1,626	1,885	980	4,491	12,563	1,178				1,216	898	2,587	310	3,705	4,921	17,484	
	Total	4,196	4,756	3,875	774	13,401	3,557	3,264	2,259	9,080	22,481	2,038				36	2,101	1,899	4,253	572	6,234	20,805	

the 1990 population census. For some municipalities, the 1998 PHO study result on IHIs using doubtful water sources was referred to.

- Population covered by Level I facilities was calculated as the balance between the total population and the population served by Level III & II systems and the unserved population.
- Level I population coverage was estimated with the assumption that 50% of the private facilities were shared by neighbors.

Unserved population and the population covered by Level I facilities are presented in Table 4.1.5. Table 4.1.6 presents the overall population covered by Level I facilities and the number of households.

The number of households per shared public/private facility is estimated at 10 households in urban area and 15 in rural area as provincial averages, which are considered within reasonable level compared with the service level standard of Level I public facility (15 households/facility). However, the figures in Cauayan, Himamaylan, Sagay City, Salvador Benedicto and San Carlos are considered quite large. This reason seems to arise from a large number of non-reported/unidentified private wells.

Percentage of Population Covered by Level I Public Facility for Rural Water Supply

Grasping the current percentage of population covered by public facilities would be a useful information in considering to what extent the additional population to be covered by public facilities in the future plan. This takes into account that the major facilities would be Level I especially for rural water supply in the future.

Population served by public facilities is calculated using Tables 4.1.6 (a) and 4.1.6 (b) as a balance between total population served by Level I facilities and population covered by private facilities. Thus, it is estimated that 802,300 persons or 94% of the population served by Level I facilities is covered by public facilities.

Table 4.1.5 Estimation of Unserved Population by Municipality

Name of Municipality/City	Area	Population and Household (1998)		Served Population			Unserved Population				Population Covered by Level I Facilities
		Number	HH Size	Level III	Level II	Total	Unserved Percentage (1995)			Unserved Population 1998	
							Total No. of HHs	No. of Unserved	%		
Bago City	Urban	31,401	5.22	5,724		5,724	5,719	484	8	2,657	23,020
	Rural	107,841	5.24	1,224	5,600	6,824	19,560	1,902	10	10,486	90,531
	Total	139,242	5.24	6,948	5,600	12,548	25,279	2,386	9	13,144	113,550
Binalbagan	Urban	25,124	5.31	7,680		7,680	4,567	132	3	726	16,718
	Rural	31,539	5.33	5,214	75	5,289	5,710	518	9	2,861	23,389
	Total	56,663	5.32	12,894	75	12,969	10,277	650	6	3,587	40,107
Cadiz City	Urban	35,329	5.00	32,767	550	33,317	6,820	289	4	1,497	515
	Rural	95,235	5.22	3,000	1,300	4,300	17,587	1,135	6	6,146	84,789
	Total	130,564	5.16	35,767	1,850	37,617	24,407	1,424	6	7,643	85,304
Calatrava	Urban	12,055	4.81	10,269		10,269	2,465	247	10	1,208	578
	Rural	58,972	4.96	2,346	2,500	4,846	11,711	968	8	4,874	49,252
	Total	71,027	4.93	12,615	2,500	15,115	14,176	1,215	9	6,082	49,830
Candoni	Urban	2,806	5.28		325	325	520	57	11	308	2,173
	Rural	14,575	5.39		2,025	2,025	2,644	221	8	1,218	11,332
	Total	17,381	5.37		2,350	2,350	3,164	278	9	1,526	13,505
Cauayan	Urban	22,680	5.28		4,450	4,450	4,174	405	10	2,201	16,029
	Rural	63,911	5.41	900	5,200	6,100	11,490	1,589	14	8,839	48,972
	Total	86,591	5.37	900	9,650	10,550	15,664	1,994	13	11,039	65,002
Enrique B. Magalona	Urban	30,366	5.25	3,500	75	3,575	5,389	71	1	400	26,391
	Rural	28,025	5.55	350		350	4,709	276	6	1,643	26,032
	Total	58,391	5.39	3,850	75	3,925	10,098	347	3	2,043	52,423
Escalante	Urban	37,146	5.13	5,523	125	5,648	6,800	175	3	956	30,542
	Rural	47,945	5.11	1,320	1,200	2,520	8,816	686	8	3,731	41,694
	Total	85,091	5.12	6,843	1,325	8,168	15,616	861	6	4,687	72,236
Hinamaylan	Urban	32,115	5.50	4,986	550	5,536	5,707	365	6	2,054	24,525
	Rural	53,077	5.50	4,782	4,600	9,382	9,425	1,432	15	8,064	35,631
	Total	85,192	5.50	9,768	5,150	14,918	15,132	1,797	12	10,118	60,156

Table 4.1.5 Estimation of Unserved Population by Municipality (Cont'd)

Name of Municipality/City	Area	Population and Household (1998)		Served Population			Unserved Population				Population Covered by Level I Facilities
		Number	HH Size	Level III	Level II	Total	Unserved Percentage (1995)		Unserved Population 1998		
							Total No. of HHs	No. of Unserved		%	
Hinigaran	Urban	13,109	5.52	948		948	2,307	150	7	852	11,309
	Rural	60,563	5.40	2,142	1,000	3,142	10,894	587	5	3,263	54,158
	Total	73,672	5.42	3,090	1,000	4,090	13,201	737	6	4,116	65,466
Hinoba-an (Asia)	Urban	16,355	5.20		175	175	3,123	120	4	628	15,552
	Rural	24,720	5.34		1,750	1,750	4,601	471	10	2,531	20,439
	Total	41,075	5.28		1,925	1,925	7,724	591	8	3,159	35,991
Ilog	Urban	27,123	5.26	1,200		1,200	5,161	121	2	636	25,287
	Rural	16,782	5.20		625	625	3,226	474	15	2,466	13,691
	Total	43,905	5.23	1,200	625	1,825	8,387	595	7	3,102	38,978
Isabela	Urban	11,140	5.08				2,127	315	15	1,650	9,490
	Rural	39,419	5.27		5,950	5,950	7,252	1,237	17	6,724	26,745
	Total	50,559	5.23		5,950	5,950	9,379	1,552	17	8,374	36,235
Kabankalan City	Urban	50,036	5.51	180	375	555	8,543	639	7	3,743	45,738
	Rural	98,089	5.56	13,782	5,800	19,582	16,577	2,507	15	14,834	63,673
	Total	148,125	5.54	13,962	6,175	20,137	25,120	3,146	13	18,577	109,411
La Carlota City	Urban	22,873	5.39	16,620	50	16,670	4,218	181	4	982	5,221
	Rural	33,931	5.32	9,360	1,500	10,860	6,336	711	11	3,808	19,263
	Total	56,804	5.35	25,980	1,550	27,530	10,554	892	8	4,789	24,485
La Castellana	Urban	21,730	5.26	2,958		2,958	3,881	453	12	2,536	16,236
	Rural	41,697	5.11		1,325	1,325	7,663	1,778	23	9,675	30,697
	Total	63,427	5.16	2,958	1,325	4,283	11,544	2,231	19	12,211	46,933
Manapla	Urban	9,572	5.26	4,278		4,278	1,703	14	1	79	5,215
	Rural	37,724	5.40		1,150	1,150	6,545	55	1	317	36,257
	Total	47,296	5.37	4,278	1,150	5,428	8,248	69	1	396	41,472
Moises Padilla	Urban	10,820	5.05	2,445	300	2,745	2,105	236	11	1,213	6,862
	Rural	21,079	5.22		1,075	1,075	3,966	927	23	4,927	15,077
	Total	31,899	5.16	2,445	1,375	3,820	6,071	1,163	19	6,140	21,939

Table 4.1.5 Estimation of Unserved Population by Municipality (Cont'd)

Name of Municipality/City	Area	Population and Household (1998)		Served Population			Unserved Population				Population Covered by Level I Facilities
		Number	HH Size	Level III	Level II	Total	Unserved Percentage (1995)		Unserved Population 1998		
							Total No. of HHs	No. of Unserved		%	
Murcia	Urban	17,738	5.11	6,982	125	7,107	3,268	325	10	1,764	8,867
	Rural	40,765	5.24	888	4,775	5,663	7,334	1,274	17	7,081	28,021
	Total	58,503	5.20	7,870	4,900	12,770	10,602	1,599	15	8,845	36,888
Pontevedra	Urban	19,475	5.09	7,837		7,837	3,673	110	3	583	11,055
	Rural	24,726	5.24	4,534	425	4,959	4,533	432	10	2,356	17,411
	Total	44,201	5.17	12,371	425	12,796	8,206	542	7	2,940	28,465
Pulupandan	Urban	16,271	5.20	1,284		1,284	2,965	1	0	5	14,982
	Rural	10,059	5.05	762		762	1,886	4	0	21	9,276
	Total	26,330	5.14	2,046		2,046	4,851	5	0	27	24,257
Sagay City	Urban	50,250	5.29	13,030	840	13,870	8,738	384	4	2,208	34,172
	Rural	89,369	5.09	7,697	775	8,472	16,146	1,506	9	8,336	72,561
	Total	139,619	5.16	20,727	1,615	22,342	24,884	1,890	8	10,544	106,733
Salvador Benedicto	Urban										
	Rural	18,587	5.24		4,400	4,400	3,367	337	10	1,860	12,327
	Total	18,587	5.24		4,400	4,400	3,367	337	10	1,860	12,327
San Carlos City	Urban	28,943	5.08	13,585		13,585	5,425	660	12	3,521	11,837
	Rural	77,504	4.93	770	18,855	19,625	14,965	2,593	17	13,429	44,450
	Total	106,447	4.97	14,355	18,855	33,210	20,390	3,253	16	16,950	56,287
San Enrique	Urban	9,865	5.20				1,808				9,865
	Rural	11,801	5.32		325	325	2,114				11,476
	Total	21,666	5.26		325	325	3,922				21,341
Silay City	Urban	57,862	5.39	14,445		14,445	10,192	90	1	511	42,906
	Rural	71,515	5.25	2,917	4,525	7,442	12,913	354	3	1,961	62,112
	Total	129,377	5.31	17,362	4,525	21,887	23,105	444	2	2,471	105,019
Sipalay	Urban	21,546	5.21	1,410	100	1,510	4,030	302	7	1,615	18,421
	Rural	44,093	5.29	294	1,025	1,319	8,129	1,185	15	6,428	36,346
	Total	65,639	5.26	1,704	1,125	2,829	12,159	1,487	12	8,042	54,768

Table 4.1.5 Estimation of Unserved Population by Municipality (Cont'd)

Name of Municipality/City	Area	Population and Household (1998)		Served Population			Unserved Population				Population Covered by Level I Facilities
		Number	HH Size	Level III	Level II	Total	Unserved Percentage (1995)		Unserved Population 1998		
							Total No. of HHs	No. of Unserved		%	
Talisay City	Urban	33,189	5.10	8,220	500	8,720	6,174	162	3	871	23,598
	Rural	38,914	5.16	42	500	542	7,158	635	9	3,452	34,920
	Total	72,103	5.13	8,262	1,000	9,262	13,332	797	6	4,323	58,518
Toboso	Urban	7,279	5.05	954	510	1,464	1,342	237	18	1,285	4,530
	Rural	34,201	5.28	936	1,725	2,661	6,029	930	15	5,276	26,264
	Total	41,480	5.24	1,890	2,235	4,125	7,371	1,167	16	6,561	30,794
Valladolid	Urban	21,066	5.06	1,610		1,610	4,008				19,456
	Rural	11,540	5.15		375	375	2,156				11,165
	Total	32,606	5.09	1,610	375	1,985	6,164				30,621
Victorias City	Urban	60,419	5.24	14,400		14,400	10,701	92	1	519	45,500
	Rural	23,889	5.36	3,480		3,480	4,139	359	9	2,072	18,337
	Total	84,308	5.28	17,880		17,880	14,840	451	3	2,591	63,837
Provincial Total	Urban	755,683	5.24	182,835	9,050	191,885	137,653	6,817	5	37,209	526,589
	Rural	1,372,087	5.25	66,740	80,380	147,120	249,581	27,083	11	148,679	1,076,288
	Total	2,127,770	5.25	249,575	89,430	339,005	387,234	33,900	9	185,888	1,602,877

Table 4.1.6 (a) Estimation of Population Covered by Safe and Unsafe Source by Municipality

Name of Municipality/City	Area	Pop. Covered by Level I Facilities	Number of Facilities					Coverage of Own Use				
			Public Facilities		Private Facilities			Number of Private Facilities		(1) Population Covered		
			Safe	Unsafe	Total	Safe	Unsafe	Total	Safe	Unsafe	Total	Total
Bago City	Urban	23,020	61	23	84	89	33	122	44	17	61	318
	Rural	90,531	464	136	600	377	112	489	189	56	245	1,276
	Total	113,550	526	158	684	466	145	611	233	72	306	1,595
Binalbagan	Urban	16,718	99	9	108	395	180	575	197	90	288	1,527
	Rural	23,389	98	22	120	259	181	440	129	91	220	1,168
	Total	40,107	197	31	228	654	361	1,015	327	181	508	2,695
Cadiz City	Urban	515	312	3	315	540	93	633	270	47	317	1,583
	Rural	84,789	711	18	729	136	101	237	68	51	119	593
	Total	85,304	1,023	21	1,044	676	194	870	338	97	435	2,175
Calatrava	Urban	578	41		41	13		13	7		7	31
	Rural	49,252	467	17	484	13		13	7		7	31
	Total	49,830	508	17	525	26		26	13		13	63
Candoni	Urban	2,173	28	5	33	26	45	71	13	23	36	187
	Rural	11,332	30	6	36	10	29	39	5	15	20	103
	Total	13,505	58	11	69	35	75	110	18	37	55	290
Cauayan	Urban	16,029	13		13	5	29	34	2	15	17	90
	Rural	48,972	45	11	56	31	28	58	15	14	29	153
	Total	65,002	58	11	69	35	57	92	18	28	46	243
Enrique B. Magalona	Urban	26,391	88	26	113	29	12	41	15	6	21	108
	Rural	26,032	169	59	228	20	17	37	10	8	19	97
	Total	52,423	257	84	341	49	29	78	25	14	39	205
Escalante	Urban	30,542	389	25	414							
	Rural	41,694	741	56	797							
	Total	72,236	1,130	81	1,211							
Himamaylan	Urban	24,525	56	2	58	18	5	22	9	2	11	61
	Rural	35,631	50	1	51	29	3	32	15	2	16	88
	Total	60,156	105	4	109	47	8	54	23	4	27	149
Hinigaran	Urban	11,309	104	14	117	119	224	343	60	112	172	947
	Rural	54,158	619	144	763	1,097	755	1,852	549	377	926	5,112
	Total	65,466	723	157	880	1,216	979	2,195	608	489	1,098	6,058
Hinobu-an (Asia)	Urban	15,552	95	34	129	102	66	167	51	33	84	434
	Rural	20,439	151	38	189	38	25	63	19	13	32	164
	Total	35,991	247	71	318	139	91	230	70	45	115	598

Table 4.1.6 (a) Estimation of Population Covered by Safe and Unsafe Source by Municipality (Cont'd)

Name of Municipality/City	Area	Pop. Covered by Level I Facilities	Number of Facilities			Private Facilities			Coverage of Own Use		
			Public Facilities		Total	Private Facilities		Total	Number of Private Facilities		(1) Population Covered
			Safe	Unsafe		Safe	Unsafe		Safe	Unsafe	
Ilog	Urban	25,287	158	34	192	260	233	492	130	116	246
	Rural	13,691	133	29	162	21	235	256	11	118	128
	Total	38,978	291	63	354	281	468	748	140	234	374
Isabela	Urban	9,490	117	50	167	136	56	192	68	28	96
	Rural	26,745	197	59	256	216	205	421	108	102	211
	Total	36,235	314	110	423	352	261	613	176	130	307
Kabankalan City	Urban	45,738	567	39	606	607	815	1,422	304	407	711
	Rural	63,673	470	30	500	161	1,146	1,307	81	573	654
	Total	109,411	1,037	69	1,106	768	1,961	2,729	384	980	1,365
La Carlota City	Urban	5,221	31	2	33	41	1	42	20	1	21
	Rural	19,263	142	50	192	163	29	192	81	15	96
	Total	24,485	173	52	225	204	30	234	102	15	117
La Castellana	Urban	16,236	282	116	398	1	3	4	1	2	2
	Rural	30,697	188	20	208	34	90	124	17	45	62
	Total	46,933	470	136	606	35	93	128	17	47	64
Manapla	Urban	5,215	122	17	139	35	12	47	17	6	24
	Rural	36,257	291	47	338	12	3	15	6	1	8
	Total	41,472	413	64	477	47	15	62	23	8	31
Moises Padilla	Urban	6,862	86	5	91	93	4	97	47	2	49
	Rural	15,077	64	2	66	74	4	78	37	2	39
	Total	21,939	150	7	157	168	7	175	84	4	88
Murcia	Urban	8,867	65	2	67	67		67	34		34
	Rural	28,021	163	16	179	211	1	212	106	0	106
	Total	36,888	228	18	246	278	1	279	139	0	140
Pontevedra	Urban	11,055	145	27	172	119	41	160	60	20	80
	Rural	17,411	177	34	211	155	99	254	78	49	127
	Total	28,465	322	61	383	275	140	414	137	70	207
Pulupandan	Urban	14,982	204	37	241	233	121	354	116	61	177
	Rural	9,276	153	22	175	79	11	90	40	5	45
	Total	24,257	357	59	416	312	132	444	156	66	222
Sagay City	Urban	34,172	62	17	79	14	15	29	7	8	15
	Rural	72,561	185	54	239	38	86	123	19	43	62
	Total	106,733	247	71	318	51	101	152	26	50	76

Table 4.1.6 (a) Estimation of Population Covered by Safe and Unsafe Source by Municipality (Cont'd)

Name of Municipality/City	Area	Pop. Covered by Level I	Number of Facilities						Coverage of Own Use					
			Public Facilities			Private Facilities			Number of Private Facilities			(1) Population Covered		
			Safe	Unsafe	Total	Safe	Unsafe	Total	Safe	Unsafe	Total	Safe	Unsafe	Total
Salvador Benedicto	Urban													
	Rural	12,327	105		105									
	Total	12,327	105		105									
San Carlos City	Urban	11,837	40		40	57		57	29		29	145		145
	Rural	44,450	80	20	100		23	23		12	12		58	58
	Total	56,287	120	20	140	57	23	80	29	12	40	145	58	203
San Enrique	Urban	9,865	150	62	211	146	62	208	73	31	104	379	162	541
	Rural	11,476	223	94	317	50	21	71	25	11	36	129	55	185
	Total	21,341	373	155	528	195	84	279	98	42	140	508	218	725
Silay City	Urban	42,906	598	100	698	317	193	510	159	96	255	855	520	1,374
	Rural	62,112	286	69	355	60	130	190	30	65	95	161	351	512
	Total	105,019	884	169	1,053	377	323	700	189	161	350	1,016	870	1,887
Sipalay	Urban	18,421	558	78	636	120	46	166	60	23	83	312	120	432
	Rural	36,346	902	41	943	345	146	491	172	73	246	898	381	1,279
	Total	54,768	1,459	120	1,579	465	192	657	232	96	329	1,210	501	1,711
Talisay City	Urban	23,598	370	30	400	290	41	331	145	20	166	740	104	844
	Rural	34,920	180	38	218	67	7	74	33	4	37	170	19	189
	Total	58,518	550	68	618	357	48	405	178	24	203	910	123	1,033
Toboso	Urban	4,530	30	2	32	22	103	125	11	52	63	55	261	316
	Rural	26,264	219	20	239	126	40	166	63	20	83	319	100	419
	Total	30,794	250	21	271	148	143	291	74	72	146	373	361	735
Valladolid	Urban	19,456	282	92	373	665	59	724	333	29	362	1,683	149	1,832
	Rural	11,165	258	55	313	601	103	704	300	52	352	1,520	261	1,781
	Total	30,621	540	146	686	1,266	162	1,428	633	81	714	3,203	410	3,613
Victorias City	Urban	45,500	179	35	214	33	26	59	17	13	30	87	68	155
	Rural	18,337	109	10	119	69	76	145	34	38	73	181	199	380
	Total	63,837	288	45	333	102	102	204	51	51	102	267	267	534
Provincial Total	Urban	526,589	5,329	885	6,214	4,589	2,518	7,107	2,295	1,259	3,554	11,969	6,721	18,690
	Rural	1,076,288	8,072	1,216	9,288	4,491	3,705	8,196	2,246	1,852	4,098	11,822	9,936	21,759
	Total	1,602,877	13,401	2,101	15,502	9,080	6,223	15,303	4,540	3,111	7,652	23,791	16,658	40,449

Table 4.1.6 (b) Estimation of Population Covered by Safe and Unsafe Source by Municipality

Name of Municipality/City	Area	Coverage of Shared Well						No. of HHs per Shared Facility	Level I Coverage (1) + (2)					
		(2) Population Covered by Private and Public			Number of Households				Safe		Unsafe		Total	
		Safe	Unsafe	Total	Safe	Unsafe	Total		Pop.	%	Pop.	%		
Bago City	Urban	16,757	5,944	22,701	3,210	1,139	4,349	30	16,988	54	6,031	19	23,020	73
	Rural	70,012	19,242	89,254	13,361	3,672	17,033	20	70,998	66	19,533	18	90,531	84
	Total	86,769	25,186	111,955	16,571	4,811	21,382	22	87,986	63	25,565	18	113,550	82
Binalbagan	Urban	12,529	2,662	15,191	2,359	501	2,861	7	13,577	54	3,141	13	16,718	67
	Rural	15,643	6,578	22,221	2,935	1,234	4,169	12	16,330	52	7,059	22	23,389	74
	Total	28,172	9,240	37,412	5,294	1,735	7,030	10	29,907	53	10,199	18	40,107	71
Cadiz City	Urban								1,350	4	233	1	1,583	4
	Rural	77,941	6,256	84,196	14,931	1,198	16,130	19	78,280	82	6,509	7	84,789	89
	Total	77,941	6,256	84,196	14,931	1,198	16,130	11	79,630	61	6,741	5	86,371	66
Calatrava	Urban	547		547	114		114	2	578	5			578	5
	Rural	47,585	1,636	49,220	9,594	330	9,923	20	47,616	81	1,636	3	49,252	84
	Total	48,132	1,636	49,767	9,707	330	10,037	19	48,194	68	1,636	2	49,830	70
Candoni	Urban	1,301	685	1,986	246	130	376	5	1,368	49	805	29	2,173	77
	Rural	7,044	4,185	11,229	1,307	776	2,083	38	7,070	49	4,262	29	11,332	78
	Total	8,345	4,870	13,215	1,553	906	2,459	20	8,438	49	5,067	29	13,505	78
Cauayan	Urban	8,255	7,684	15,940	1,563	1,455	3,019	101	8,268	36	7,761	34	16,029	71
	Rural	34,598	14,222	48,819	6,395	2,629	9,024	106	34,678	54	14,294	22	48,972	77
	Total	42,853	21,906	64,759	7,959	4,084	12,043	105	42,946	50	22,056	25	65,002	75
Enrique B. Magalona	Urban	20,164	6,119	26,283	3,841	1,166	5,006	38	20,240	67	6,151	20	26,391	87
	Rural	18,936	7,000	25,935	3,412	1,261	4,673	19	18,989	68	7,044	25	26,032	93
	Total	39,099	13,119	52,219	7,253	2,427	9,679	25	39,229	67	13,195	23	52,423	90
Escalante	Urban	28,683	1,859	30,542	5,591	362	5,954	14	28,683	77	1,859	5	30,542	82
	Rural	38,759	2,935	41,694	7,585	574	8,159	10	38,759	81	2,935	6	41,694	87
	Total	67,442	4,794	72,236	13,176	937	14,113	12	67,442	79	4,794	6	72,236	85
Himamaylan	Urban	22,872	1,592	24,465	4,159	290	4,448	64	22,920	71	1,605	5	24,525	76
	Rural	34,195	1,348	35,543	6,217	245	6,462	96	34,275	65	1,356	3	35,631	67
	Total	57,067	2,940	60,007	10,376	535	10,910	80	57,195	67	2,961	3	60,156	71
Hinigan	Urban	6,393	3,969	10,362	1,158	719	1,877	7	6,722	51	4,586	35	11,309	86
	Rural	37,447	11,599	49,046	6,935	2,148	9,083	5	40,475	67	13,683	23	54,158	89
	Total	43,840	15,568	59,408	8,093	2,867	10,960	6	47,197	64	18,269	25	65,466	89

Table 4.1.6 (b) Estimation of Population Covered by Safe and Unsafe Source by Municipality (Cont'd)

Name of Municipality/City	Area	Coverage of Shared Well						Level I Coverage (1) + (2)						
		(2) Population Covered by Private			Number of Households			No. of HHs per Shared	Safe		Unsafe		Total	
		Safe	Unsafe	Total	Safe	Unsafe	Total		Pop.	%	Pop.	%	Pop.	%
Hinoba-an (Asia)	Urban	10,696	4,422	15,117	2,057	850	2,907	14	10,960	67	4,592	28	15,552	95
	Rural	15,768	4,508	20,276	2,953	844	3,797	17	15,866	64	4,574	19	20,439	83
	Total	26,463	8,930	35,393	5,010	1,695	6,704	15	26,826	65	9,165	22	35,991	88
Ilog	Urban	16,613	7,380	23,993	3,158	1,403	4,561	10	17,295	64	7,992	29	25,287	93
	Rural	6,794	6,224	13,018	1,306	1,197	2,503	9	6,849	41	6,842	41	13,691	82
	Total	23,406	13,605	37,011	4,465	2,600	7,065	10	24,144	55	14,834	34	38,978	89
Isabela	Urban	6,674	2,329	9,003	1,314	458	1,772	7	7,020	63	2,471	22	9,490	85
	Rural	17,469	8,207	25,676	3,315	1,557	4,872	10	18,018	46	8,727	22	26,745	68
	Total	24,143	10,536	34,678	4,629	2,016	6,644	9	25,038	50	11,198	22	36,235	72
Kabankalan City	Urban	30,221	11,599	41,821	5,485	2,105	7,590	6	31,894	64	13,844	28	45,738	91
	Rural	30,404	29,668	60,072	5,468	5,336	10,804	9	30,848	31	32,825	33	63,673	65
	Total	60,625	41,267	101,893	10,953	7,441	18,394	7	62,742	42	46,669	32	109,411	74
La Carlota City	Urban	4,960	148	5,108	920	27	948	18	5,070	22	151	1	5,221	23
	Rural	14,936	3,810	18,746	2,807	716	3,524	12	15,375	45	3,889	11	19,263	57
	Total	19,896	3,958	23,854	3,728	744	4,471	13	20,445	36	4,040	7	24,485	43
La Castellana	Urban	11,475	4,751	16,225	2,181	903	3,085	8	11,477	53	4,758	22	16,236	75
	Rural	23,307	7,064	30,371	4,561	1,382	5,943	22	23,396	56	7,302	18	30,697	74
	Total	34,782	11,815	46,596	6,743	2,286	9,028	13	34,873	55	12,060	19	46,933	74
Manapla	Urban	4,466	626	5,092	849	119	968	6	4,557	48	658	7	5,215	54
	Rural	31,162	5,055	36,218	5,771	936	6,707	19	31,194	83	5,063	13	36,257	96
	Total	35,628	5,681	41,309	6,620	1,055	7,675	15	35,751	76	5,721	12	41,472	88
Moises Padilla	Urban	6,508	109	6,617	1,289	22	1,310	9	6,744	62	118	1	6,862	63
	Rural	14,560	320	14,880	2,789	61	2,851	27	14,748	70	329	2	15,077	72
	Total	21,068	429	21,497	4,078	83	4,161	17	21,492	67	447	1	21,939	69
Murcia	Urban	8,635	41	8,696	1,694	8	1,702	17	8,826	50	41	0	8,867	50
	Rural	26,428	1,051	27,479	5,043	201	5,244	18	26,968	66	1,053	3	28,021	69
	Total	35,083	1,092	36,175	6,737	209	6,946	18	35,794	61	1,093	2	36,888	63
Pontevedra	Urban	8,969	1,679	10,648	1,762	330	2,092	8	9,272	48	1,783	9	11,055	57
	Rural	13,125	3,639	16,764	2,505	695	3,199	9	13,520	55	3,890	16	17,411	70
	Total	22,094	5,318	27,412	4,267	1,024	5,291	9	22,792	52	5,673	13	28,465	64
Pulupandan	Urban	11,483	2,578	14,061	2,208	496	2,704	6	12,088	74	2,893	18	14,982	92
	Rural	8,112	930	9,042	1,606	184	1,790	8	8,318	83	958	10	9,276	92
	Total	19,595	3,507	23,103	3,815	680	4,494	7	20,406	78	3,851	15	24,257	92

Table 4.1.6 (b) Estimation of Population Covered by Safe and Unsafe Source by Municipality (Cont'd)

Name of Municipality/City	Area	Coverage of Shared Well						Level I Coverage (1) + (2)					
		(2) Population Covered by Private			Number of Households			No. of HHs per Shared	Safe		Unsafe		Total
		Safe	Unsafe	Total	Safe	Unsafe	Total		Pop.	%	Pop.	%	
Sagay City	Urban	25,236	8,859	34,095	4,770	1,675	6,445	69	25,272	50	8,900	18	34,172
	Rural	49,247	22,988	72,236	9,675	4,516	14,192	47	49,347	55	23,215	26	72,561
	Total	74,483	31,848	106,331	14,446	6,191	20,637	52	74,619	53	32,114	23	106,733
	Urban												
Salvador Benedicto	Rural	12,327		12,327	2,352		2,352	22	12,327	66			12,327
	Total	12,327		12,327	2,352		2,352	22	12,327	66			12,327
	Urban	11,692		11,692	2,302		2,302	34	11,837	41			11,837
	Rural	31,852	12,539	44,391	6,461	2,543	9,004	81	31,852	41	12,597	16	44,450
San Carlos City	Total	43,544	12,539	56,083	8,763	2,543	11,306	63	43,689	41	12,597	12	56,287
	Urban	6,962	2,362	9,324	1,339	454	1,793	6	7,340	74	2,525	26	9,865
	Rural	8,082	3,209	11,291	1,519	603	2,122	6	8,211	70	3,265	28	11,476
	Total	15,044	5,572	20,616	2,858	1,058	3,916	6	15,552	72	5,789	27	21,341
San Enrique	Urban	34,055	7,477	41,532	6,318	1,387	7,705	8	34,910	60	7,996	14	42,906
	Rural	43,651	17,949	61,600	8,315	3,419	11,733	26	43,813	61	18,300	26	62,112
	Total	77,706	25,426	103,132	14,633	4,806	19,439	14	78,722	61	26,296	20	105,019
	Urban	15,823	2,166	17,989	3,037	416	3,453	5	16,136	75	2,286	11	18,421
Sipalay	Rural	32,848	2,219	35,067	6,209	420	6,629	6	33,746	77	2,600	6	36,346
	Total	48,671	4,385	53,056	9,247	835	10,082	5	49,882	76	4,886	7	54,768
	Urban	21,507	1,247	22,754	4,217	244	4,462	8	22,248	67	1,351	4	23,598
	Rural	29,155	5,577	34,731	5,650	1,081	6,731	26	29,324	75	5,595	14	34,920
Talisay City	Total	50,662	6,823	57,485	9,867	1,325	11,192	14	51,572	72	6,946	10	58,518
	Urban	1,968	2,246	4,214	390	445	834	9	2,022	28	2,507	34	4,530
	Rural	23,042	2,803	25,845	4,364	531	4,895	15	23,361	68	2,903	8	26,264
	Total	25,010	5,049	30,059	4,754	976	5,729	14	25,384	61	5,410	13	30,794
Toboso	Urban	16,254	1,370	17,624	3,212	271	3,483	5	17,937	85	1,519	7	19,456
	Rural	9,378	6	9,384	1,821	1	1,822	3	10,898	94	267	2	11,165
	Total	25,632	1,376	27,008	5,033	272	5,305	4	28,835	88	1,786	5	30,621
	Urban	36,577	8,768	45,345	6,980	1,673	8,654	36	36,664	61	8,836	15	45,500
Victorias City	Rural	13,746	4,212	17,957	2,564	786	3,350	17	13,926	58	4,411	18	18,337
	Total	50,323	12,979	63,302	9,545	2,459	12,004	28	50,590	60	13,247	16	63,837
	Urban	408,295	100,671	508,966	77,725	19,048	96,773	10	420,264	56	107,392	14	527,656
	Rural	837,552	216,978	1,054,529	159,729	41,078	200,806	15	849,374	62	226,914	17	1,076,288
Provincial Total	Total	1,245,847	317,649	1,563,495	237,453	60,126	297,580	13	1,269,638	60	334,306	16	1,603,944
													75

4.2 Sanitation and Sewerage

4.2.2 Types of Facilities and Definition of Service Level Standard

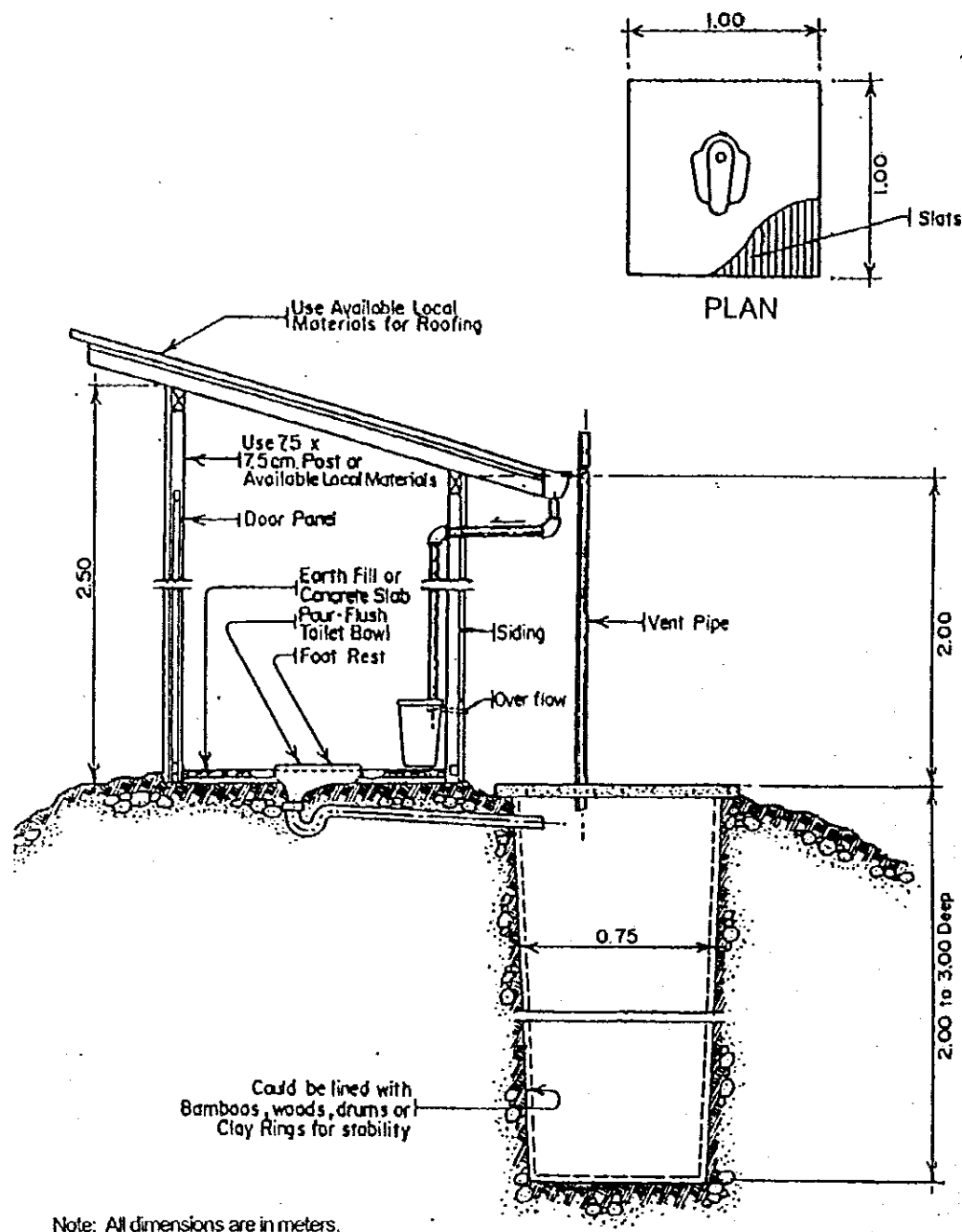
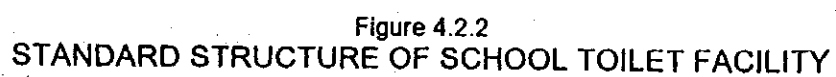
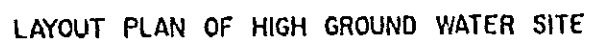
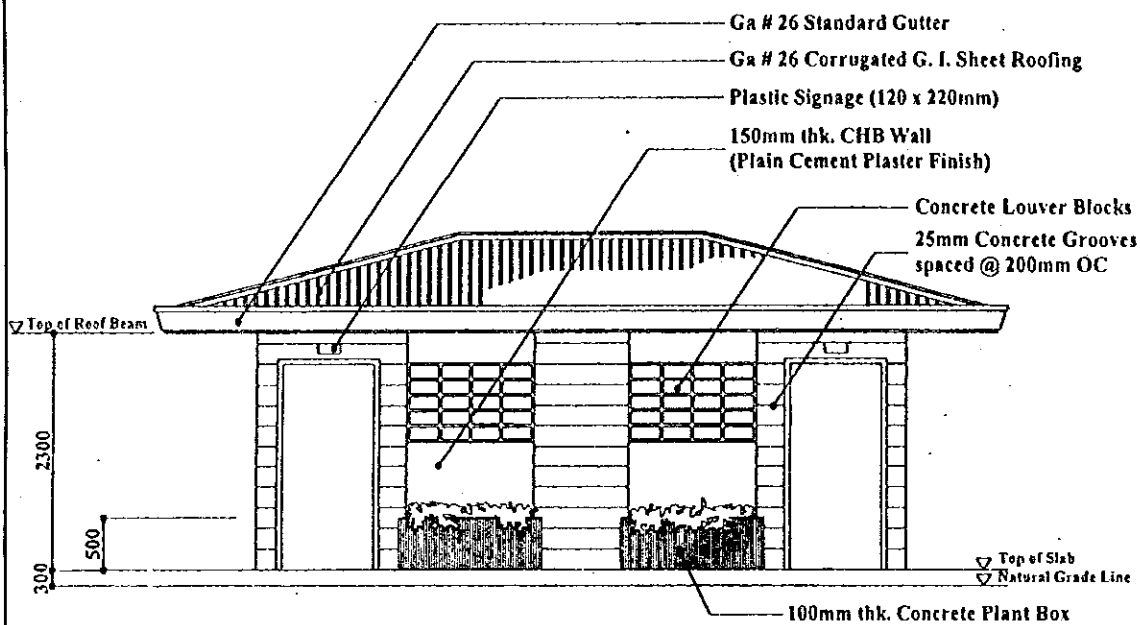


FIGURE 4.2.1
STANDARD STRUCTURE OF PRIVATE TOILET FACILITY

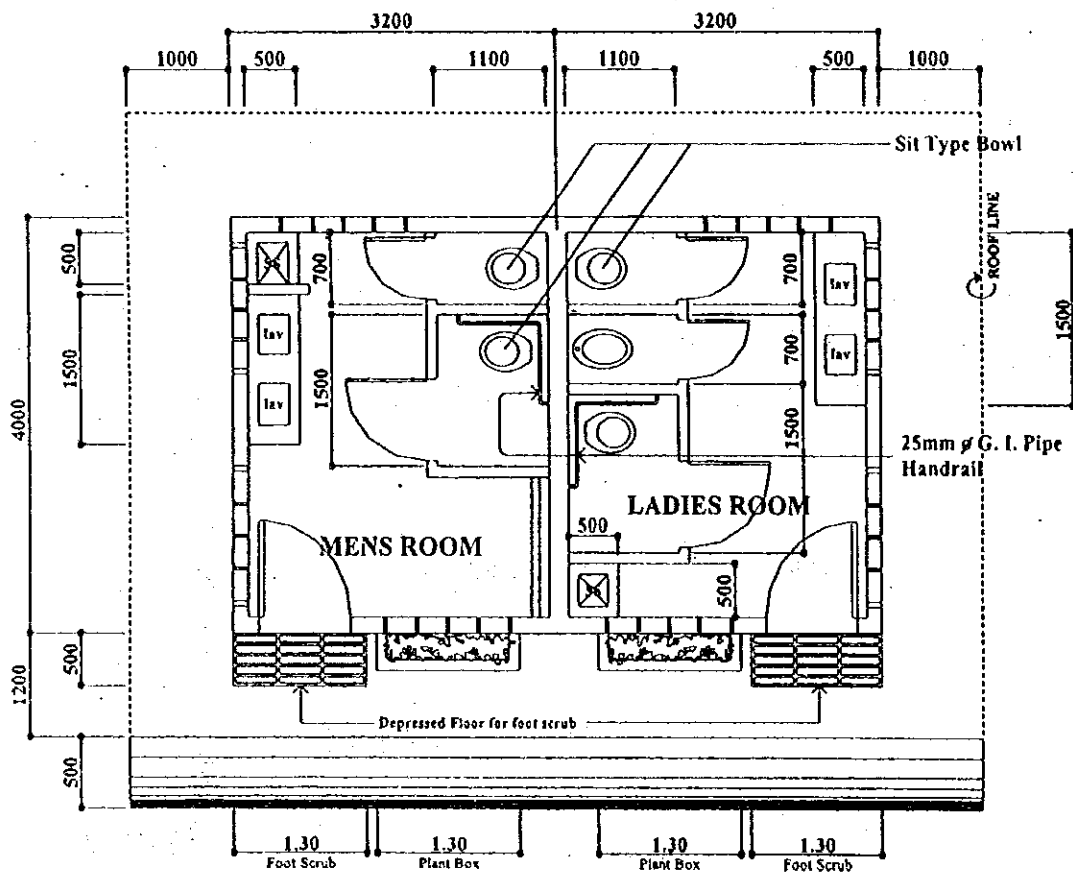
Source: Department of Health



4 - 77



FRONT ELEVATION
Not to Scale



FLOOR PLAN
Not to Scale

FIGURE 4. 2.3 Typical Structure of Public Toilet

4.2.3 Sanitation Facilities and Service Coverage

Table 4.2.1 Sanitation Facilities and Service Coverage of Household Toilets by Type, by Municipality, Urban and Rural 1998

Name of Municipality/City	Area	No. of Households (1998)	Households Served by Sanitary Toilets						Underserved/Unserved HHs			
			Flush Toilet		Pour Flush		VIP		Total		Unsanitary	
			Number	%	Number	%	Number	%	Number	%	Number	%
Bago City	Urban	6,016	362	6	3,709	62	1,417	24	5,488	91	124	2
	Rural	20,580	25	0	11,101	54	6,833	33	17,959	87	797	4
	Total	26,596	387	1	14,810	56	8,250	31	23,447	88	921	3
Binalbagan	Urban	4,731	455	10	1,740	37	1,287	27	3,482	74	897	19
	Rural	5,917	155	3	1,354	23	2,373	40	3,882	66	1,445	24
	Total	10,648	610	6	3,094	29	3,660	34	7,364	69	2,342	22
Cadiz City	Urban	7,066	1,480	21	1,314	19	2,493	35	5,287	75	629	9
	Rural	18,244	2,548	14	4,620	25	3,536	19	10,704	59	4,494	25
	Total	25,310	4,028	16	5,934	23	6,029	24	15,991	63	5,123	20
Calatrava	Urban	2,506	86	3	1,131	45	677	27	1,894	76	200	8
	Rural	11,890	18	0	2,421	20	6,194	52	8,633	73	1,219	10
	Total	14,396	104	1	3,552	25	6,871	48	10,527	73	1,419	10
Candoni	Urban	531			250	47	179	34	429	81	49	9
	Rural	2,704			552	20	1,552	57	2,104	78	330	12
	Total	3,235			802	25	1,731	54	2,533	78	379	12
Cauayan	Urban	4,295	86	2	2,057	48	1,371	32	3,514	82	762	18
	Rural	11,813	148	1	5,639	48	3,805	32	9,592	81	1,828	15
	Total	16,108	234	1	7,696	48	5,176	32	13,106	81	2,590	16
Enrique B. Magalona	Urban	5,784	9	0	2,214	38	1,372	24	3,595	62	1,642	28
	Rural	5,050			1,542	31	1,488	29	3,030	60	1,104	22
	Total	10,834	9	0	3,756	35	2,860	26	6,625	61	2,746	25
Escalante	Urban	7,241	50	1	2,364	33	3,965	55	6,379	88	732	10
	Rural	9,383			2,269	24	5,135	55	7,404	79	1,868	20
	Total	16,624	50	0	4,633	28	9,100	55	13,783	83	2,600	16
Himamaylan	Urban	5,839	175	3	3,155	54	748	13	4,078	70	1,178	20
	Rural	9,650	261	3	3,476	36	2,812	29	6,549	68	2,138	22
	Total	15,489	436	3	6,631	43	3,560	23	10,627	69	3,316	21
Hinigaran	Urban	2,375	348	15	745	31	720	30	1,813	76	325	14
	Rural	11,215	850	8	3,527	31	3,915	35	8,292	74	1,749	16
	Total	13,590	1,198	9	4,272	31	4,635	34	10,105	74	2,074	15
Hinoba-an (Asia)	Urban	3,145	8	0	1,504	48	1,249	40	2,761	88	299	10
	Rural	4,629	7	0	2,043	44	2,002	43	4,052	88	265	6
	Total	7,774	15	0	3,547	46	3,251	42	6,813	88	564	7

Table 4.2.1 Sanitation Facilities and Service Coverage of Household Toilets by Type, by Municipality, Urban and Rural 1998 (Cont'd)

Name of Municipality/City	Area	No. of Households (1998)	Households Served by Sanitary Toilets						Underserved/Unserviced HHs			
			Flush Toilet		Pour Flush		VIP		Total		Unsanitary	
			Number	%	Number	%	Number	%	Number	%	Number	%
Ilog	Urban	5,156			4,382	85			4,382	85	658	13
	Rural	3,227			2,676	83			2,676	83	425	13
	Total	8,383			7,058	84			7,058	84	1,083	13
Isabela	Urban	2,193	129	6	1,746	80	97	4	1,972	90	178	8
	Rural	7,480	65	1	5,448	73	295	4	5,808	78	1,562	21
	Total	9,673	194	2	7,194	74	392	4	7,780	80	1,740	18
Kabankalan City	Urban	9,081	281	3	2,384	26	5,925	65	8,590	95	84	1
	Rural	17,642	64	0	4,649	26	9,575	54	14,288	81	2,160	12
	Total	26,723	345	1	7,033	26	15,500	58	22,878	86	2,244	8
La Carlota City	Urban	4,244	449	11	3,413	80	59	1	3,921	92	28	1
	Rural	6,378	71	1	4,987	78	157	2	5,215	82	542	8
	Total	10,622	520	5	8,400	79	216	2	9,136	86	570	5
La Castellana	Urban	4,131	100	2	1,652	40	1,133	27	2,885	70	746	18
	Rural	8,160	6	0	2,577	32	2,851	35	5,434	67	1,727	21
	Total	12,291	106	1	4,229	34	3,984	32	8,319	68	2,473	20
Manapla	Urban	1,820	143	8	776	43	334	18	1,253	69	385	21
	Rural	6,986	481	7	2,313	33	1,969	28	4,763	68	1,526	22
	Total	8,806	624	7	3,089	35	2,303	26	6,016	68	1,911	22
Moises Padilla	Urban	2,143	19	1	855	40	541	25	1,415	66	521	24
	Rural	4,038			1,022	25	1,558	39	2,580	64	1,018	25
	Total	6,181	19	0	1,877	30	2,099	34	3,995	65	1,539	25
Murcia	Urban	3,471	84	2	1,201	35	1,011	29	2,296	66	967	28
	Rural	7,780	74	1	2,619	34	2,253	29	4,946	64	2,438	31
	Total	11,251	158	1	3,820	34	3,264	29	7,242	64	3,405	30
Pontevedra	Urban	3,826	93	2	2,471	65	475	12	3,039	79	616	16
	Rural	4,719	22	0	2,332	49	1,101	23	3,455	73	946	20
	Total	8,545	115	1	4,803	56	1,576	18	6,494	76	1,562	18
Pulupandan	Urban	3,129	30	1	845	27	1,681	54	2,556	82	445	14
	Rural	1,992	33	2	820	41	902	45	1,755	88	160	8
	Total	5,121	63	1	1,665	33	2,583	50	4,311	84	605	12
Sagay City	Urban	9,499	1,582	17	2,455	26	4,381	46	8,418	89	964	10
	Rural	17,558	620	4	3,146	18	9,850	56	13,616	78	3,480	20
	Total	27,057	2,202	8	5,601	21	14,231	53	22,034	81	4,444	16

Table 4.2.1 Sanitation Facilities and Service Coverage of Household Toilets by Type, by Municipality, Urban and Rural 1998 (Cont'd)

Name of Municipality/City	Area	No. of Households (1998)	Households Served by Sanitary Toilets						Underserved/Unserviced HHs			
			Flush Toilet	Pour Flush	VIP	Total	Unsanitary	No Facility				
			Number	%	Number	%	Number	%	Number	%	Number	%
Salvador Benedicto	Urban											
	Rural	3,547			463	13	2,822	80	612	17	113	3
	Total	3,547			463	13	2,822	80	612	17	113	3
San Carlos City	Urban	5,697	592	10	1,264	22	4,669	82	774	14	254	4
	Rural	15,721	16	0	7,180	46	12,783	81	1,910	12	1,028	7
	Total	21,418	608	3	8,444	39	17,452	81	2,684	13	1,282	6
San Enrique	Urban	1,897	206	11	1,176	62	1,477	78	363	19	57	3
	Rural	2,218	163	7	1,139	51	1,625	73	443	20	150	7
	Total	4,115	369	9	2,315	56	3,102	75	806	20	207	5
Silay City	Urban	10,735			9,117	85	9,166	85	801	7	768	7
	Rural	13,622			3,750	28	5,778	42	6,386	47	1,458	11
	Total	24,357			12,867	53	14,944	61	7,187	30	2,226	9
Sipalay	Urban	4,136	436	11	1,518	37	3,571	86	200	5	365	9
	Rural	8,335	822	10	2,850	34	5,327	64	2,176	26	832	10
	Total	12,471	1,278	10	4,368	35	8,898	71	2,376	19	1,197	10
Talisay City	Urban	6,508	872	13	3,000	46	993	15	4,865	75	649	10
	Rural	7,541			163	2	4,755	63	4,918	65	643	9
	Total	14,049	872	6	3,163	23	9,783	70	2,974	21	1,292	9
Toboso	Urban	1,441	20	1	800	56	244	17	1,064	74	17	1
	Rural	6,477	42	1	1,509	23	3,180	49	4,731	73	746	12
	Total	7,918	62	1	2,309	29	3,424	43	5,795	73	763	10
Valladolid	Urban	4,163	75	2	2,458	59	380	9	2,913	70	831	20
	Rural	2,241	13	1	1,279	57	174	8	1,466	65	641	29
	Total	6,404	88	1	3,737	58	554	9	4,379	68	1,472	23
Victorias City	Urban	11,530	1,491	13	5,054	44	2,430	21	8,975	78	2,278	20
	Rural	4,457	115	3	1,751	39	1,572	35	3,438	77	910	20
	Total	15,987	1,606	10	6,805	43	4,002	25	12,413	78	3,188	20
Provincial Total	Urban	144,329	9,681	7	68,299	47	38,167	26	116,147	80	18,687	13
	Rural	261,194	6,619	3	91,520	35	91,486	35	189,625	73	49,025	19
	Total	405,523	16,300	4	159,819	39	129,653	32	305,772	75	67,712	17

Table 4.2.2 Number of Student and School Toilet Facilities by Municipality

Name of Municipality/City		Number of School	Number of Student	Number of Toilets		
				Sanitary	Unsanitary	Total
Bago City	Public	43	32,768	340	11	351
	Private	3	800	89		89
	Total	46	33,568	429	11	440
Binalbagan	Public	36	13,743	208	1	209
	Private	5	2,383	61		61
	Total	41	16,126	269	1	270
Cadiz City	Public	61	30,176	190		190
	Private	5	1,796	12		12
	Total	66	31,972	202		202
Calatrava	Public	49	16,888	199	16	215
	Private					
	Total	49	16,888	199	16	215
Candoni	Public	18	5,344	26		26
	Private	1	244	2		2
	Total	19	5,588	28		28
Cauayan	Public	71	20,387	157		157
	Private	4	1,450	5		5
	Total	75	21,837	162		162
Enrique B. Magalona	Public	27	12,481	58		58
	Private	2	691	4		4
	Total	29	13,172	62		62
Escalante	Public	34	19,209	198	48	246
	Private	2	596	10		10
	Total	36	19,805	208	48	256
Himamaylan	Public	50	21,392	257	6	263
	Private	5	1,609	10		10
	Total	55	23,001	267	6	273
Hinigaran	Public	33	16,694	353	8	361
	Private	6	2,282	25		25
	Total	39	18,976	378	8	386
Hinoba-an (Asia)	Public	26	11,666	112	34	146
	Private	2	971	12		12
	Total	28	12,637	124	34	158
Ilog	Public	30	10,249	66		66
	Private	5	2,044	4		4
	Total	35	12,293	70		70
Isabela	Public	32	11,729	256		256
	Private	6	737	9		9
	Total	38	12,466	265		265
Kabankalan City	Public	84	33,994	171		171
	Private	15	3,682	81		81
	Total	99	37,676	252		252
La Carlota City	Public	26	15,075	198		198
	Private	4	655	47		47
	Total	30	15,730	245		245
La Castellana	Public	33	15,170	440		440
	Private	2	657	8		8
	Total	35	15,827	448		448
Manapla	Public	15	9,889	113		113
	Private	2	331	7	2	9
	Total	17	10,220	120	2	122
Moises Padilla	Public	22	7,058	129	12	141
	Private	2	771	5		5
	Total	24	7,829	134	12	146
Murcia	Public	28	13,542	84		84
	Private	5	1,045	12		12
	Total	33	14,587	96		96

Table 4.2.2 Number of Student and School Toilet Facilities by Municipality (Cont'd)

Name of Municipality/City		Number of School	Number of Student	Number of Toilets		
				Sanitary	Unsanitary	Total
Pontevedra	Public	23	10,354	19		19
	Private	3	421	12		12
	Total	26	10,775	31		31
Pulupandan	Public	7	4,956	120		120
	Private	2	477	6		6
	Total	9	5,433	126		126
Sagay City	Public	61	27,980	97	6	103
	Private	8	725	34		34
	Total	69	28,705	131	6	137
Salvador Benedicto	Public	14	3,707		28	28
	Private					
	Total	14	3,707		28	28
San Carlos City	Public	62	24,352	146	10	156
	Private	8	3,151	32		32
	Total	70	27,503	178	10	188
San Enrique	Public	10	4,237	41		41
	Private	2	431	4		4
	Total	12	4,668	45		45
Silay City	Public	32	22,627	101		101
	Private	3	749	283		283
	Total	35	23,376	384		384
Sipalay	Public	41	15,405	154		154
	Private	5	1,693	8		8
	Total	46	17,098	162		162
Talisay City	Public	25	15,535	156	41	197
	Private	4	623	10	2	12
	Total	29	16,158	166	43	209
Toboso	Public	25	10,158	86		86
	Private	1	372	5		5
	Total	26	10,530	91		91
Valladolid	Public	11	6,241	12		12
	Private	3	744	6		6
	Total	14	6,985	18		18
Victorias City	Public	22	19,695	301		301
	Private	6	2,098	52		52
	Total	28	21,793	353		353
Provincial Total	Public	1,051	482,701	4,788	221	5,009
	Private	121	34,228	855	4	859
	Total	1,172	516,929	5,643	225	5,868

Table 4.2.3 Number of Public Toilets Facilities in 1998

Name of Municipality/City	Public Markets			Bus/Jeepney Terminals			Parks/Playground			Total Number of Toilets
	No. of Sanitary Toilets	No. of Unsanitary Toilets	Sub-total	No. of Sanitary Toilets	No. of Unsanitary Toilets	Sub-total	No. of Sanitary Toilets	No. of Unsanitary Toilets	Sub-total	
Bago City	12		12	2		2	22		22	36
Binalbagan	4		4	3		3	2		2	9
Cadiz City	30		30	8		8	6		6	44
Calatrava	6	6	12				16		16	28
Candoni	2		2	2		2	2		2	6
Cauayan	14	2	16				3		3	19
Enrique B. Magalona	2		2							2
Escalante	6		6				2		2	8
Himamaylan	6		6				6		6	12
Hinigaran	1		1				2		2	3
Himoba-an (Asia)		2	2							2
Ilog	6		6							6
Isabela	2		2	2		2	6		6	10
Kabankalan City	14	14	28	12		12	2		2	42
La Carlota City	10		10	8		8	2		2	20
La Castellana	6		6	4		4	5		5	15
Manapla	2	2	4				4		4	8
Moises Padilla	2		2				6		6	8
Murcia	4		4				2		2	6
Pontevedra	2		2				4		4	6
Pulupandan	4		4				4		4	8
Sagay City	12	10	22	2		2	10		10	34
Salvador Benedicto										
San Carlos City	9		9	6		6	30		30	45
San Enrique	2		2				2		2	4
Silay City	28		28	2		2	4		4	34
Sipalay	8		8	4		4	2		2	14
Talisay City	3		3				2		2	5
Toboso	2		2				2		2	4
Valladolid	2		2				6		6	8
Victorias City	2		2	4		4	16		16	22
Provincial Total	203	36	239	59		59	170		170	408

5. EXISTING SECTOR ARRANGEMENT AND INSTITUTIONAL CAPACITY

5.5 Sector Agencies at the Local Level

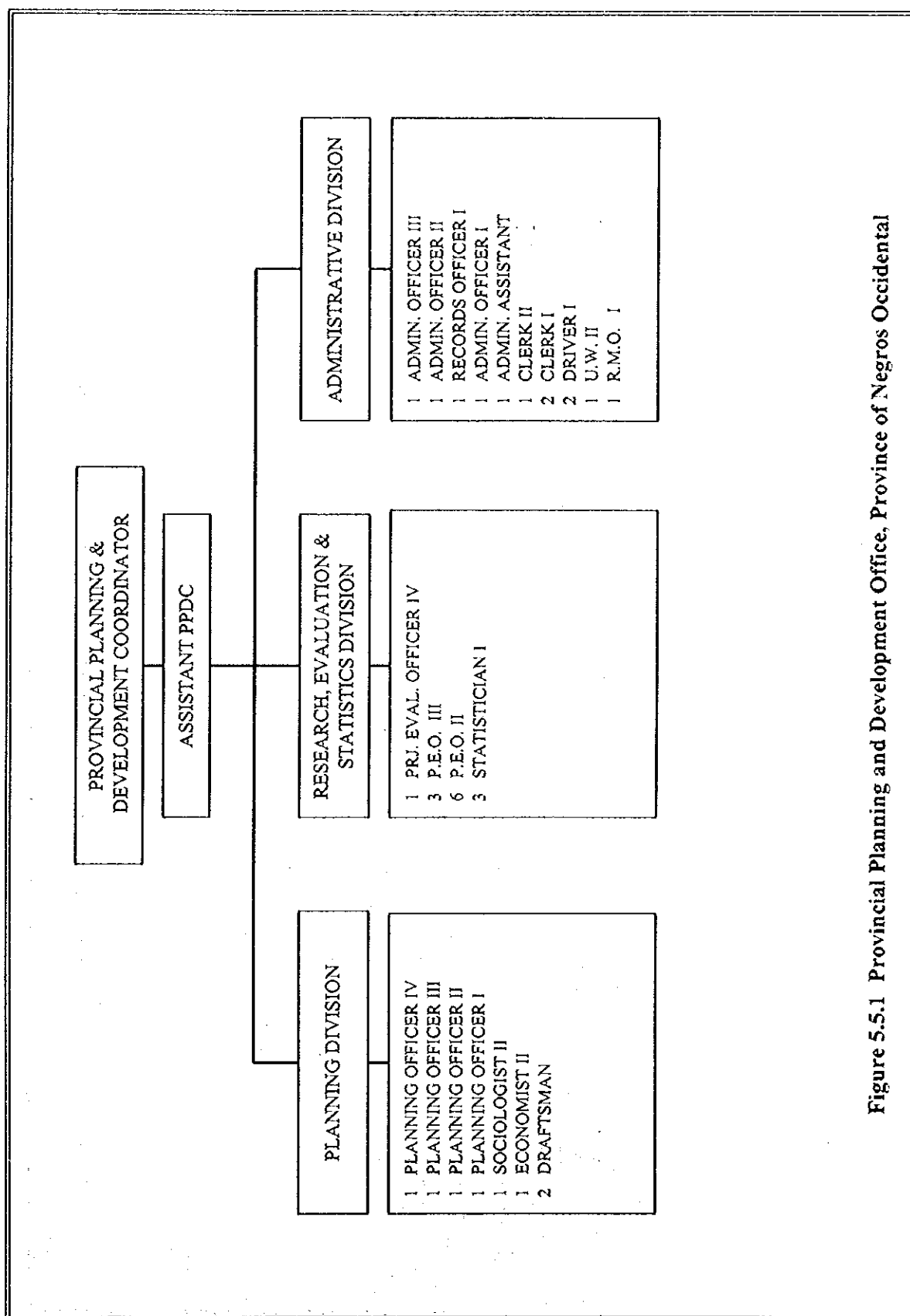


Figure 5.5.1 Provincial Planning and Development Office, Province of Negros Occidental

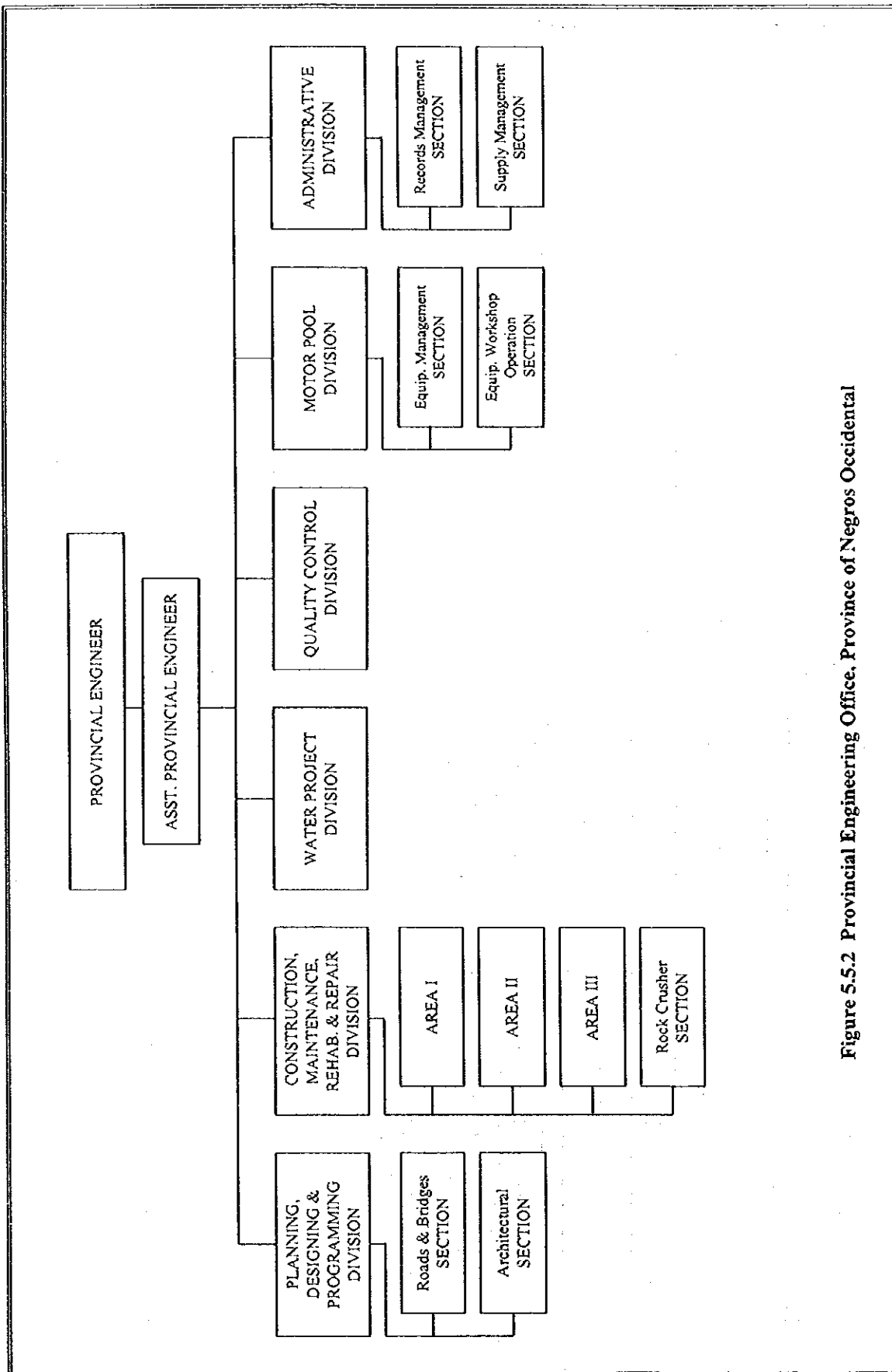


Figure 5.5.2 Provincial Engineering Office, Province of Negros Occidental

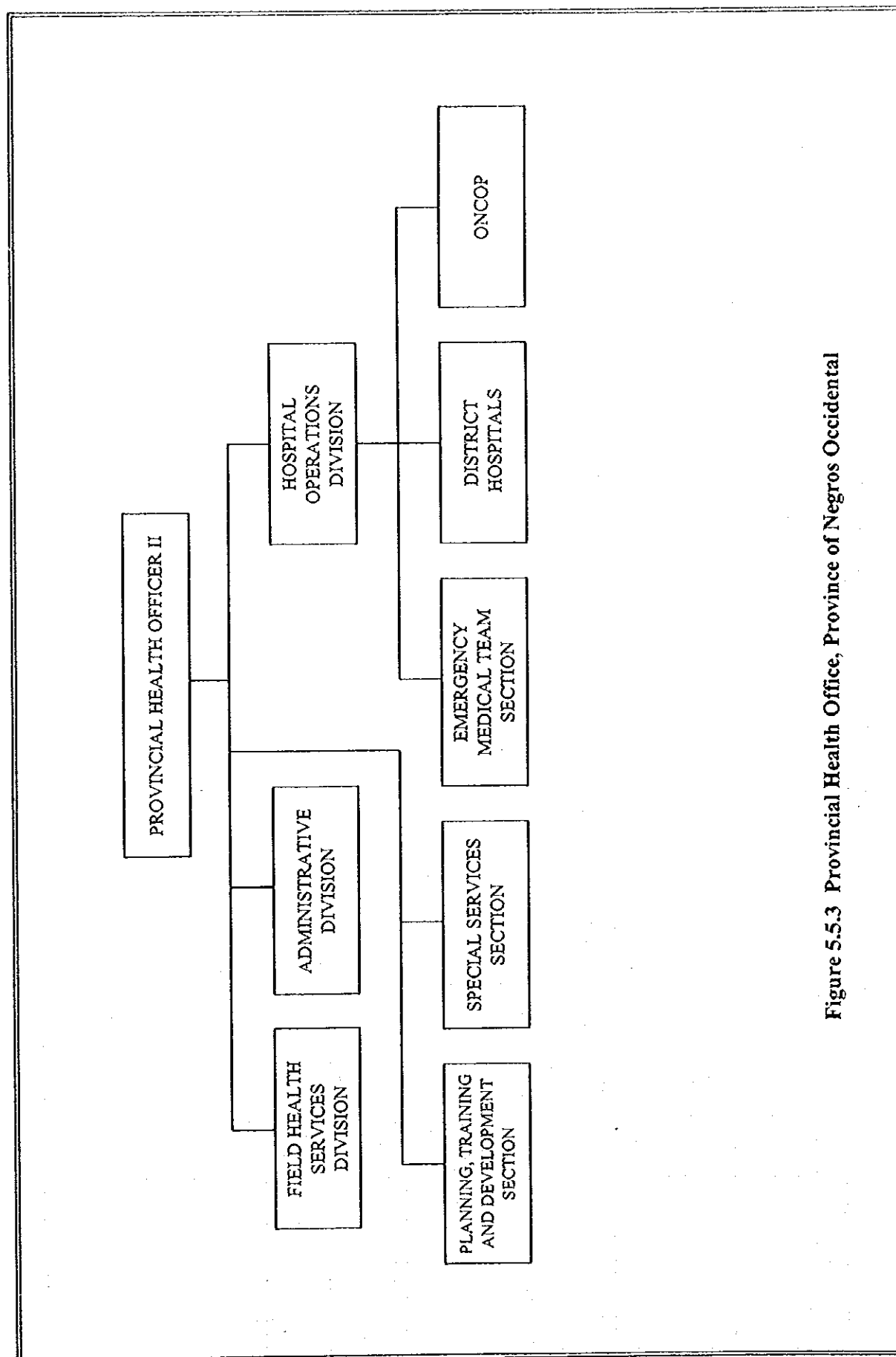


Figure 5.5.3 Provincial Health Office, Province of Negros Occidental

5.6 External Support Agencies in the Sector

Table 5.6.1 Priority Areas/Terms and Conditions, Programs and Projects by Donor

Donor	Priority Areas/Terms and Conditions	Programs and Projects in the Sector/Executing Agency
OECE	Providing project loans for capital infrastructure (urban/rural), agricultural development, export promotion. Can finance 75% of total project cost of total foreign exchange component, whichever is higher. Interest Rate: 2 to 3%; 30-year amortization with 10-year grace period.	Water Supply and Sanitation Project-23rd Yen Package/DILG; Co-financing AWSOP with World Bank and ADB/MWSS.
ADB	Providing both capital and technical assistance: Project loans: agriculture, agri-industry, energy, social infra, transport and communications; Program Loans: sector loans (e.g., forestry, livestock, environment). Can finance 60% of total project cost or 100% of foreign exchange cost whichever is higher. Special cases can finance up to 80% of total project cost. Terms: Interest rate- pool-based variable; commitment charge of 0.75% per annum; 25 years amortization period including 5-year grace period.	Rural Water Supply and Sanitation Sector Project/DPWH; Small Towns Water Supply Sector Project/LWUA; Technical Assistance for Water Supply and Sanitation Sector Study/NEDA; Co-financing AWSOP with World Bank and OECF/MWSS.
AUSAID	Providing grant aid for education, training, development planning, resource management, environmental management, health/population, infrastructure (e.g. water supply, coal energy development), social infrastructure, community development and agriculture; providing also supplies of commodities (drilling, etc.).	Water supply program in Central Visayas/RDCs and LGUs; Feasibility Study for Northern Mindanao Water and Sanitation Project.
DANIDA	Providing capital and technical assistance for water supply and sanitation services and facilities, telecom ancillary equipment, small-scale power projects, environmental project, fishery and cold storage and post-harvest facilities; Can finance up to 100% of foreign exchange goods and services of Danish origin. 10% local cost on a case-to-case basis. Technical assistance can be negotiated for conduct of feasibility studies if implementation of the project will require Danish financing in the future.	Water supply projects for 10 towns/LWUA; Feasibility Study for control of pollution in the Pasig River-Metro Manila; Water Supply and Sanitation Data Bank.
Government of France	Grants for feasibility studies and detailed design for projects in priority areas, e.g., power generation, telecommunication, research involving high technology, water supply, air navigational equipment, etc. Can finance 100% of foreign exchange costs of goods and services of French origin.	Feasibility Study for water supply project in Rizal province.
German Agency for Technical Cooperation (GTZ)	Providing grants for technical assistance. Promotion of small and medium-scale industries, rural development, technical training, health/family planning, and environmental protection (forest management).	Water Supply for 20 Towns/LWUA; a national water supply and sanitation on-going program; special TA programs for cost recovery, monitoring and evaluation.
JICA	Providing a combination of capital assistance thru grant-aid and technical assistance thru Technical Cooperation for development survey and project type assistance which is a combination of experts, equipment and training. Technical assistance for conduct of feasibility studies/master plans, provision of training, limited provision of equipment. Capital assistance for provision of equipment/materials for construction of hospitals, schools, research, social welfare centers. Priority areas include basic infrastructure, e.g., construction of facilities and supply of equipment; project development for sectors dealing with basic services (agriculture, health public welfare, environment) and human resource development (education, research, training). Can finance 100% of foreign exchange costs of civil works, equipment, training (in Japan) and of all goods and services of Japanese origin.	Groundwater study in Manila; Feasibility Study for Balara Water Treatment Plant Feasibility Study. Environmental Sanitation Project (DPWH/DOH) for rural water systems development and school toilet facilities construction. With DPWH, rural water supply systems at Pinarubo evacuation centers. PW4SPs (DILG) for 9 (previously done, in Luzon) and 21 provinces in Mindanao/Bisayas.

Table 5.6.1 Priority Areas/Terms and Conditions, Programs and Projects by Donor

Donor	Priority Areas/Terms and Conditions	Programs and Projects in the Sector/Executing Agency
UNDP	Providing technical assistance for capacity building, human resource training, technology transfer, policy research, planning, technology development and pre-investment studies; Technical assistance are formulated within country program (CP) frameworks: 6th CP or IBWSSP (1997-2001) -poverty and sustainable livelihood, protection and regeneration of the environment and sound governance, gender equality.	WATSAN Program for LGUs and selected BWSAs/DILG. Institution Building for Decentralized Implementation of Community-Managed Water Supply and Sanitation Project known as UNDP PH/93/010 Project under the Fifth Country Program (1994-1997).
UNICEF	Providing grant aids for technical assistance. Priority area: social services, particularly for children.	Community-based water supply program in Palawan Province; Water supply and sanitation Study for Southern Mindanao.
USAID	Providing grant aid within its strategic objectives. Six strategic objectives and one special objectives are: Accelerate the economic transformation of Mindanao; Improve national systems for trade and investment; Reduce population growth and improve maternal and child health; Enhance management of renewable national resources; reduce emissions of greenhouse gas; broaden participation in public formulation/implementation (selected areas); prevent rapid increase of HIV/AIDS.	Barangay Water Program (BWP) for communities with populations of less than 10,000; TA for private sector participation in the sector.
World Bank	Providing capital assistance in the form of under IBRD and IDA. IBRD (Project/Program) Loans: Interest rate = less than 7%; 20 years amortization with 5 years grace period; IDA Loans: interest free with 30 to 40-year amortization period. Providing also technical assistance in the form of ESW, IDP, Poverty and Human Resource Development Project Preparation and Policy Notes. Can finance 100% of foreign exchange costs of the project. Priority areas: power and energy, roads and railways, telecommunications, ports, water supply and sanitation, agriculture and social services.	AWSP co-financed with ADB and OECF/MWSS; TA for a Water Supply Sector Program Study/DILG; TA on private sector participation in the water supply and sanitation sector; Water Districts Development Project. Local Government Units - Urban Water Supply and Sanitation Project (LGU-UWSSP) covering about 250 secondary towns and cities.

5.7 Project Management Arrangement, and Issues and Problems

Table 5.7.1 Matrix of Current Practices and Issues from Rapid Assessment of Subject Provinces and Local Offices of Central Government Agencies

Areas	Institutional	Technical	Financial	Community Development
Provincial Government Offices of Aklan, Antique, Capiz, Iloilo, and Negros Occidental	<ul style="list-style-type: none"> Sector implementation is project-based arrangement by setting up a multi-agency team/task force. There is no overall mechanism and responsibility delineation among members wherein interrelationships/ linkages are clearly shown. Management is a process requiring input at every level. At the barangay level, facilities are supposed to be managed by the community. Management at higher levels is also necessary to effectively and efficiently implement a plan and requires administration abilities, and technical, negotiation, finance and economic skills. In all levels, management and skills are underdeveloped. Capacity and/or experiences of the provincial offices/ WATSAN concerned are sometimes inadequate for their allotted responsibilities. Strengthening its capability in WATSAN sector is important as the municipal government requires support from the provincial government. Technical training for O&M of Level I to beneficiaries has not been provided since 1980. Likewise, as for Level II system, technical training to the municipalities has not yet been provided. The trainer's training for provincial staff shall be firstly provided. 	<ul style="list-style-type: none"> Project identification is usually upon the request of the barangay/municipal officials and approval is done by the Sanguniang Panlalawigan (SP). Most of constructions are by administration with procurement of materials done by the LGUs. Majority of the wells constructed by DPWH is abandoned/non-operational due to user's attitude which suggest the need of community organization. O&M is participated by barangay officials with LGUs providing technical and material supply assistance upon request. Dry-type sanitary toilet shall be considered in areas where water is not available. Water quality problems, such as coliform contamination, salt water intrusion, high iron and manganese content, etc. are often encountered especially in shallow wells resulting to abandonment of these wells. There is a shortage of equipment and supplies at all levels of administration. Technologies are sometimes inappropriate to local conditions (e.g., no readily available spares for pumps). More extensive data on groundwater resource is required to determine potential yields and chemical quality. Very limited drilling expertise/equipment. Proper O&M is unlikely without significant training and equipment support at the barangay/ association 	<ul style="list-style-type: none"> Income of the province comes from local taxes, IRA, national wealth share (3 provinces), and revenues from economic enterprises. Budgeting is guided by DILG circulars and approval is by the SP. Budgetary allocation to the sector comes from 20% development fund capital expenditures for projects. However, the allocation by sector is lumped under general headings, so that allocation for WATSAN projects cannot be readily identified in the listing. Counterpart fund of LGUs for sector projects is usually for material purchase and the community is providing their labor. Sometimes, the provincial government allocates funds for WATSAN projects and the municipal government put up its counterpart fund provided by the province. Cost recovery mechanisms by LGUs and the users are not in place. BWSAs and RWSAs charge water fees for O&M purposes only and do not consider capital costs. Rates are usually based on agreement among association members. Logistics and incentives for water associations are sourced through the barangays but are limited and most often subject to availability of funds. Most of the provinces have accessed development banks to finance infrastructure projects and purchase of equipment. Foreign assistance, e.g., CIDA, UNICEF, is availed through the Regional Development Council 	<ul style="list-style-type: none"> Limited involvement of local communities/end-users particularly in the planning and maintenance of facilities. Active involvement of religious NGOs as community organizers. No established arrangement on gender-responsiveness. There is little investigation of socio-cultural issues related to WATSAN; there is not enough commonsense understanding of the community it is working with. Little attention is given to or understanding of ethnic groups which is a serious constraint on sustainability. BWSAs formed by the DPWH-DEO are mostly not functioning now. A case of one BWSA which was formed three, the first by the DEO, then the last two times by themselves is finally working and earning income from water fee collection. The failure for the first two times was due to low collection efficiency and money mismanagement. No formal system for community participation in site selection and project request; participation at the grass-root level is only considered if willingness from the beneficiaries is required for project request from the provincial government. Process is for barangay government to submit request to MDC/PDC, but no regular process for barangay to formulate projects from consultation and community participation. DILG's experimented with social

Table 5.7.1 Matrix of Current Practices and Issues from Rapid Assessment of Subject Provinces and Local Offices of Central Government Agencies (cont'd)

Areas	Institutional	Technical	Financial	Community Development
	<ul style="list-style-type: none"> Monitoring activities are quite limited to specific projects in terms of physical performance. Project funded solely by municipalities and/or barangay are not reported to the province, thus the province is not able to illustrate the complete sector condition. No sector monitoring has been conducted. It is necessary to conduct periodically the sector monitoring for developing the sector properly. PHO undertakes water quality surveillance thru RHU, however, the capacity of provincial laboratories are very limited in terms of equipment and number of staff. There are few BWSA undertaking Level I O&M, and beneficiaries still rely on LGUs even for a simple replacement of parts. In case of major repair of Level II, BC collects money for repair work. Considering current situation of beneficiaries, LGUs shall lead them to recognize the need of formation of association and participation for sound O&M of the facilities. 	<p>level</p> <ul style="list-style-type: none"> Toilets in schools are not used because there is no water. FW4SP design has to be redesign. 	<ul style="list-style-type: none"> IRA is not sufficient. 20% development fund is used for other sectors as well. LGU managed waterworks can directly source funds from the Land Bank for initial capitalization and operation. They can request funds from the Province, particularly the barangay-based waterworks. 	<p>preparation by requiring beneficiaries to put up its equity contribution through certain amount of money or labor. Until now, the system is still functioning.</p> <ul style="list-style-type: none"> In some BWSAs, the practice is to ban those who get water but are not paying. Participation of NGOs in the planning process is through their membership in the MDC/ PDC.
2. NEDA Regional Offices	<ul style="list-style-type: none"> Communication between central and regional offices is deficient. Not all information on the on-going projects is reported to central office. Some multi/bilateral assistance are directly extended to the regional offices under certain amount, such as funds from UNICEF, Japanese government grass-root assistance. Only foreign assisted and national projects are reported regularly (quarterly reporting) by the regional office to NEDA central office. Project monitoring and evaluation system in regional level is a requisite including information on infrastructure status and investment. 			
3. DILG Regional Offices	<ul style="list-style-type: none"> The DILG has field offices down to municipal level. Increasing responsibilities of the DILG as a result of devolution and decentralization of authority to the LGUs, would require greater logistic support, i.e., administrative support, not only technical support. 			
4. DPWH - DEO			<ul style="list-style-type: none"> The DEO has no more budget for WATSAN activities because this has been devolved to the LGUs. However, the people still approach the office and request for financial help for its O&M. 	

5.7.2 Institutional Aspect

Table 5.7.2 Offices/Agencies involved in WATSAN project

Offices/Agencies	Nature of Involvement
Provincial Planning & Development Office	<ul style="list-style-type: none"> • Incorporates WATSAN proposed projects in the provincial plan
Provincial Engineering Office	<ul style="list-style-type: none"> • Assists in the construction, operation and maintenance of the WATSAN facilities
Provincial Health Office	<ul style="list-style-type: none"> • Conducts water quality examination (thru MHO) • Provide toilet facilities
Barangay/Municipal governments (thru MPDO)	<ul style="list-style-type: none"> • Identifies projects • Provides counterpart support
Water Districts	<ul style="list-style-type: none"> • Provides water supply coverage in urban areas
Provincial General Services Office	<ul style="list-style-type: none"> • Responsible in procurement of materials
Provincial Accounting, Budget, Treasury Offices	<ul style="list-style-type: none"> • Undertakes administrative works in budgeting and funds releasing
Sangguniang Panlalawigan	<ul style="list-style-type: none"> • Approves projects implementation and appropriates funds (Provincial level)
Provincial Development Council	<ul style="list-style-type: none"> • Initiates a comprehensive multi-sectoral plan of the province
NGOs	<ul style="list-style-type: none"> • Provides consultancy services especially in CO/CD works
DILG, Provincial Director's Office	<ul style="list-style-type: none"> • Conducts/assists training especially on topics related to human resource development
DPWH, District Engineering Offices	<ul style="list-style-type: none"> • Provides technical assistance

Sector Issues and Problems

The implementation of the water supply and sanitation undertaken by the different agencies encounters issues and problems which primarily concerns with existing policy, existing institutional arrangement and management, access to financing institutions and capability building issues that needs to be addressed if LGUs are now given the full responsibility in project implementation.

(1) Issues on Policy

1) Weak enforcement of laws, policies and regulations

The apparent weakness in the enforcement of water resources laws, rules and regulation could be seen in the prevalence of illegal tapping of urban and irrigation water by parties who do not possess permits, the unregulated exploitation of ground water resources through drilling without permits secured at NWRB or any deputized agencies for that matter, in inefficient use of limited resources available, pollution of water bodies and degradation of the environment.

2) ICC – Financing policy to devolved services

One of the constraints in the implementation of this policy is obviously seen in the varied level of capability and readiness of the LGUs to provide and manage reliable water supply and sanitation services and the lack of political will to pursue development initiatives without depending too much on grants assistance from the national government.

3) Economic regulation and market

While it has been established that there are significant advantages to adopting economic and market- based instrument, the actual policy shift has been slow. Most apparent is the lack of technical capabilities and data required to enable to design and implement these policy reforms. Political difficulties encountered under the current institutional and regulatory framework and the viewing of water as free and public good to one which has a price should be fully understood.

(2) Issues on Institutional and Management Framework

1) Lack of integrated management and non-systematic approach to water resources

For the water resources sector, the existing institutional and regulatory framework is the result of incremental developments for the past years, each in response to particular changes. This had led the absence of an integrated water resources management system that adopts a holistic approach in the organization of the system.

Though NWRB is seen to be the over all coordinating and regulatory body for this sector, yet it lacks technical capabilities and still needs institutional strengthening to fulfill its functions.

2) Too many agencies involved in the sector

These are more than twenty government agencies involved in different aspects of the water sector resulting inevitably in a fragmented approach to water management. With this number of agencies involved, it resulted to overlapping of work, varied types of data needed depending on the agency that implements which creates confusion at the LGU level.

3) Inter-agency coordination

For tri-agency program such as DPWH, DILG and DOH implementing water supply projects, weak coordination had been demonstrated. There was difficulty in synchronizing activities which deals on physical construction of facilities (DPWH) as to activities that entails training of provincial and municipal water and sanitation task forces and formation of BWSAs where target facilities will be constructed (DILG) and the installation of latrines and promotion of health and education programs (DOH).

4) Absence of an over all planing framework to guide investment activities.

As a result of too many agencies involved in the sector and the fragmentation of water resources management, there are no cross-sectoral water resource plans to integrate effectively the various water and land use activities. Water quality and quantity management, and proper utilization of surface and groundwater.

5) Lack of data management

The main problem concerning to data management are the inadequacy of the network coverage, outdated monitoring equipment, scattered data collection responsibilities, lack of continuous data records and lack of an integrated water resources data base.

Most data collection efforts are project related and are usually discontinued once the project is terminated.

6) Accountability and responsiveness of stakeholders

A lot has been said about improving the delivery of water supply and sanitation services by LGUs in the light of the devolution policy of the government. However, little attention has been given on the extent of which these LGUs carried out their devolved functions and responsibilities to their constituents. While its true that some problems were attributed to varying levels of preparedness and capacity to implement projects at their level, it can also be due to lack of political-will and commitment of the LGUs to perform their tasks and accountabilities.

7) Absence of over-all coordination body

Due to fragmental planning and implementation of sector projects, a number of agencies and offices had overlapping activities and functions. For the development of the sector to progress, there must be a body/agency/office that will serve as a focal point, responsible for all related initiatives.

8) Lack of available staff at the LGU level

In the light of devolved policy as enacted in the LGC and NEDA Board No.4 where LGUs could now implement all levels of water supply services, a need to develop their capability and interpersonal skills to ensure sustainability of projects. But it has been observed that the provincial and municipal planning staff who are supposed to be responsible for managing, coordinating, implementing training programs at the local levels and monitoring the performance of BWSAs/RWSAs are unable to devote full time due to lack of staff and too many job assignments with other projects.

9) Large demand for training

Various training programs have been developed and designed to suit the needs for training with different levels of approaches for foreign and locally funded projects. However, due to lack of funds to support the training programs, training opportunities were not fully delivered to the recipient LGUs. And, there is another issue on training that due to large number of barangays to be covered nationwide, some of these were not able to access training provided by the different agencies like DILG. This could also be attributed to the geographic location, accessibility to these areas and lack of initiative of the LGUs to request training which could then be prioritized based on immediate need.

(3) Issues on Financial Aspects

1) Access of the LGUs to other financing institutions

Most of the LGUs depend on their IRA to fund waters supply projects which often times limit them to implement only for level I facilities. Although the LGUs initiated to take risk in borrowing from banks to financed Level II or III systems, they are constraints to pursue the loan due to high interest rates imposed by the financing institutions, requirements needs the hold-out of their IRA, and some LGUs lack information where to access funding.

2) Cost sharing arrangement

With the limited available funds to be used in implementing water supply and sanitation projects, cost sharing mechanism have been encourage to LGUs to feel sense of ownership of the system. However, the lack of political-will and lack of commitment of the leaders hinders the success of its implementation.

3) Varied level of preparedness of the LGUs

In the light of NEDA-ICC financing policy where no subsidy from the national government will be provided for Level II and III systems and 0 (zero) to 50 percent will be subsidized by national government but limited only to Level I for 5th and 6th class municipalities, it has been observed that most of the LGUs are dependent on grants/assistance provided by the national government or other funding institutions.

5.8 Community Development

5.8.1 General

(1) RESULTS OF THE BARANGAY KEY INFORMANT SURVEY FOR NEGROS OCCIDENTAL

I. BARANGAY

A. General

The barangay is the smallest political unit in the Philippines. It is headed by a barangay captain who is elected for a three-year term. Together with the barangay council, the barangay captain is responsible for running the affairs of the barangay. Water supply and sanitation sector projects are important to the barangay. Benefits are directly related to health and pro-

ductivity, as well to improved economic activities in the community.

The key informant survey was conducted in three barangays representing three municipalities in Negros Occidental. The key informants were either an official of the barangay council, an official of the BWSA, or a recognized community leader. The purpose of the survey was to find out the degree and type of government assistance on the sector that cascades from the national government down to the barangay level. The barangays surveyed were: Concepcion (Talisay), Salvacion (Murcia) and Canjusa (Pulupandan).

B. Community Organization

1. Manner of Participation in Sector Development

The need for water supply and sanitation facilities is discussed within and prioritized by the Barangay Development Council (BDC). If the barangay is not able to finance the WATSAN project from its own funds, the BDC then endorses the project to the municipality. Again, the prioritization and funding of the endorsed project is discussed in the Municipal Development Council (MDC). If the municipality can finance said project, then it does so, usually by providing technical and material support. The barangay is asked to contribute its share, which is usually in the form of free labor. If, however, the municipality cannot fund the barangays request, the project is once again endorsed, but this time to the province. The project is then discussed/prioritized and provided funding by the Provincial Development Council. If implemented by the province, a counterpart is asked of the barangay and sector participation is in the form of free labor and/or donations in cash or in kind.

2. Existing Community Organization Serving /Acting as the Water Association

The Barangay Council is the one providing over-all coordination in the provision of safe, potable water to the constituents of the barangay surveyed.

3. Role of the Barangay Council in O&M Assistance in the Form of Funds/ Man-power/Materials

The barangay councils provide direct assistance in the operation and maintenance of the water systems. They coordinate with the local government units (PHO/MHO) in extending technical and functional assistance to the BWSA.

The barangay councils are also willing to pay for the training of community members/volunteers on the operation and maintenance of WATSAN facilities.

II. COMMUNITY PARTICIPATION

A. General

The beneficiaries' participation is recognized as one of the determining factors in the success of the WATSAN sector plans on the community level. Participation by the barangay people is measured by their willingness to organize themselves into a water association and contribute their share towards its operationalization. This may come in the form of free labor, donations in kind or in cash, or their active involvement in the management, operation and maintenance of the WATSAN facilities.

B. Socio-Economic Conditions

1. Average Monthly Income in the Rural Area

The average monthly income of the households in the barangays surveyed ranges from P 1,000 to P 3,500. The list of economic activities shows the following: livestock and poultry raising, vegetable gardening, and operating a sari-sari-store, from which the people earn an average of P 1,500 per month. The list shows that both genders are equally involved in these economic activities.

2. Waterborne/Water Related Diseases

Incidences of waterborne and water related diseases were reported in all the barangays surveyed. Most prevalent diseases are intestinal disorder, diarrhea and skin diseases. The high incidence of waterborne diseases is compounded by the lack of effective drainage and garbage disposal systems in the areas.

C. Willingness to Participate

1. Initiating the Organization of a WATSAN Association

Each of the three barangays surveyed has a committee on water and sanitation within the barangay council. The committee is usually the one maintaining water distribution in the area. The key informants indicated that all the barangay councils are willing to participate in sector projects and in the operation and maintenance of WATSAN facilities. All of the respondents indicated that the barangay council is willing to pay for and/or facilitate the training for the user-beneficiary volunteers on O&M. In the area of health and sanitation education, almost all interviewees believed that the barangay council has the capability to implement information dissemination activities.

D. Status of BWSAs/NGOs/CBOs/Pos

1. Number of Barangay with Functional BWSAs

There are no BWSA organized in all barangays surveyed.

2. Status of NGOs/CBOs/POs

Only three NGOs were identified by the respondents in Barangays Concepcion (Talisay) and Canjuca (Pulupandan). There is no existing NGO/PO in Barangay Murcia (Salvacion).

E. O&M Practices by Beneficiaries

1. Facility Conditions

Groundwater is widely used as source of water in all the barangays surveyed. Water facilities in the barangays were mostly shallow and deep wells constructed in as early as in 1970. A spring was also developed in Barangay Concepcion. Almost all of the systems/facilities are still functional but occasionally have problems. Almost all of the respondents indicated that the water is safe for drinking.

2. Common Difficulties and O&M Problems Encountered

Common problems cited by the respondents range from defective pumps to lack of funds for the maintenance work. This can be attributed to the lack of sufficient fund to maintain the operations of WATSAN facilities.

F. Water Charges Adopted and Collection Efficiency

1. Sufficiency of Collected Charges for O&M

All of the respondents indicated that the residents do not pay for the operation and maintenance of their water supply facilities. Respondents did not indicate whether the people are willing to pay for the water.

2. Current Practices with Affordability by Users and Manner of Fee Collection

Nobody is collecting water fees from the residents.

G. Requests by the Beneficiaries on O&M of the Facilities from LGUs and other Sources

1. Government Subsidies Requested by End Users

The majority of the respondents is not aware of any technical and financial assistance coming from the provincial and municipal government for the water supply and sanitation sector. Few indicated, however, that assistance came in the form of materials and laborers for the construction of dug wells.

III. GENDER

A. General

The survey results do not point to a severe lack of gender responsiveness to sector projects, but awareness of the key informants must be enhanced as to why both genders' participation is important in the WATSAN sector plans and implementation.

B. Gender in the Composition of the Barangay Council

In the three barangays surveyed, the total number of barangay council members is 29. Of this number, 21 were males and 8 females. All barangay captains are male.

C. Gender in the Composition of the BWSA

All of the barangay surveyed did not have functional BWSAs.

D. Gender in Participation in the O&M of the Water Facilities

Almost all of the respondents indicated that women do not participate in the O&M of the water facilities. According to few who claimed that women participate, they said that women just handle cleaning of the surroundings.

E. Gender in Knowledge or Awareness of Sector Related Information

There seems to be lack of awareness of sector related information among the respondents, both male and female. They are not knowledgeable on sector issues as indicated by their insufficient responses.

(2) RESULT OF GROUP INTERVIEWS (NEGROS OCCIDENTAL)

A. General

Group interviews were conducted in two selected barangays representing two municipalities in the province of Negros Occidental. The objectives of the group survey/interviews were to identify potential service population and service level desired by the community, to assess the degree of involvement of both men and women in planning, managing, operating and maintaining WATSAN projects, and the willingness and capacity to pay of potential users.

The Project Team conducted the interviews on two sets of interviewees: an all female group and an all male group each consisting of a minimum of 10 and a maximum of 13 participants. None of the respondents belonged to the same household. Answers to the interview questions were made by raising of hands. The group interviews were conducted in the following barangays: Tabigue (E.B. Magalona) and Enclaro (Binalbagan).

B. Demographic Profile

(1) Population

The aggregate population in the two barangays is 8,552, broken down as follows: Tabigue (E.B. Magalona), 2,737 and Enclaro (Binalbagan), 5,815.

(2) Households

As indicated by the respondents, there are 1,567 households in the two barangays, that is, Tabigue (E.B. Magalona), 496 and Enclaro (Binalbagan), 1,071.

The figure represents an average of five (5) members per household.

**TABLE 1: TOTAL POPULATION OF BARANGAYS AND
NUMBER OF HOUSEHOLDS**

BARANGAY (MUNICIPALITY)	M	F	T	NO. OF HH
1. Tabigue (E.B. Magalona)			2,737	496
2. Enclaro (Binalbagan)			5,815	1,071
TOTAL			8,552	1,567

(3) Composition of Barangay Councils

There were 19 barangay council members in the two barangays. Of the barangay council members, 15 (79 %) were males and 4 (21 %) were females. The barangay captains in both barangays were males.

C. Respondents' Profile

(1) Number and Gender of Respondents

There were 46 respondents in the group interviews. Of these, 23 were females and 23 were males. Table 2 presents the number of respondents by gender for each barangay:

TABLE 2: NUMBER OF RESPONDENTS

BARANGAY (MUNICIPALITY)	M	F	T	%
1. Tabigue (E.B. Magalona)	10	11	21	46
2. Enclaro (Binalbagan)	13	12	25	54
TOTAL	23	23	46	100

(2) Age Bracket

Almost half of the respondents (21 or 46%) belonged to 26 to 45 age bracket. A total of 18 (8 males, 10 females) was under the 46 to 60 age bracket. Five respondents (1 male, 4 females) constituted the 25 and below age bracket, while two male respondents belonged to 61 and above age bracket.

TABLE 3: AGES OF THE RESPONDENTS

AGE BRACKET	M	F	T	%
25 and Below	1	4	5	11
26-45	12	9	21	46
46-60	8	10	18	39
61 and above	2	-	2	4
TOTAL	23	23	46	100

(3) Level of Education

One female respondent reached the elementary level; while 11 respondents (7 males, 4 females) completed it. Only three female respondents reached high school level and twelve graduated from this level. Meanwhile, two female respondents managed to reach college. Only one male respondent graduated from college, another male respondent pursued vocational course and the remaining one male interviewee did not respond to this question.

TABLE 4: RESPONDENTS' LEVEL OF EDUCATION

EDUCATION LEVEL	M	F	T	%
1. Elementary Level	-	1	1	2
2. Elementary Graduate	7	4	11	24
3. High School Level	-	3	3	7
4. High School Graduate	6	6	12	26
5. College Level	-	2	2	4
6. College Graduate	4	5	9	20
7. Vocational	4	2	6	13
8. Post Graduate	1	-	1	2
9. No Response	1	-	1	2
TOTAL	23	23	46	100

(4) Occupation

At the time of the interview, eight male respondents were engaged in either farming or fishing; another 8 male respondents were laborers; three respondent were office worker; and twelve respondents were engaged in business. Five listed as a professional; Two other respondents were government official.

TABLE 5: OCCUPATION OF RESPONDENTS

OCCUPATION	M	F	T	%
1. Farmer/Fisherfolk	8	-	8	17
2. Laborer	8	-	8	17
3. Service Worker	-	-	-	-
4. Businessman/woman	1	11	1	26
5. Professional	3	2	5	11
6. Office Worker	1	2	3	7
7. Tech. Equipment Operator	-	-	-	-
8. Others	2	8	10	22
TOTAL	23	23	46	100

D. Socio Economic Profile

(1) Level of Education of Household Members

The respondents' answers indicated that more female household members reached and graduated from the elementary level. However, three male household members graduated from high school; while none of the female household members did. One male household member eventually completed college. Two household members (1 male and 1 female), on the other hand, pursued vocational courses.

TABLE 6: LEVEL OF EDUCATION OF HH MEMBERS

EDUCATIONAL LEVEL	EDUCATED HOUSEHOLD MEMBERS	
	M	F
1. Elementary Level	4	7
2. Elementary Graduate	20	13
3. High School Level	2	2
4. High School Graduate	14	14
5. College Level	-	-
6. College Graduate	10	14
7. Vocational	2	-
8. Post Graduate	-	-

(2) Employed Household Members

As a whole, more male members of the household were employed compared to the females. The most productive was those that belonged to the 26 to 45 age group where the males overwhelmingly outnumbered the females 16 to 1. Next was the 46 to 60 age bracket where 14 had jobs. There were eight members under the 25 and below age group and only four members under the 61 and above age category who were employed.

TABLE 7: EMPLOYED HH MEMBERS

RESPONSE	RESPONDENTS		Total
	Employed Male Members	Employed Female Members	
25 and Below	2	-	2
25-45	18	11	29
46-60	5	2	7
61 and above	-	-	-
Total	25	13	38

(3) Occupation of Household Heads and Other Members

As indicated by the respondents, there were 56 persons among the respondents' household who were productive or employed. The occupation of all the female household members and all the male household members, except for one, was farming and/or fishing.

Majority of the respondent's household members who were gainfully employed earned a monthly income of P 5,000.00 and below; nine earned P 5,000 to P 14,999; two earned from P 15,000 to P 24,999. Only one male member earned above P25,000.00.

TABLE 8: OCCUPATION OF HH MEMBERS

OCCUPATION	M	F	T
1. Farmer/Fisherfolk	10	-	
2. Laborer	7	-	
3. Service Worker	4	-	
4. Businessman/woman	3	-	
5. Professional	3	7	
6. Office Worker	3	3	
7. Technician	1		
8. Others	1	11	
TOTAL			

TABLE 9: AVERAGE MONTHLY INCOME OF HH MEMBERS

ITEM	M	F	T	%
Below P 5,000.00	16	18	34	74
P 5,000 to 14,999	4	5	9	20
P 15,000 to 24,999	2	-	2	4
Above P 25,000	1	-	1	2
TOTAL	23	23	46	100

(4) Average Expenditures of Household

The majority of the respondents indicated that the average monthly expenditure of their household was below P 5,000.00. Seven claimed that their monthly expenditure was about P 5,000 to 14,999, one reported that his family spent P 15,000 to 24,000. Only one

male respondent reported that his household spent above P 25,000.00 a month.

TABLE 10: AVERAGE MONTHLY EXPENSES OF HH MEMBERS

ITEM	M	F	T	%
Below P 5,000	19	18	37	80.4
P 5,000 to 14,999	2	3	7	15.2
P 15,000 to 24,999	1	-	1	2.2
Above P 25,000	1	-	1	2.2
TOTAL	23	23	46	100

(5) Practices

Source of Drinking Water. Twenty-seven respondents (12 males, 5 females) indicated that their source of drinking water was from a communal shallow well. There were 16 respondents who got water from piped water supply. Other source mentioned was private shallow well (3).

TABLE 11: SOURCES OF DRINKING WATER

SOURCES	USER RESPONDENT		T	%
	M	F		
1. Communal Shallow Well	12	15	27	58.50
2. Communal Deep Well	-	-	-	-
3. Communal Dug Well	-	-	-	-
4. Communal Faucet	-	-	-	-
5. Private Shallow Well	3	-	3	6.52
6. Private Deep Well	-	-	-	-
7. Piped Water Supply	8	8	16	37.78
8. Private Dug Well	-	-	-	-
9. Others	-	-	-	-
TOTAL	23	23	46	100

Responsible for Fetching Water. Eight interviewees indicated that the male children were responsible for fetching drinking water while five others said the wives were. Thirteen said that the husband did the task.

TABLE 12: RESPONSIBLE FOR FETCHING DRINKING WATER

FAMILY MEMBER	USER RESPONDENT		T	%
	M	F		
1. Husband	11	2	13	28.26
2. Wife	-	5	5	10.87
3. Male Children	-	8	8	17.39
4. Female Children	1	-	1	2.17
5. Others	-	-	-	-
6. Uncertain	-	-	-	-
7. No Response	11	8	19	41.30
TOTAL	23	23	46	100

Frequency of Fetching Water. Eighteen female and three male respondents indicated that water was fetched once a day as against two that said this was done twice a day. On the other hand, 5 female respondents indicated water was fetched for family consumption three times daily. Nineteen respondents, however, did not respond to the query.

TABLE 13: FREQUENCY OF FETCHING DRINKING WATER

DURATION	RESPONDENTS		T	%
	M	F		
1. Once a Day	3	8	11	24
2. Twice a Day	-	2	2	4
3. 3x a Day	-	5	5	11
4. 4x a Day	-	-	-	-
5. More than 5x days	9	-	9	20
6. No Response	11	8	19	41
TOTAL	23	23	46	100

Duration of Fetching Water. For 27 interviewees (12 males, 15 females), it took about 10 minutes to haul water from source to home; while 19 respondents seemed uncertain and chose not to respond to the question.

TABLE 14: DURATION FOR FETCHING DRINKING WATER

DURATION	RESPONDENTS		T	%
	M	F		
1. Less than 5 Minutes	-	-	-	-
2. About 10 Minutes	12	15	27	59
3. About 20 Minutes	-	-	-	-
4. About 30 Minutes	-	-	-	-
5. More Than 30 Minutes	-	-	-	-
6. No Response	11	8	19	41
TOTAL	23	23	46	100

Problems with Source. Majority of the respondents admitted that they have problems with the current water source. The female respondents, however, were divided on the issue, 10 saying they do not have any problems, and 13 agreeing with their male counterparts.

TABLE 15: PROBLEM WITH SOURCE OF WATER

RESPONSE	RESPONDENTS		T	%
	M	F		
1. No Problem	10	-	10	22
2. There are problems	13	23	36	78
TOTAL	23	23	46	100

E. Institutional

(1) Presence of BWSA

More than half of the respondents declared that there was a BWSA in their barangays. Twelve-two respondents have no knowledge of the existence of the BWSA in their barangay.

TABLE 16: KNOWLEDGE OF THE EXISTENCE OF BWSA

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	13	11	24	52
2. No	10	12	22	48
TOTAL	23	23	46	100

(2) Membership to BWSAs

Only six male respondents were members of the BWSA. Of the female respondents, no one was a member of the BWSA.

TABLE 17: MEMBERSHIP TO THE BWSA

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	6	-	6	13
2. No	17	23	30	87
TOTAL	23	23	46	100

(3) Involvement in the affairs of the BWSA

Majority of the respondents was not involved in running the affairs of the BWSA. For 6 male respondents, who were members of BWSA in their barangay, they were involved in Barangay Water Works and Sanitation Association, which is not listed in the table.

TABLE 18: HOW ACTIVELY INVOLVED ARE YOU IN THE AFFAIRS OF THE BWSA

RESPONSE	RESPONDENTS		T	%
	M	F		
1. As BWSA Officer	-	-		
2. As Collection Officer	-	-		
3. Assist in the repair maintenance of facilities	-	-		
4. Attend/ Facilitate Training	-	-		
5. Not active	-	-		
6. As Member	-	-		
7. Others	6	-		
TOTAL				

(4) Who maintains the facilities of the BWSA?

All the respondents did not respond to the question because they were not sure who was the one responsible for maintaining the WATSAN facilities.

TABLE 19: RESPONSIBLE FOR MAINTAINING BWSA FACILITIES

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Someone in the Barangay	N/A			
2. Professional caretaker				
3. Someone from the BWSA				
4. No one				
5. Don't know				
TOTAL				

(5) Interested to be a member of BWSA

All the respondents were interest to join a BWSA.

TABLE 20: INTEREST OF RESPONDENTS TO JOIN BWSA

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Interested	23	23	46	100
2. Not Interested	-	-	-	-
TOTAL	23	23	46	100

(6) How can respondents become actively involved in BWSA affairs?

Some of the male respondents professed willingness to contribute labor or is an officer of the BWSA as manifestations of their active involvement with the BWSA. The rest male respondent was ready to assist in collection of fees while some will do repair/maintenance. The female interviewees, however, felt that being a member was enough to show active involvement in the affairs of the BWSA.

**TABLE 21: HOW RESPONDENTS CAN BECOME ACTIVELY INVOLVED
IN WATSAN PROJECTS**

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Contribute Cash	-	-	-	-
2. Contribute labor	1	-	1	2.17
3. Be Officer	3	-	3	6.52
4. Collection of Fees	1	-	1	2.17
5. Do Repair/Maintenance	5	-	5	1.87
6. Just Member	-	23	23	50
7. No Response	13	-	13	28.26
TOTAL	23	23	46	100

(7) Responsible for minor repairs of water facilities

More than half of the respondents was uncertain about who was responsible for minor repairs for WATSAN facilities. Those who did said it was "someone" from the barangay and male member. Eleven interviewees said that the male member took care of minor repairs; while the twelve were uncertain.

TABLE 22: RESPONSIBLE FOR MINOR REPAIRS

SOURCE OF WATER	RESPONDENTS		T	%
	M	F		
1. Female Member	-	-	1	-
2. Male Member	5	11	16	35
3. Somebody in the Brgy.	5	-	5	11
4. Professional Caretaker	-	-	-	-
5. Owner of the Well	-	-	-	-
6. Uncertain	13	12	25	54
7. Others	-	-	-	-
TOTAL	23	23	46	100

F. Training Activities

(1) Training Program attended in 1998

For the year 1998, only two females attended training programs. The rest of the respondents either did not attend or did not respond to the question.

TABLE 23: TRAINING ATTENDED BY RESPONDENTS IN 1998

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	-	2	2	4
2. No	23	12	35	76
3. No Response	-	9	9	20
TOTAL	23	23	46	100

(2) Kinds of Training Program

For the respondents who attended various training programs in 1998, Table 24 summarizes the training programs/seminars they had attended.

TABLE 24: TRAINING COURSES ATTENDED BY RESPONDENTS IN 1998

BARANGAY	MALE	FEMALE
1. Tabigue (E.B. Magalona)		Boneless Bangus Training
2. Enclaro (Binalbagan)		Day Care Training

(3) On BWSA Training

The majority of the respondents wanted to attend various training program. Only eleven female respondents were not interested to attend any program.

TABLE 25: AWARENESS ON THE FOLLOWING TRAINING FOR BWSA

TRAINING PROGRAM	YES		NO	
	M	F	T	M
1. Caretaker's Training	-	-	23	23
2. Collection/Finance	-	-	23	23
3. Repair/O&M	-	4	23	19

TABLE 26: WILLINGNESS TO ATTEND BWSA-RELATED TRAINING PROGRAMS

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	10	12	22	48
2. No	-	11	11	24
3. No Response	13	-	13	28
TOTAL	23	23	46	100

(4) Training on Health Education

Only twelve female respondents have attended health education and training programs. Twenty-two respondents, or 10 males and 2 females, has not participated in any health education and training. No response was elicited from 22 (13 males, 9 females) interviewees. If given a chance, the respondents indicated their desire to attend WATSAN related training programs such as: BWSA Training, Livelihood Training, Bookkeeping, Primary Health Care and Establishment and Management of Water works System, as shown in Table 28.

TABLE 27: PARTICIPATION IN HEALTH EDUCATION AND TRAINING

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	-	12	12	26
2. No	10	2	12	26
3. No Response	13	9	22	48
TOTAL	23	23	46	100

TABLE 28: TYPES OF TRAINING RESPONDENTS WISH TO ATTEND

BARANGAY	MALE	FEMALE
1. Tabigue (E.B. Magalona)	BWSA Training Livelihood Bookkeeping	Livelihood Training Primary Health Care
2. Enclaro (Binalbagan)		Establishment and Management of Water works System

(5) Desirable Training Period

All the male respondents indicated that the length of training should depend on the training program/s to be conducted. The respondents, however, gave more categorical answers – more than three days, 2; just three days, 10; less than one day, 5; one day, 6; and two days, 10. The remaining ten interviewees did not respond.

TABLE 29: DESIRABLE TRAINING PERIOD

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Less Than 1 Day	-	5	5	11
2. One (1) Day	-	6	6	13
3. Two (2) Days	-	10	10	22
4. Three (3) Days	8	2	10	22
5. More Than Three Days	2	-	2	4
6. Others	-	-	-	-
7. No Response	13	-	13	28
TOTAL	23	23	46	100

G. Community Development

(1) CBOs and contact person

All of the respondents were aware of NGOs working in their communities, some respondents indicated that there were community-based organizations doing different development work in the barangays. Table 31 lists down these NGOs/CBOs and their contact persons:

TABLE 30: ARE THERE NGOS WORKING IN THE BARANGAY

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	23	23	46	100
2. No	-	-	-	-
TOTAL	23	23	46	100

TABLE 31: NGOS/CBOS IN THE BARANGAYS

BARANGAY	AREAS OF CONCERN	CONTACT PERSON
1. Tabigue (E.B. Magalona)	Female Negros Women for Tomorrows Foundation	Mrs. Benedicto
2. Enclaro (Binalbagan)	Male Luke's Society Negros Women Visayas Forum Female Negros Women for Tomorrows Foundation	Pastor Ebeneser Castillo Jonas Coniezo Jocelyn Resuma Jonas Coniezo

(2) Were the respondents consulted on their respective roles and responsibilities?

The majority of the female respondents indicated they were consulted and/or briefed on their proposed roles and responsibilities on the planning, design and construction of their water supply facilities. This was also true for the operation and maintenance and the financing aspects of the system. For the male respondents, all of them were consulted on the different aspects of project development stages such as planning, design, construction facilities, operation and maintenance and financing of their water system.

TABLE 32: WERE RESPONDENTS CONSULTED IN PAST WATSAN PROJECTS

BWSA ACTIVITIES	YES		NO	
	M	F	M	F
1. Planning and Design	1	-	-	-
2. Construction Facilities	4	-	-	-
3. O&M of the System	1	-	-	-
4. Financing of the System	-	-	-	-
5. Others	-	12	17	11

(3) Were the respondents consulted when the BWSA was formed?

Only four female interviewees responded and indicated that they were consulted when the BWSA was formed in their respective barangays. Many of the respondents said that they were not adequately consulted.

TABLE 33: WERE YOU CONSULTED WHEN:

ACTIVITIES	YES		NO	
	M	F	M	F
1. BWSA was formed in the Brgy.	-	4		
2. Water fee was decided upon	-	-		
3. Level or type of service was agreed upon	-	-		
4. Facilities were constructed	-	-		

(4) How did the respondents participate in past construction projects?

All of the male and female respondents did not participate and contribute in the construction of previous WATSAN facilities.

TABLE 34: PARTICIPATION IN PAST CONSTRUCTION PROJECTS

TYPE OF PARTICIPATION	RESPONDENTS		T	%
	M	F		
1. Contributed Cash	-	-	-	-
2. Provided labor	-	-	-	-
3. Donated Site	-	-	-	-
4. Provided Materials	-	-	-	-
5. No Contribution	23	23	46	100
TOTAL	23	23	46	100

(5) Will the respondents participate in future projects?

For future projects, however, the male respondents indicated that they would equally participate and/or contribute for all activities such as in the Formation of BWSA; Formulation of water rates; Selection of sites and levels of services; Construction of facilities and in the Operation and maintenance. In the construction, the selection of sites and levels of services and construction of facilities, the twelve female respondents seemed not to be interested in providing and for two male respondents who were not willing to contribute for the formation of the BWSA.

TABLE 35: WILLINGNESS/TYPE OF PARTICIPATION IN FUTURE PROJECTS

PROJECT ACTIVITIES	YES		NO	
	M	F	M	F
1. Formation of BWSA	23	21	-	2
2. Formulation of water rates	23	23	-	-
3. Selection of sites and levels of services	23	11	-	12
4. Construction of facilities	23	11	-	12
5. Operation and maintenance	23	23	-	-

H. Financial Aspects

(1) Do the respondents presently pay for their water supply?

Majority of the male respondents, 14 and 8 out of 15 female respondents, claimed they paid for their water supply. paid for their water supply.

TABLE 36: NUMBER OF RESPONDENTS PRESENTLY PAYING WATER FEE

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	14	8	22	48
2. No	9	15	24	52
TOTAL	23	23	46	100

(2) If so, how much per household per month?

Eighteen respondents indicated that they paid above P50.00 a month. One male each indicated that he paid from P 11.00 to P 20.00; P 21.00 to P 30.00; P31.00 to P 40.00; and from P 41.00 to P 50.00. Twenty-four respondents (9 males, 15 females) did not respond to the query.

TABLE 37: PRESENT WATER FEES PAID

WATER FEES	RESPONDENTS		T	%
	M	F		
Below P 5.00	-	-	-	-
P 6.00 to P 10.00	-	-	-	-
P 11.00 to P 20.00	1	-	1	2.17
P 21.00 to P 30.00	1	-	1	2.17
P 31.00 to P 40.00	1	-	1	2.17
P 41.00 to P 50.00	1	-	1	2.17
Above P 50.00	10	8	18	39.13
No Pay/No Response	9	15	24	52.17
TOTAL	23	23	46	100

(3) Is the water fee enough for O&M?

Twelve female respondents claimed that the fees being collected for the operation and maintenance the facilities were not adequate for operation and maintenance of the facilities while only one male respondent claimed that the fees being collected from operation and maintenance were adequate. Majority of the respondents, (33) was uncertain.

TABLE 38: ADEQUACY OF WATER FEE FOR O&M

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	1	1	1	2
2. No	-	12	12	26
3. Uncertain	22	11	33	72
TOTAL	23	23	46	100

Twelve female respondents said the reason could be that the O&M cost were too high. The majority of the respondents were uncertain.

TABLE 39: IF NOT ADEQUATE, STATE THE REASON/S

REASON/S	M	F	T	%
1. Water fee is low	-	-	-	-
2. O&M cost is too high	-	12	12	26
3. Not all water users pay their Water fee	-	-	-	-
4. Others/Uncertain	23	11	34	74
TOTAL	23	23	46	100

(4) Who shoulders the O&M of Facilities?

Thirty-three percent (33%) of the respondents declared that it was the private owner who shouldered the operation and maintenance of the water supply facilities. Thirty-nine percent, (39%) indicated that there were voluntary contribution, not listed in the table, while the remaining respondents (28%), all males were uncertain.

TABLE 40: RESPONSIBILITY FOR SHOULDERING THE O&M COSTS

PERSON	RESPONDENTS		T	%
	M	F		
1. Barangay Council	-	-	-	-
2. WATSAN Association	-	-	-	-
3. Private Owner	3	12	15	33
4. Others	7	11	18	39
5. No Response	13	-	13	28
TOTAL	23	23	46	100

(5) Are the people willing to pay for O&M of future facilities?

All the respondents expressed willingness to pay for the O&M of future facilities.

TABLE 41: RESPONDENTS' WILLINGNESS TO PAY FOR FUTURE FACILITIES

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	23	23	46	100
2. No	-	-	-	-
TOTAL	23	23	46	100

(6) How much are respondents willing to pay?

The majority of those who were willing to pay claimed they could only pay below P 5.00. Eleven male respondents wanted to pay water fees of about P6.00 to P10.00; one male respondents each was ready to pay from P 11.00 to P 20.00, from P21.00 to P 30.00, P31.00 to P 40.00 and from P41.00 to P 50.00. Twelve respondents were ready to pay above P50.00.

TABLE 42: AMOUNT RESPONDENTS ARE WILLING TO PAY

RESPONSE	RESPONDENTS		T	%
	M	F		
Below P 5.00	8	13	21	46
P 6.00 to P 10.00	1	8	9	20
P 11.00 to P 20.00	1	-	1	2
P 21.00 to P 30.00	1	-	1	2
P 31.00 to P 40.00	1	-	1	2
P 41.00 to P 50.00	1	-	1	2
Above P 50.00	10	2	12	26
TOTAL	23	23	46	100

(7) Are you willing to contribute for future projects?

All of the interviewees indicated their willingness to contribute in cash or in kind for the construction of WATSAN facilities in their respective barangays.

TABLE 43: WILLINGNESS TO CONTRIBUTE FOR FUTURE FACILITIES

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	23	23	46	100
2. No	-	-	-	-
TOTAL	23	23	46	100

TABLE 44: IF NOT WILLING, STATE THE REASON/S

REASON/S	M	F	T	%
1. Can not afford to pay	N/A			
2. Gov't must provide water for free				
3. Water service is not good.				
4. Others (Specify)				
5. No Response				
TOTAL				

(8) If so, what kind?

The male respondents opted to contribute labor but not for free as their contribution for future WATSAN facilities. Some of the female respondents just preferred to contribute labor and donate site.

TABLE 45: TYPES OF CONTRIBUTION

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Will free provide labor	-	10	10	22
2. Will donate site	-	13	13	28
3. Will provide materials	-	-	-	-
4. Others	23	-	23	50
TOTAL	23	23	46	100

(9) Reason/s for not contributing

Since all of the respondents were willing to contribute they did not respond to this question.

TABLE 46: IF NOT WILLING TO CONTRIBUTE, STATE REASONS:

REASONS	RESPONDENTS		T
	M	F	
1. Cannot afford to contribute	N/A		
2. No land/site to contribute			
3. Government should provide water for free			

I. Health and Sanitation

(1) Type of toilet

A high 61% of the respondents used toilet w/ flushes to septic tank on the site; 28% percent used toilet w/ flushes/ drops straight to sea; 7% used private pit latrine; 2% used shared flush toilet with septic tank; and the remaining 2% used the bush or other open outdoor sites

TABLE 47: TYPES OF TOILETS RESPONDENTS USE

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Toilet w/ flushes to septic tank on the site	13	15	28	61
2. Toilet w/ flushes/ drops straight to sea	5	8	13	28
3. Private pit latrine	3	-	3	7
4. Shared flush toilet w/ septic tank	1	-	1	2
5. Public toilet	-	-	-	-
6. Bush or other open outdoor site	1	-	1	2
7. Pour Flush Water	-	-	-	-
TOTAL	23	23	46	100

(2) Who got sick during the past year? What sickness?

Most of the respondents were uncertain as to the types of illnesses that afflicted their family members in the past year. The others claimed the illnesses were "somewhat" water-related as the illnesses were diarrhea, gastro-enteritis, and diseases of the skin. Influenza, which was not listed, was also one of the illnesses that many of the respondents complained about.

The women were the sicklier group (wife, female children and grandmother) in the family, having been afflicted with a variety of illnesses. In the male group, it was the grandfathers who were reported to have been more susceptible to illness.

TABLE 48: WATER ILLNESSES

DISEASE	RESPONDENTS		T	%
	M	F		
1. Diarrhea	9	3		
2. Kidney trouble	-	-		
3. Gastro-enteritis	-	-		
4. Cholera	-	-		
5. Typhoid fever	-	1		
6. Malaria	-	-		
7. Skin Disease	13	-		
8. Schistosomiasis	-	-		
9. Others	6	13		
TOTAL				

TABLE 49: HOUSEHOLD MEMBERS FREQUENTLY GOT SICK IN 1998

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Husband	2	1		
2. Wife	1	1		
3. Father	2	1		
4. Mother	5	1		
5. Male Children	1	3		
6. Female Children	-	2		
7. Grandmother	-	-		
8. Grandfather	-	-		
9. Others	-	-		
TOTAL				100

(3) Health and hygiene practices

Most respondents recognized the importance of good health and hygiene practices. The male respondents learned about health and sanitation matters mostly from health clinics and hospitals while the female respondents learned this from health workers/inspectors, family and friends, as well as from health clinics, hospitals and schools.

TABLE 50: DO YOU RECEIVE/GET INFORMATION ABOUT HEALTH AND SANITATION

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Yes	13	11	24	52
2. No	10	-	10	22
3. No Response	-	12	12	26
TOTAL	23	23	46	100

TABLE 51: WHERE PEOPLE LEARNED HEALTH AND HYGINE EDUCATION

RESPONSE	RESPONDENTS		T	%
	M	F		
1. Radio	23	11		
2. Newspapers	2	-		
3. Television	23	11		
4. NGOs	-	-		
5. Family and Friends	-	-		
6. Health Sanitation/Clinics/Hospitals	23	-		
7. Health workers/ inspectors	23	11		
8. School	13	23		
9. Others	-	-		
TOTAL				