
**FUTURE REQUIREMENTS
AND DEVELOPMENT PLAN**

B

8. FUTURE REQUIREMENTS IN WATER SUPPLY AND SANITATION IMPROVEMENT

8.2 Targets of Provincial Sector Plan

Table 8.2.1 Estimation of Base Year Service Coverage of Water Supply

Name of Municipality City	Area	Population (1998)	Population Served by 1993 Facilities				Population Served by Planned On- going Projects				Population Served in the Base Year (1998)				
			Level III	Level II	Level I	Total	Level III	Level II	Level I	Total	Level III	Level II	Level I	Total	Percentage Coverage
Cuantero	Urban	3,894			1,774	1,774							1,774	1,774	46
	Rural	25,529		402	13,981	14,383						402	13,981	14,383	56
	Total	29,423		402	15,755	16,157						402	15,755	16,157	55
Dao	Urban	5,646			3,864	3,864							3,864	3,864	68
	Rural	24,000			17,548	17,548							17,548	17,548	73
	Total	29,646			21,412	21,412							21,412	21,412	72
Dumalag	Urban	3,193			2,841	2,841							2,841	2,841	89
	Rural	27,352	2,465	775	18,464	21,704					2,465	775	18,464	21,704	79
	Total	30,545	2,465	775	21,305	24,545					2,465	775	21,305	24,545	80
Dumarao	Urban	5,447	1,890	75	2,309	4,274					1,890	75	2,309	4,274	78
	Rural	33,767	340	350	28,215	28,905					340	350	28,215	28,905	86
	Total	39,214	2,230	425	30,524	33,179					2,230	425	30,524	33,179	85
Ivisan	Urban	4,632	1,285		1,687	2,972					1,285		1,687	2,972	64
	Rural	19,098	655	675	10,117	11,447					655	675	10,117	11,447	60
	Total	23,730	1,940	675	11,804	14,419					1,940	675	11,804	14,419	61
Jaminan	Urban	2,516			722	722							722	722	29
	Rural	36,235		300	1,232	1,532						300	1,232	1,532	4
	Total	38,751		300	1,954	2,254						300	1,954	2,254	6
Ma-ayon	Urban	4,578			2,422	2,422							2,422	2,422	53
	Rural	26,410		500	11,636	12,136						500	11,636	12,136	46
	Total	30,988		500	14,058	14,558						500	14,058	14,558	47
Mambusao	Urban	6,492	2,175		1,944	4,119					2,175		1,944	4,119	63
	Rural	31,068	10	660	14,196	14,866					10	660	14,196	14,866	48
	Total	37,560	2,185	660	16,140	18,985					2,185	660	16,140	18,985	51
Panay	Urban	2,969	1,685		25	1,710					1,685		25	1,710	58
	Rural	38,031	4,960		1,166	6,126					4,960		1,166	6,126	16
	Total	41,000	6,645		1,191	7,836					6,645		1,191	7,836	19
Panitan	Urban	2,638	995		825	1,820					995		825	1,820	69
	Rural	31,224	840	625	19,394	20,859					840	625	19,394	20,859	67
	Total	33,862	1,835	625	20,219	22,679					1,835	625	20,219	22,679	67
Pilar	Urban	5,117	860		3,026	3,886					860		3,026	3,886	76
	Rural	32,055	195	665	24,365	25,225					195	665	24,365	25,225	79
	Total	37,172	1,055	665	27,391	29,111					1,055	665	27,391	29,111	78
Pontevedra	Urban	6,427	3,680		380	4,060					3,680		380	4,060	63
	Rural	33,126	3,400	2,628	8,585	14,613					3,400	2,628	8,585	14,613	41
	Total	39,553	7,080	2,628	8,965	18,673					7,080	2,628	8,965	18,673	47
President Roxas	Urban	6,615			2,769	2,769							2,769	2,769	42
	Rural	18,736		125	4,997	5,122						125	4,997	5,122	27
	Total	25,351		125	7,766	7,891						125	7,766	7,891	31
Roxas City (Capital)	Urban	59,024	33,945		20,946	54,891					33,945		20,946	54,891	93
	Rural	71,743	16,315	948	36,751	54,014					16,315	948	36,751	54,014	75
	Total	130,767	50,260	948	57,697	108,905					50,260	948	57,697	108,905	83
Sapi-an	Urban	4,038			1,376	1,376							1,376	1,376	34
	Rural	19,055		660	12,017	12,677						660	12,017	12,677	67
	Total	23,093		660	13,393	14,053						660	13,393	14,053	61
Sigma	Urban	2,248			674	674							674	674	30
	Rural	24,264		1,100	6,232	7,332						1,100	6,232	7,332	30
	Total	26,512		1,100	6,906	8,006						1,100	6,906	8,006	30
Tapaz	Urban	2,135			1,747	1,747							1,747	1,747	82
	Rural	38,674		500	16,576	17,076						500	16,576	17,076	44
	Total	40,809		500	18,323	18,823						500	18,323	18,823	46
Provincial Total	Urban	127,609	46,515	75	49,331	95,921					46,515	75	49,331	95,921	75
	Rural	530,367	29,180	10,913	245,472	285,565					29,180	10,913	245,472	285,565	54
	Total	657,976	75,695	10,988	294,803	381,486					75,695	10,988	294,803	381,486	58

Table 8.2.2 Population Coverage in Phase I Provided by Served Population in the Base Year (Water Supply)

Name of Municipality/City	Area	Population Served by 1998 Facilities				1998		2005	
		Level III	Level II	Level I	Total	Total Population	Coverage (%)	Total Population	Coverage (%)
Cuartero	Urban			1,774	1,774	3,894	46	4,938	36
	Rural		402	13,981	14,383	25,529	56	32,375	44
	Total		402	15,755	16,157	29,423	55	37,313	43
Dao	Urban			3,864	3,864	5,646	68	5,769	67
	Rural			17,548	17,548	24,000	73	24,521	72
	Total			21,412	21,412	29,646	72	30,290	71
Dumalag	Urban			2,841	2,841	3,193	89	3,768	75
	Rural	2,465	775	18,464	21,704	27,352	79	32,277	67
	Total	2,465	775	21,305	24,545	30,545	80	36,045	68
Dumarao	Urban	1,890	75	2,309	4,274	5,447	78	5,799	74
	Rural	340	350	28,215	28,905	33,767	86	35,944	80
	Total	2,230	425	30,524	33,179	39,214	85	41,743	79
Ivisan	Urban	1,285		1,687	2,972	4,632	64	5,083	58
	Rural	655	675	10,117	11,447	19,098	60	20,957	55
	Total	1,940	675	11,804	14,419	23,730	61	26,040	55
Jamindan	Urban			722	722	2,516	29	3,380	21
	Rural		300	1,232	1,532	36,235	4	48,670	3
	Total		300	1,954	2,254	38,751	6	52,050	4
Ma-ayon	Urban			2,422	2,422	4,578	53	4,770	51
	Rural		500	11,636	12,136	26,410	46	27,522	44
	Total		500	14,058	14,558	30,988	47	32,292	45
Mambusao	Urban	2,175		1,944	4,119	6,492	63	7,279	57
	Rural	10	660	14,196	14,866	31,068	48	34,833	43
	Total	2,185	660	16,140	18,985	37,560	51	42,112	45
Panay	Urban	1,685		25	1,710	2,969	58	3,283	52
	Rural	4,960		1,166	6,126	38,031	16	42,061	15
	Total	6,645		1,191	7,836	41,000	19	45,344	17
Panitan	Urban	995		825	1,820	2,638	69	2,726	67
	Rural	840	625	19,394	20,859	31,224	67	32,258	65
	Total	1,835	625	20,219	22,679	33,862	67	34,984	65
Pilar	Urban	860		3,026	3,886	5,117	76	5,306	73
	Rural	195	665	24,365	25,225	32,055	79	33,241	76
	Total	1,055	665	27,391	29,111	37,172	78	38,547	76
Pontevedra	Urban	3,680		380	4,060	6,427	63	6,901	59
	Rural	3,400	2,628	8,585	14,613	33,126	44	35,570	41
	Total	7,080	2,628	8,965	18,673	39,553	47	42,471	44
President Roxas	Urban			2,769	2,769	6,615	42	6,972	40
	Rural		125	4,997	5,122	18,736	27	19,748	26
	Total		125	7,766	7,891	25,351	31	26,720	30
Roxas City (Capital)	Urban	33,945		20,946	54,891	59,024	93	73,329	75
	Rural	16,315	948	36,751	54,014	71,743	75	89,131	61
	Total	50,260	948	57,697	108,905	130,767	83	162,460	67
Sapi-an	Urban			1,376	1,376	4,038	34	4,239	32
	Rural		660	12,017	12,677	19,055	67	20,002	63
	Total		660	13,393	14,053	23,093	61	24,241	58
Sigma	Urban			674	674	2,248	30	2,375	28
	Rural		1,100	6,232	7,332	24,264	30	25,633	29
	Total		1,100	6,906	8,006	26,512	30	28,008	29
Tapaz	Urban			1,747	1,747	2,135	82	2,179	80
	Rural		500	16,576	17,076	38,674	44	39,474	43
	Total		500	18,323	18,823	40,809	46	41,653	45
Provincial Total	Urban	46,515	75	49,331	95,921	127,609	75	148,096	65
	Rural	29,180	10,913	245,472	285,565	530,367	54	594,217	48
	Total	75,695	10,988	294,803	381,486	657,976	58	742,313	51

Table 8.2.3 Number of Households Served by Sanitary Toilets in the Base Year (1998)

Name of Municipality/City	Area	Population (1998)	Number of Households (1998)	Households Using Sanitary Toilets in 1998				Recipient HHs of Planned/On-going Projects				Households Using Sanitary Toilets in the Base Year (1998)					
				Flush Toilets	Pour Flush	VIP/Dry	Total	Flush	Pour Flush	VIP/Dry	Total	Flush	Pour Flush	VIP/Dry	Total	Coverage (%)	Total
Cuartero	Urban	3,894	712	152	512	12	676					152	512	12	676	21	95
	Rural	25,529	4,510		250	21	271						250	21	271	6	6
	Total	29,423	5,222	152	762	33	947					152	762	33	947	15	18
Dau	Urban	5,646	1,084	38	971		1,009					38	971		1,009	4	93
	Rural	24,000	4,715		1,571	2,635	4,206						1,571	2,635	4,206	33	89
	Total	29,646	5,799	38	2,542	2,635	5,215					38	2,542	2,635	5,215	44	90
Dumalag	Urban	3,193	576	13	370		383					13	370		383	2	66
	Rural	27,352	5,028		2,585	1,779	4,364						2,585	1,779	4,364	51	87
	Total	30,545	5,604	13	2,955	1,779	4,747					13	2,955	1,779	4,747	53	85
Dumariano	Urban	5,447	1,123	40	801	206	1,047					40	801	206	1,047	4	93
	Rural	33,767	6,726	12	241	4,813	5,066					12	241	4,813	5,066	4	75
	Total	39,214	7,849	52	1,042	5,019	6,113					52	1,042	5,019	6,113	13	78
Ivisan	Urban	4,632	864		804		804						804		804		93
	Rural	19,098	3,752		2,540		2,540						2,540		2,540		68
	Total	23,730	4,616		3,344		3,344						3,344		3,344		72
Jamindan	Urban	2,516	508		450	40	490						450	40	490		96
	Rural	36,235	6,928		1,290	4,856	6,146						1,290	4,856	6,146	19	89
	Total	38,751	7,436		1,740	4,896	6,636						1,740	4,896	6,636	23	89
Maayon	Urban	4,578	899		882	163	845						882	163	845		94
	Rural	26,410	5,079		2,439	1,125	3,584						2,439	1,125	3,584	48	71
	Total	30,988	5,978		3,141	1,288	4,429						3,141	1,288	4,429	53	74
Mambusao	Urban	6,492	1,174		439	642	1,081						439	642	1,081		92
	Rural	31,008	6,140		2	5,390	5,392						2	5,390	5,392		88
	Total	37,500	7,314		441	6,032	6,473						441	6,032	6,473	6	89
Panao	Urban	2,969	588		568		568						568		568		97
	Rural	38,031	6,940		5,699		5,699						5,699		5,699		82
	Total	41,000	7,528		6,267		6,267						6,267		6,267		83
Panitan	Urban	2,638	502	19	366		385					19	366		385	4	77
	Rural	31,224	5,947		1,742		1,742						1,742		1,742		29
	Total	33,862	6,449	19	2,108		2,127					19	2,108		2,127		33
Pilar	Urban	5,117	1,036		918		918						918		918		89
	Rural	32,055	6,200		1,092	4,406	5,498						1,092	4,406	5,498	18	89
	Total	37,172	7,236		2,010	4,406	6,416						2,010	4,406	6,416	28	89
Pontevedra	Urban	6,427	1,128	379	488	93	960						488	93	960	34	85
	Rural	33,126	6,192	388	4,104	1,036	5,528					379	4,888	1,036	5,528	6	89
	Total	39,553	7,320	767	4,592	1,129	6,488					388	4,104	1,036	5,528	6	89
President Roxas	Urban	6,615	1,277		635	330	974						635	330	974		76
	Rural	18,736	3,562		2,217	774	2,991						2,217	774	2,991		84
	Total	25,351	4,839		2,852	1,113	3,965						2,852	1,113	3,965		82
RANAS City (Capital)	Urban	39,024	11,551	4,148	6,954	179	11,281					4,148	6,954	179	11,281	26	98
	Rural	71,743	13,588	2,802	9,391	521	12,714					2,802	9,391	521	12,714	21	94
	Total	110,767	25,139	6,950	16,345	700	23,995					6,950	16,345	700	23,995	28	95

Table 8.2.3 Number of Households Served by Sanitary Toilets in the Base Year (1998)

Name of Municipality/City	Area	Population (1998)	Number of Households (1998)	Households Using Sanitary Toilets in 1998				Recipient Hts. of Planned/On-going				Households Using Sanitary Toilets in the Base Year (1998)			
				Flush Toilets	Households Using Sanitary Toilets in 1998			Pour Flush	Recipient Hts. of Planned/On-going			Pour Flush	Households Using Sanitary Toilets in the Base Year (1998)		
					Flush	VIP/Dry	Total		Flush	VIP/Dry	Total		Flush	VIP/Dry	Total
Sapian	Urban	4,038	806		742		742								
	Rural	19,055	3,657		2,895		2,895								
	Total	23,093	4,463		3,637		3,637								
Sigma	Urban	2,248	447		261	122	383								
	Rural	24,264	4,739		173	3,290	3,463								
	Total	26,512	5,186		434	3,412	3,846								
Tapaz	Urban	2,135	403		371		371								
	Rural	38,674	7,893		1,856	1,536	3,392								
	Total	40,809	8,296		2,227	1,536	3,763								
Provincial Total	Urban	127,609	24,678	4,789	16,332	1,796	22,917								
	Rural	510,367	101,596	3,202	40,107	32,182	72,491								
	Total	637,976	126,274	7,991	56,439	33,978	98,408								

Table 8.2.4 Number of Public School Student Served by School Toilets in Base Year (1998)

Name of Municipality/City	1998 Total Number of Public School Student	Standard No. of Student that can be Served by 1998	No. of Student to be Served by Planned /On-going Projects	Standard No. of Students that can be Served by Toilets in Base Year (1998)	Coverage (%)
Quartero	6,699	640		640	10
Dao	6,146	960		960	16
Dumalag	5,510	1,500		1,600	29
Dumarao	10,120	3,920		3,920	39
Ivisan	6,269	1,440		1,440	23
Jamindan	9,196	2,480		2,480	27
Ma-ayon	9,600	3,200		3,200	33
Mambusao	7,311	1,640		1,640	22
Panay	8,778	1,200		1,200	14
Panitan	8,282	2,160		2,160	26
Pilar	10,277	2,080		2,080	20
Pontevedra	10,201	1,840		1,840	18
President Roxas	6,224	1,280		1,280	21
Roxas City (Capital)	27,754	6,360		6,360	23
Sapi-an	6,237	1,920		1,920	31
Sigma	4,873	1,280		1,280	26
Tapaz	10,472	2,120		2,120	20
Provincial Total	153,949	36,120		36,120	23

Table 8.2.5 Number of Public Utilities with Sanitary Toilets in the Base Year (1998)

Name of Municipality/City	Type	No. of PU with Toilets in 1998	No. of PU with Sanitary Toilets in 1998	No. of PU with Toilets in Planned/Ongoing Project	No. of PU with Sanitary Toilets in Planned/Ongoing Projects	No. of PU with Toilets in Base Year 1998	No. of PU with Sanitary Toilets in Base year 1998	Coverage (%)
Cuartero	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Dao	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Dumalag	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Dumarao	Public Market	1	1			1	1	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	1	1			1	1	100
Ivisan	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Jandian	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Ma-ayon	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Mambusao	Public Market	2	1			2	1	50
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	1			2	1	25
Panay	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Panitan	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Pilar	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Pontevedra	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
President Roxas	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Roxas City (Capital)	Public Market	10	10			10	10	100
	Bus/JEEPNEY Terminal	3	3			3	3	100
	Parks Playground							
	Total	13	13			13	13	100
Sapi-an	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Sigma	Public Market	2	2			2	2	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	2	2			2	2	100
Tapan	Public Market	3	3			3	3	100
	Bus/JEEPNEY Terminal							
	Parks Playground							
	Total	3	3			3	3	100
Provincial Total	Public Market	42	41			42	41	98
	Bus/JEEPNEY Terminal	3	3			3	3	100
	Parks Playground	16	12			16	12	75
	Total	61	56			61	56	92

Table 8.2.6 Households Coverage in Phase 1 Provided by Existing Facilities in the Base Year (Household Toilets)

Name of Municipality/City	Area	No. of Household Served by Existing Facilities					Coverage in 1998					Coverage in 2005				
		Flush	Pour Flush	VIP/Dry	Total	No. of HHs	Percentage of Served Households			No. of HHs	Percentage of Served Households			Total	Number	%
							Flush	Pour Flush	VIP/ Dry		Flush	Pour Flush	VIP/ Dry			
Cuartero	Urban	152	512	12	676	712	21	72	2	95	3,699	95	903	17	57	75
	Rural		250	21	271	4,510		6		6	234	6	5,720		4	5
	Total	152	762	33	947	5,222	3	15	1	18	3,933	18	6,623	2	12	14
Dao	Urban	38	971		1,009	1,084	4	90		93	5,251	93	1,107	3	88	91
	Rural		1,571	2,635	4,206	4,715		33	56	89	5,025	89	4,817		33	55
	Total	38	2,542	2,635	5,215	5,799	1	44	45	90	10,276	90	5,924	1	43	44
Dumalag	Urban	13	370		383	576	2	64		66	2,107	66	680	2	54	56
	Rural		2,585	1,779	4,364	5,028		51	35	87	2,778	87	5,933		44	74
	Total	13	2,955	1,779	4,747	5,604		53	32	85	4,885	85	6,613		45	72
Dumarao	Urban	40	801	206	1,047	1,123	4	71	18	93	5,066	93	1,196	3	67	71
	Rural	12	241	4,813	5,066	6,726		4	72	75	4,085	75	7,160		3	67
	Total	52	1,042	5,019	6,113	7,849	1	13	64	78	9,151	78	8,356	1	12	60
Ivisan	Urban		804		804	864		93		93	4,308	93	948		85	85
	Rural		2,540		2,540	3,752		68		68	3,150	68	4,117		62	62
	Total		3,344		3,344	4,616		72		72	7,458	72	5,065		66	66
Jaminan	Urban		450	40	490	508		89	8	96	2,415	96	663		66	72
	Rural		1,290	4,856	6,146	6,928		19	70	89	2,239	89	9,306		14	52
	Total		1,740	4,896	6,636	7,436		23	66	89	4,654	89	9,989		17	49
Ma-ayon	Urban		682	163	845	899		76	18	94	4,303	94	937		73	17
	Rural		2,459	1,125	3,584	5,079		48	22	71	3,250	71	5,293		46	21
	Total		3,141	1,288	4,429	5,978		53	22	74	7,553	74	6,230		50	21
Mambusao	Urban		439	642	1,081	1,174		37	55	92	5,973	92	1,316		33	49
	Rural		2	5,390	5,392	6,140		6	88	88	5,713	88	6,884		5	78
	Total		441	6,032	6,473	7,314		97	82	97	11,686	89	8,200		5	74
Panay	Urban		568		568	588		97		97	2,880	97	650		87	87
	Rural		5,699		5,699	6,940		82		82	2,435	82	7,675		74	74
	Total		6,267		6,267	7,528		83		83	5,315	83	8,325		75	75
Panitan	Urban	19	366		385	502	4	73	71	77	2,031	77	519	4	71	74
	Rural		1,742		1,742	5,947		29		29	765	29	6,144		28	28
	Total	19	2,108		2,127	6,449		33		33	2,796	33	6,663		32	32
Pilar	Urban		918		918	1,036		89		89	4,554	89	1,074		85	85
	Rural		1,092	4,406	5,498	6,200		18	71	89	4,554	89	6,430		17	69
	Total		2,010	4,406	6,416	7,236		28	61	89	9,108	89	7,504		27	59

Table 8.2.6 Households Coverage in Phase I Provided by Existing Facilities in the Base Year (Household Toilets) (Cont'd)

Name of Municipality/City	No. of Household Served by Existing					Coverage in 1998						Coverage in 2005					
	Area	Flush	Pour Flush	VIP/Dry	Total	No. of HHs	Percentage of Served Households			Served Population	No. of HHs	Percentage of Served Households			Served Population	No. of HHs	%
							Flush	Pour Flush	VIP/Dry	Total		Flush	Pour Flush	VIP/Dry	Total		
Pontevedra	Urban	379	488	93	960	1,128	34	43	8	85	85	31	40	8	79	5,892	79
	Rural	388	4,104	1,036	5,528	6,192	6	66	17	89	89	6	62	16	83	31,565	83
	Total	767	4,592	1,129	6,488	7,320	10	63	15	89	89	10	58	14	83	37,457	83
President Roxas	Urban		635	339	974	1,277		50	27	76	76		47	25	72	4,994	72
	Rural		2,217	774	2,991	3,362		62	22	84	84		59	21	80	16,583	80
	Total		2,852	1,113	3,965	4,639		59	23	82	82		56	22	78	21,577	78
Roxas City (Capital)	Urban	4,148	6,954	179	11,281	11,551	36	60	2	98	98	29	48	1	79	81,281	79
	Rural	2,802	9,391	521	12,714	13,588	21	69	4	94	94	17	56	3	75	60,205	75
	Total	6,950	16,345	700	23,995	25,139	28	65	3	95	95	22	52	2	77	141,486	77
Sapi-an	Urban		742		742	806		92		92	92		88		88	4,109	88
	Rural		2,895		2,895	3,657		79		79	79		75		75	15,698	75
	Total		3,637		3,637	4,463		81		81	81		78		78	19,807	78
Sigma	Urban		261	122	383	447		58	27	86	86		55	26	81	1,924	81
	Rural		173	3,290	3,463	4,739		4	69	73	73		3	66	69	19,243	69
	Total		434	3,412	3,846	5,186		8	66	74	74		8	62	70	21,167	70
Tapaz	Urban		371		371	403		92		92	92		90		90	2,085	90
	Rural		1,856	1,536	3,392	7,893		24	19	43	43		23	19	42	17,294	42
	Total		2,227	1,536	3,763	8,296		27	19	45	45		26	18	44	19,379	44
Provincial Total	Urban	4,789	16,332	1,796	22,917	24,678	19	66	7	93	93	17	57	6	80	151,003	80
	Rural	3,202	40,107	32,182	75,491	101,596	3	39	32	74	74	3	35	28	66	403,106	66
	Total	7,991	56,439	33,978	98,408	126,274	6	45	27	78	78	6	40	24	69	554,109	69

Table 8.2.7 Public School Students and Public Utilities Coverage in Phase I by Existing Facilities in the Base Year

Name of Municipality/City	Public School Toilets				Public Toilets			
	Std. No. of Student that can be Served by Base Year	Coverage in 1998		Total No. of Public School Student	Coverage in 2005		Coverage in 1998	
		Total No. of Public School Students	%		%	No. of PU with Toilets in Base Year	No. of PU with Sanitary Toilets in Base Year	%
Cuartero	640	6,699	10	8,719	7	2	2	100
Dao	960	6,146	16	6,883	14	4	4	100
Dumalag	1,600	5,510	29	6,670	24	4	4	100
Dumarao	3,920	10,120	39	10,547	37	3	1	33
Ivisan	1,440	6,269	23	7,146	20	2	2	100
Jamindan	2,480	9,196	27	12,842	19	4	4	100
Ma-ayon	3,200	9,600	33	9,524	34	4	4	100
Mambusao	1,640	7,311	22	9,011	18	4	1	25
Panay	1,200	8,778	14	10,287	12	2	2	100
Panitan	2,160	8,282	26	9,148	24	4	4	100
Pilar	2,080	10,277	20	10,808	19	2	2	100
Pontevedra	1,840	10,201	18	11,138	17	2	2	100
President Roxas	1,280	6,224	21	7,076	18	2	2	100
Roxas City (Capital)	6,360	27,754	23	36,215	18	13	13	100
Sapi-an	1,920	6,237	31	6,684	29	2	2	100
Sigma	1,280	4,873	26	5,562	23	2	2	100
Tapaz	2,120	10,472	20	10,869	20	5	5	100
Provincial Total	36,120	153,949	23	179,129	20	61	56	92
							79	56
								71

8.3 Projection of Frame Values

8.3.1 Review of Past Population Development and Population Projection

The future population of the region and the province has been projected by the NSO. However, the NSO does not prepare municipal population. With regard to this, the municipal population for the years 1998 (planning base year), 2005 (medium-term target year) and 2010 (long-term target year) was projected in this study. Available information for the study at present is as follows:

- NSO population census results from 1980 to 1995
- 1995 Census-based Regional and Provincial Population Projection prepared by the NSO
- Provincial Physical Framework Plan/Comprehensive Provincial Land Use Plan (1993-2003) prepared by the Provincial Office (hereafter referred to as "the Land Use Plan")

(1) 1995 Census-Based Regional and Provincial Population Projections: NSO

The NSO conducted regional and provincial population projections for the period 1995-2020. The assumptions take into account future trends in the demographic processes of fertility, mortality and migration required by the cohort-component method for projecting population. The 1995 Population Census was used as the basis for the projection.

In the regional population projection, the subject region for this study; Region VI is classified as the medium-sized region (at least 5 million but less than 10 million by year 2000). The following are the result of projection for the region and the province of Capiz in 2000, 2005 and 2010.

Table 8.3.1 Regional and Provincial Population Projection by NSO

Year		1980	1990	1995	2000	2005	2010
Region VI	Population	4,525,615	5,393,333	5,756,623	6,328,671	6,890,447	7,428,329
	Growth Rate	-	1.77%	1.31%	1.91%	1.72%	1.51%
Capiz	Population	492,231	584,091	*622,034	681,949	742,312	801,742
	Growth Rate	-	1.73%	1.27%	1.86%	1.71%	1.55%

Note: Average annual growth rates: geometric growth rate

* Population of the province as of Sep. 1 was 624,469 (1995 Census), 622,034 (as of May, 1995)

In the past development, annual growth rates of the region and province between 1990 and 1995 decreased compared with those of previous census period. The growth rates of Region VI and the province from 1980 to 1995 were almost same. Although the both growth rates of the region and province between 1990 and 1995 decreased more than 70% compared with those of previous census period, the NSO considered the previous development for its projection. Thus, the growth rates of the region with 5-year interval

between 1995 and 2010 are assumed at 1.91%, 1.72% and 1.51%, respectively. Likewise, those of the province are 1.86%, 1.71% and 1.55%, respectively.

(2) The Land Use Plan: Province of Capiz (Planning period 1993-2002)

The population projection on the provincial total and component municipalities together with the regional population was made with a base year 1990. The population for the year 2002 was projected using a uniform growth rate between 1990 and 2002 referring to the experience from 1980 to 1990 (census years). The regional and provincial growth rate between 1980 and 1990 were 1.77% and 1.73%, respectively.

The following are comparison of the projected population for year 2002 between the Land Use Plan and NSO.

	<u>Land Use Plan</u>	<u>NSO</u>	<u>Comparison</u>
Regional Population	6,664,703	6,890,447	3.3% lower than NSO
Provincial Population	715,996	706,086	1.4% higher than NSO

In comparison between Land Use Plan and NSO's projection for year 2002, there is no significant difference both in regional and provincial population.

While Table 8.3.2 shows past population developments in census years (1980-1995) and projections for the years 1995 and 2002 by municipality as a base year 1990 in application of assumed annual growth rates for the period 1990 to 2002 in the said Land Use Plan.

Regarding the projected municipal population in 1995, that of twelve (12) out of 17 municipalities is higher than that of NSO with a range of 1% to 10%, while that of remaining five (5) municipalities is lower with a range of -2% to -15%.

Thus, municipal population projection shall be made using 1995 census results as a base year. While, the regional and provincial population projected by the NSO may be adopted in this PW4SP, since there is no so much difference from that of Land Use Plan.

(3) Population Projection of the Province

The following conditions are considered in the population projection.

Regional and Provincial Population

For the regional and provincial population in the study, the projection conducted by NSO shall be adopted. Table 8.3.3 shows the projected population of the region VI and component provinces.

Table 8.3.2 Census Population and Projected Population in Land Use Plan

Municipality	Census Population					Land Use Plan			
	1980	1990	Growth Rate (1980-1990)	1995	Growth Rate (1990-1995)	1995*	Comparison With Census (%)	2002	Growth Rate (1980-2005)
Cuartero	18,513	22,592	2.01%	26,477	3.22%	24,893	-5.98%	28,514	1.96%
Dao	23,921	29,139	1.99%	29,266	0.09%	32,096	9.67%	36,748	1.95%
Dumalag	22,198	25,465	1.38%	28,348	2.17%	27,208	-4.02%	29,850	1.33%
Dumarao	29,934	36,779	2.08%	38,037	0.67%	40,704	7.01%	46,913	2.05%
Ivisan	17,414	21,497	2.13%	22,720	1.11%	23,821	4.85%	27,503	2.07%
Jamindan	25,652	27,862	0.83%	34,022	4.08%	28,968	-14.85%	30,591	0.78%
Maayon	25,715	29,779	1.48%	30,333	0.37%	31,979	5.43%	35,336	1.44%
Mambusao	32,097	33,200	0.34%	35,632	1.42%	33,694	-5.44%	34,397	0.30%
Panay	31,650	36,812	1.52%	39,124	1.23%	39,634	1.30%	43,953	1.49%
Panitan	27,631	32,863	1.75%	33,269	0.25%	35,775	7.53%	40,289	1.71%
Pilar	30,104	35,924	1.78%	36,464	0.30%	39,178	7.44%	44,236	1.75%
Pontevedra	30,489	36,730	1.88%	38,223	0.80%	40,250	5.30%	45,752	1.85%
Pre. Roxas	21,805	24,048	0.98%	24,695	0.53%	25,186	1.99%	26,870	0.93%
Roxas City	81,183	102,794	2.39%	118,71	2.92%	115,843	-2.42%	136,941	2.42%
Sapian	18,753	22,007	1.61%	22,534	0.47%	23,774	5.50%	26,489	1.56%
Sigma	20,043	25,084	2.27%	25,801	0.57%	27,999	8.52%	32,658	2.22%
Tapaz	35,129	40,916	1.54%	40,809	-0.05%	44,092	8.04%	48,956	1.51%
Province	492,231	583,491	1.72%	624,46	1.27%	635,095	1.70%	715,996	1.72%

Note: * Population in 1995 was estimated using average annual growth rate (1990-2002) employed in Land Use Plan

Table 8.3.3 Projected Population by the NSO

Province	Census	Projected Population/Growth Rate					
	Population	Population			Average Annual Growth Rate		
	1995	1998	2005	2010	1995-2000	2000-2005	2005-2010
Aklan	408,949	432,359	487,839	528,072	1.84%	1.72%	1.60%
Antique	430,363	455,051	512,755	554,797	1.84%	1.69%	1.59%
Capiz	622,034*	657,975	742,312	801,742	1.86%	1.71%	1.55%
Guimaras	126,034	133,422	150,680	162,774	1.88%	1.72%	1.56%
Iloilo	1,743,302	1,847,328	2,086,833	2,249,494	1.91%	1.72%	1.51%
Negros Occidental	2,425,941	2,573,658	2,910,028	3,131,450	1.95%	1.72%	1.48%
Region VI	5,756,623	6,099,793	6,890,447	7,428,329	1.91%	1.72%	1.51%

Source: NSO

Note: Population of the province as of Sep. 1, 1995 was 624,469 (1995 Census), 622,034 (as of May, 1995)

Municipal Population

- 1) The total population of the province in 1998, 2005 and 2010 was fixed.
- 2) Municipal population for short/medium-term target years (1998 and 2005) is estimated using the recorded growth rates between 1990 and 1995. The municipal population estimated initially is adjusted in proportion to the population size of each municipality to the total provincial population, to meet the above mentioned provincial population fixed for the years 1998 and 2005. In this adjustment, the population of Tapaz in 1998 was fixed to avoid negative growth rate.

For the year 2010 in the long-term, it is assumed that the tendency of population growth of respective municipalities will be stable reflecting the experiences in the past long term between 1980 and 1995. Thus, experienced growth rate between 1980 and 1995 by municipality is firstly applied to project 2010 population from the year 2005. Then, the municipal population initially estimated is adjusted in the same manner mentioned above. Table 8.3.4 presents census results (1980, 1990 and 1995) and projected population of the municipalities.

Table 8.3.4 Census results and Projected Population of Municipalities

Municipality	Census Result					Projected Population/Growth Rate								
	1980	1990	1995	GR		1998			2005			2010		
				1990-1995	1980-1995	Population		GR			GR			
						Initial	Adju					Initial	Adju	GR
Cuartero	18,513	22,592	26,477	3.22%	2.41%	29,122	29,423	3.58%	36,366	37,313	3.49%	42,040	41,757	2.38%
Dao	23,921	29,139	29,266	0.09%	1.35%	29,342	29,646	0.43%	29,522	30,290	0.34%	32,397	32,179	1.22%
Dumalag	22,198	25,465	28,348	2.17%	1.64%	30,232	30,545	2.52%	35,130	36,045	2.43%	39,106	38,844	1.51%
Dumarao	29,934	36,779	38,037	0.67%	1.61%	38,812	39,214	1.02%	40,684	41,743	0.93%	45,213	44,909	1.47%
Ivisan	17,414	21,497	22,720	1.11%	1.79%	23,437	23,730	1.46%	25,379	26,040	1.37%	28,454	28,262	1.65%
Jamindan	25,652	27,862	34,022	4.08%	1.90%	38,354	38,751	4.43%	50,729	52,050	4.34%	57,187	56,803	1.76%
Maayon	25,715	29,779	30,333	0.37%	1.11%	30,670	30,988	0.71%	31,472	32,292	0.63%	34,119	33,890	0.97%
Mambusa	32,097	33,200	35,632	1.42%	0.70%	37,176	37,560	1.77%	41,044	42,112	1.68%	43,605	43,312	0.56%
Panay	31,650	36,812	39,124	1.23%	1.42%	40,580	41,000	1.57%	44,193	45,344	1.49%	48,664	48,337	1.29%
Panitan	27,631	32,863	33,269	0.25%	1.25%	33,515	33,862	0.59%	34,096	34,984	0.50%	37,218	36,968	1.11%
Pilar	30,104	35,924	36,464	0.30%	1.29%	36,792	37,172	0.64%	37,568	38,547	0.56%	41,090	40,814	1.15%
Pontevedr	30,489	36,730	38,223	0.80%	1.52%	39,148	39,553	1.15%	41,394	42,471	1.06%	45,796	45,488	1.38%
Pre. Roxas	21,805	24,048	24,695	0.53%	0.83%	25,092	25,351	0.88%	26,042	26,720	0.79%	27,852	27,665	0.70%
Roxas	81,183	102,79	118,71	2.92%	2.57%	129,428	130,76	3.28%	158,33	162,46	3.19%	181,39	183,16	2.43%
Sapian	18,753	22,007	22,534	0.47%	1.23%	22,856	23,093	0.82%	23,626	24,241	0.73%	25,772	25,599	1.10%
Sigma	20,043	25,084	25,801	0.57%	1.70%	26,241	26,512	0.91%	27,297	28,008	0.82%	30,468	30,263	1.56%
Tapaz	35,129	40,916	40,899	-	1.00%	40,809	40,809	0.00%	49,596	41,653	0.20%	43,787	43,493	0.87%
Province	492.23	583.49	624.46	1.37%	1.60%	651,657	657,97	1.76%	723.47	742.31	1.74%	807.16	801.74	1.55%

Note: Growth rates in 1998, 2005 and 2010 were calculated using geometric formula.

Population by Urban and Rural Area

1) Past population development

Table 8.3.5 shows the urban and rural population with growth rates in census years (1980-1995) by municipality. With regards to the ratio of the urban population of the province to the total population, the provincial averages in 1980 and 1990 were 13.5% and 28.2%, respectively. While it decreased to 19.1% in 1995. Likewise, the provincial growth rate of 9.48% between 1980 and 1990 also decreased to -6.16% in 1995.

With regard to rural population, the growth rates as the provincial average were - 0.16% (1980 - 1990) and 3.79% (1990 - 1995). The reason of the drastic change of share/growth rate of urban area is explained that urban/rural classification of barangays in Roxas City (all barangays were classified as urban in 1990 Census) was rearranged in 1995 Census.

Table 8.3.5 Past Population Development by Urban and Rural Area

Municipality		1980			1990				1995				
		Total	Urban/ Rural	Share (%)	Total	Urban/ Rural	G.R. 1980- 1990 (%)	Share (%)	Total	Urban/ Rural	G.R. 1990- 1995 (%)	G.R. 1980- 1995 (%)	Share (%)
Urban Area	Cuartero	18,513	2,515	13.6%	22,592	3,073	2.02%	13.6%	26,477	3,504	2.66%	2.24%	13.2%
	Dao	23,921	2,050	8.6%	29,139	2,543	2.18%	8.7%	29,266	5,574	16.99%	6.90%	19.0%
	Dumalag	22,198	2,295	10.3%	25,465	2,971	2.62%	11.7%	28,348	2,963	-0.05%	1.72%	10.5%
	Dumarao	29,934	2,109	7.0%	36,779	4,920	8.84%	13.4%	38,037	5,284	1.44%	6.31%	13.9%
	Ivisan	17,414	3,277	18.8%	21,497	3,998	2.01%	18.6%	22,720	4,435	2.10%	2.04%	19.5%
	Jamindan	25,652	1,281	5.0%	27,862	1,858	3.79%	6.7%	34,022	2,209	3.52%	3.70%	6.5%
	Maayon	25,715	3,428	13.3%	29,779	4,186	2.02%	14.1%	30,333	4,481	1.37%	1.80%	14.8%
	Mambusa	32,097	4,810	15.0%	33,200	5,639	1.60%	17.0%	35,632	6,159	1.78%	1.66%	17.3%
	Panay	31,650	2,586	8.2%	36,812	2,915	1.20%	7.9%	39,124	2,833	-0.57%	0.61%	7.2%
	Panitan	27,631	2,366	8.2%	32,863	2,353	0.35%	7.2%	33,269	2,592	1.95%	0.90%	7.8%
	Pilar	30,104	2,025	6.7%	35,924	5,368	10.22%	14.9%	36,464	5,019	-1.34%	6.22%	13.8%
	Pontevedr	30,489	4,922	16.1%	36,730	6,052	2.09%	16.5%	38,223	6,211	0.52%	1.56%	16.2%
	Pre. Roxas	21,805	6,547	30.0%	24,048	7,035	0.72%	29.3%	24,695	6,444	-1.74%	-0.11%	26.1%
	Roxas	81,183	19,399	23.9%	102,79	102,79	18.15%	100.0%	118,71	53,58	-12.22%	7.01%	45.1%
	Sapian	18,753	2,947	15.7%	22,007	3,963	3.01%	18.0%	22,534	3,940	-0.12%	1.95%	17.5%
	Sigma	20,043	2,189	10.9%	25,084	2,611	1.78%	10.4%	25,801	2,188	-3.47%	0.00%	8.5%
Tapaz	35,129	1,777	5.1%	40,916	2,057	1.47%	5.0%	40,809	2,135	0.75%	1.23%	5.2%	
Province	492,23	66,427	13.5%	583,49	164,33	9.48%	28.2%	624,46	119,5	-6.16%	4.00%	19.1%	
Rural Area	Cuartero	18,513	15,998	86.4%	22,592	19,519	2.01%	86.4%	26,477	22,97	3.31%	2.44%	86.8%
	Dao	23,921	21,871	91.4%	29,139	26,596	1.98%	91.3%	29,266	23,69	-2.29%	0.53%	81.0%
	Dumalag	22,198	19,903	89.7%	25,465	22,494	1.23%	88.3%	28,348	25,38	2.45%	1.64%	89.5%
	Dumarao	29,934	27,825	93.0%	36,779	31,859	1.36%	86.6%	38,037	32,75	0.56%	1.09%	86.1%
	Ivisan	17,414	14,137	81.2%	21,497	17,499	2.16%	81.4%	22,720	18,28	0.88%	1.73%	80.5%
	Jamindan	25,652	24,371	95.0%	27,862	26,004	0.65%	93.3%	34,022	31,81	4.11%	1.79%	93.5%
	Maayon	25,715	22,287	86.7%	29,779	25,593	1.39%	85.9%	30,333	25,85	0.20%	0.99%	85.2%
	Mambusa	32,097	27,287	85.0%	33,200	27,561	0.10%	83.0%	35,632	29,47	1.35%	0.52%	82.7%
	Panay	31,650	29,064	91.8%	36,812	33,897	1.55%	92.1%	39,124	36,29	1.37%	1.49%	92.8%
	Panitan	27,631	25,365	91.8%	32,863	30,510	1.86%	92.8%	33,269	30,67	0.11%	1.28%	92.2%
	Pilar	30,104	28,075	93.3%	35,924	30,556	0.85%	85.1%	36,464	31,44	0.55%	0.76%	86.2%
	Pontevedr	30,489	25,567	83.9%	36,730	30,678	1.84%	83.5%	38,223	32,01	0.85%	1.51%	83.8%
	Pre. Roxas	21,805	15,258	70.0%	24,048	17,013	1.09%	70.7%	24,695	18,25	1.41%	1.20%	73.9%
	Roxas	81,183	61,784	76.1%	102,79	0	-	0.0%	118,71	65,13	-	0.35%	54.9%
	Sapian	18,753	15,806	84.3%	22,007	18,044	1.33%	82.0%	22,534	18,59	0.60%	1.09%	82.5%
	Sigma	20,043	17,854	89.1%	25,084	22,473	2.33%	89.6%	25,801	23,61	0.99%	1.88%	91.5%
	Tapaz	35,129	33,352	94.9%	40,916	38,859	1.54%	95.0%	40,809	38,67	-0.10%	0.99%	94.8%
	Province	492,23	425,80	86.5%	583,49	419,15	-0.16%	71.8%	624,46	504,9	3.79%	1.14%	80.9%

2) Projection of urban and rural population for the years 1998, 2005 and 2010

Urban population by municipality for the target years was at first projected and rural population was calculated to meet aforementioned total population fixing the urban population.

In the projection of municipal urban population, the following are assumed by short/medium-term and long-term.

Short/Medium-term target: 1998 and 2005

The shares of urban population in 1995 to the total population by municipality were basically adopted, assuming that the latest profile will not change drastically in short/medium-term period.

Long-term target: 2010

For the long-term projection, the recorded growth rates of urban population between 1980 and 1995 may be applied for the municipal population in 2010, assuming that the tendency of urban population will be stable reflecting the experiences in the past long period.

Under the above assumptions, provincial average share of urban population for the year 2010 arrived at 23.5%, higher than the figures in 1995 (19.1%). Table 8.3.6 presents projected urban and rural population. The growth rates and shares on rural population are calculated using estimated rural population.

Table 8.3.6 Population Projection by Urban and Rural Area:1998, 2005 and 2010

Municipality		1998		2005			2010			
		Total	Urban/ Rural	Total	Urban/ Rural	Share (%)	Total	Urban/ Rural	G.R. (%)	Share (%)
Urban Area	Cuartero	29,423	3,894	37,313	4,938	13.2%	41,757	5,515	2.24%	13.2%
	Dao	29,646	5,646	30,290	5,769	19.0%	32,179	8,052	6.90%	25.0%
	Dumalag	30,545	3,193	36,045	3,768	10.5%	38,844	4,102	1.72%	10.6%
	Dumarao	39,214	5,447	41,743	5,799	13.9%	44,909	7,876	6.31%	17.5%
	Ivisan	23,730	4,632	26,040	5,083	19.5%	28,262	5,622	2.04%	19.9%
	Jamindan	38,751	2,516	52,050	3,380	6.5%	56,803	4,053	3.70%	7.1%
	Maayon	30,988	4,578	32,292	4,770	14.8%	33,890	5,216	1.80%	15.4%
	Mambusao	37,560	6,492	42,112	7,279	17.3%	43,312	7,904	1.66%	18.2%
	Panay	41,000	2,969	45,344	3,283	7.2%	48,337	3,385	0.61%	7.0%
	Panitan	33,862	2,638	34,984	2,726	7.8%	36,968	2,851	0.90%	7.7%
	Pilar	37,172	5,117	38,547	5,306	13.8%	40,814	7,176	6.22%	17.6%
	Pontevedra	39,553	6,427	42,471	6,901	16.2%	45,488	7,458	1.56%	16.4%
	Pre. Roxas	25,351	6,615	26,720	6,972	26.1%	27,665	6,936	-0.11%	25.1%
	Roxas City	130,767	59,024	162,460	73,329	45.1%	183,160	102,887	7.01%	56.2%
	Sapian	23,093	4,038	24,241	4,239	17.5%	25,599	4,669	1.95%	18.2%
Sigma	26,512	2,248	28,008	2,375	8.5%	30,263	2,375	0.00%	7.8%	
Tapaz	40,809	2,135	41,653	2,179	5.2%	43,493	2,317	1.23%	5.3%	
Province		657,975	127,609	742,312	148,096	20.0%	801,742	188,393	4.93%	23.5%
Rural Area	Cuartero	29,423	25,529	37,313	32,375	86.8%	41,757	36,242	2.28%	86.8%
	Dao	29,646	24,000	30,290	24,521	81.0%	32,179	24,127	-0.32%	75.0%
	Dumalag	30,545	27,352	36,045	32,277	89.5%	38,844	34,741	1.48%	89.4%
	Dumarao	39,214	33,766	41,743	35,944	86.1%	44,909	37,033	0.60%	82.5%
	Ivisan	23,730	19,098	26,040	20,957	80.5%	28,262	22,640	1.56%	80.1%
	Jamindan	38,751	36,235	52,050	48,670	93.5%	56,803	52,750	1.62%	92.9%
	Maayon	30,988	26,410	32,292	27,521	85.2%	33,890	28,674	0.82%	84.6%
	Mambusao	37,560	31,068	42,112	34,833	82.7%	43,312	35,407	0.33%	81.8%
	Panay	41,000	38,031	45,344	42,060	92.8%	48,337	44,952	1.34%	93.0%
	Panitan	33,862	31,224	34,984	32,258	92.2%	36,968	34,117	1.13%	92.3%
	Pilar	37,172	32,056	38,547	33,241	86.2%	40,814	33,638	0.24%	82.4%
	Pontevedra	39,553	33,126	42,471	35,570	83.8%	45,488	38,030	1.35%	83.6%
	Pre. Roxas	25,351	18,736	26,720	19,747	73.9%	27,665	20,729	0.97%	74.9%
	Roxas City	130,767	71,743	162,460	89,131	54.9%	183,160	80,273	-2.07%	43.8%
	Sapian	23,093	19,055	24,241	20,003	82.5%	25,599	20,929	0.91%	81.8%
	Sigma	26,512	24,264	28,008	25,633	91.5%	30,263	27,888	1.70%	92.2%
	Tapaz	40,809	38,674	41,653	39,474	94.8%	43,493	41,176	0.85%	94.7%
	Province		657,975	530,366	742,312	594,216	80.0%	801,742	613,349	0.64%

Table 8.3.9 Projected Number of Households by Urban and Rural Area by Municipality by Target Year

Name of Municipality/City	Household Size			Number of Households											
	1995			1995			1998			2005			2010		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Cuartero	5.47	5.66	5.63	641	4,058	4,699	712	4,510	5,222	903	5,720	6,623	1,379	9,061	10,440
Dao	5.21	5.09	5.11	1,070	4,655	5,725	1,084	4,715	5,799	1,107	4,817	5,924	2,013	6,032	8,045
Dumalag	5.54	5.44	5.45	535	4,664	5,199	576	5,028	5,604	680	5,933	6,613	1,026	8,686	9,712
Dumarao	4.85	5.02	5.00	1,089	6,522	7,611	1,123	6,726	7,849	1,196	7,160	8,356	1,969	9,258	11,227
Ivisan	5.36	5.09	5.14	828	3,593	4,421	864	3,752	4,616	948	4,117	5,065	1,406	5,660	7,066
Jamindan	4.95	5.23	5.21	446	6,088	6,534	508	6,928	7,436	683	9,306	9,989	1,013	13,188	14,201
Ma-ayon	5.09	5.20	5.18	881	4,972	5,853	899	5,079	5,978	937	5,293	6,230	1,304	7,169	8,473
Mambusao	5.53	5.06	5.14	1,113	5,819	6,932	1,174	6,140	7,314	1,316	6,884	8,200	1,976	8,852	10,828
Panay	5.05	5.48	5.45	561	6,617	7,178	588	6,940	7,528	650	7,675	8,325	846	11,238	12,084
Panitan	5.25	5.25	5.25	494	5,847	6,341	502	5,947	6,449	519	6,144	6,663	713	8,529	9,242
Pilar	4.94	5.17	5.14	1,016	6,080	7,096	1,036	6,200	7,236	1,074	6,430	7,504	1,794	8,410	10,204
Pontevedra	5.70	5.35	5.41	1,089	5,982	7,071	1,128	6,192	7,320	1,211	6,649	7,860	1,865	9,508	11,373
President Roxas	5.18	5.26	5.24	1,244	3,467	4,711	1,277	3,562	4,839	1,346	3,754	5,100	1,734	5,182	6,916
Roxas City (Capital)	5.11	5.28	5.20	10,491	12,331	22,822	11,551	13,588	25,139	14,350	16,881	31,231	25,722	20,068	45,790
Sapi-an	5.01	5.21	5.17	786	3,569	4,355	806	3,657	4,463	846	3,839	4,685	1,167	5,233	6,400
Sigma	5.03	5.12	5.12	435	4,609	5,044	447	4,739	5,186	472	5,006	5,478	594	6,972	7,566
Tapaz	5.30	4.90	4.92	403	7,890	8,293	403	7,893	8,296	411	8,056	8,467	579	10,294	10,873
Provincial Total	5.17	5.22	5.21	23,122	96,763	119,885	24,678	101,596	126,274	28,649	113,664	142,313	47,100	153,340	200,440

8.3.2 School Enrollment Projection

Table 8.3.10 Projected School Enrollment by Municipality by Target Year

Name of Municipality/City	1998			2005			2010		
	School Age Population	Total Enrollment		School Age Population	Total Enrollment		School Age Population	Total Enrollment	
		Number	Rate		Number	Rate		Number	Rate
Cuartero	8,089	6,099	83	10,258	8,719	85	11,480	10,332	90
Dao	8,421	6,041	79	8,604	7,313	85	9,141	8,227	90
Dinalag	8,075	5,732	71	9,329	7,147	75	10,269	8,215	80
Dunarao	11,009	10,901	99	11,719	11,133	95	12,608	12,356	98
Ivisan	6,855	6,269	91	7,522	7,146	95	8,164	8,001	98
Jarrindan	11,248	9,196	82	15,108	12,842	85	16,488	14,839	90
Ma-ayon	9,139	9,600	105	9,524	9,524	100	9,995	9,495	95
Mambusao	10,716	7,915	74	12,015	9,612	80	12,357	10,503	85
Panay	11,627	8,778	75	12,859	10,287	80	13,708	11,652	85
Panitan	9,838	8,282	84	10,164	9,148	90	10,740	10,203	95
Pilar	10,971	10,277	94	11,377	10,808	95	12,046	11,805	98
Pontevedra	11,526	10,656	92	12,376	11,757	95	13,255	12,990	98
President Roxas	7,066	7,680	109	7,448	7,448	100	7,711	7,325	95
Roxas City (Capital)	34,294	29,938	87	42,606	38,345	90	48,035	45,633	95
Saptan	6,703	6,237	93	7,036	6,684	95	7,430	7,281	98
Signa	7,522	4,873	65	7,946	5,562	70	8,586	6,440	75
Tapaz	11,832	10,319	91	12,077	11,473	95	12,610	12,358	98
Provincial Total	184,931	160,493	87	208,168	184,948	89	224,623	207,655	92

8.3.3 Projection of the Number of Public Utilities

Table 8.3.11 Projected Number of Public Utilities by Municipality by Target Year

Name of Municipality	Type	1997	2003		2010	
		No. of Public Utilities	Proposed Construction	Total	Proposed Construction	Total
Cuartero	Public Market	2	1	3		3
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	3	2	5	1	6
Dao	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Dumalag	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Dumarao	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Ivisan	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Jamindan	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Ma-ayon	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Mambusao	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Panay	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Panitan	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Pilar	Public Market	2	1	3		3
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	3	2	5	1	6
Pontevedra	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5

Table 8.3.11 Projected Number of Public Utilities by Municipality by Target Year (cont'd)

Name of Municipality	Type	1997	2003		2010	
		No. of Public Utilities	Proposed Construction	Total	Proposed Construction	Total
President Roxas	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Roxas City (Capital)	Public Market	2	2	4	1	5
	Bus/JEEPNEY Terminal	3	1	4	2	6
	Parks/Playground	2	2	4		4
	Total	7	5	12	3	15
Sapi-an	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Sigma	Public Market	1	1	2		2
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	2	2	4	1	5
Tapaz	Public Market	2	1	3		3
	Bus/JEEPNEY Terminal				1	1
	Parks/Playground	1	1	2		2
	Total	3	2	5	1	6
Provincial Total	Public Market	21	18	39	1	40
	Bus/JEEPNEY Terminal	3	1	4	18	22
	Parks/Playground	18	18	36		36
	Total	42	37	79	19	98

8.4 Types of Facilities and Implementation Criteria

8.4.1 Water Supply

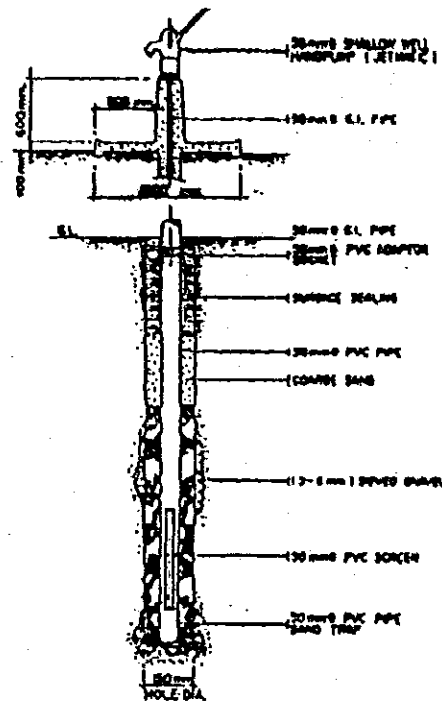
(1) Urban water supply

With regard to development/expansion of urban water supply by municipality, existing conditions, future requirements and planned/on-going projects were reviewed in preparation of this PW4SP. Potential water source for future development was also evaluated in Chapter 7, taking into account the possibility to utilize untapped spring sources. Location of urban area of respective municipalities/city was referred to Figure 3.4.1 in Chapter 3. Table 8.4.1 presents basic figures on existing service coverage, water sources and future requirements.

Table 8.4.1 Existing Condition and Future Requirements of Urban Water Supply by Municipality

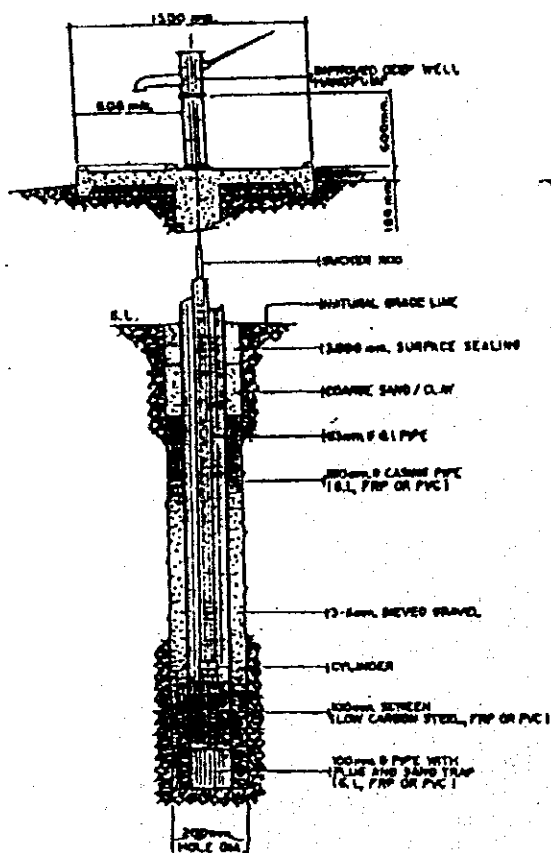
Name of Municipality	Existing Condition (1998)					Phase I (2005)					Phase II (2010)				
	Existing Level III System and Others					Pop. Served by Level III and Others					Pop. Served by Level-III				
	Urban Population (1998)	No. of Level III and Others	Pop. Served by Level-III	Total Pop. Served	Production (m3/d)	Urban Population (2005)	Additional Pop. Served by Level-III	Total Pop. Served by Level-III	%	Additional Pop. Served by Level-III	Total Pop. Served	%	Urban Population (2010)	Additional Pop. Served	Total
Quarero	3,894		1,748	1,748	45%	4,938	1,087	1,087	22%	None	2,861	58%	5,515	4,152	5,219
Dao	5,046		4,130	4,130	73%	5,769	1,270	1,270	22%	None	3,134	89%	8,052	6,379	7,649
Dumalag	3,193		2,342	2,342	89%	3,768				None	2,841	75%	4,102	3,897	3,897
Dumarao	5,447		2,336	4,276	79%	5,799	1,277	3,167	55%	None	5,551	96%	7,876	4,315	7,852
Itinan	4,632	(MRWD)	1,658	2,983	64%	5,083	1,119	2,404	47%	None	4,091	80%	5,622	2,937	5,541
Jimindan	2,516		719	719	29%	3,380	744	744	22%	None	1,466	43%	4,053	3,106	3,850
Maayon	4,578		2,423	2,423	53%	4,770	1,050	1,050	22%	None	3,472	73%	5,216	3,905	4,955
Mambusao	6,492	(MRWD)	1,946	4,121	63%	7,279	1,803	3,778	52%	None	5,722	79%	7,904	3,731	7,599
Payay	2,965	(MRWD)	25	1,710	58%	3,283	723	2,408	73%	None	2,433	74%	3,385	808	3,216
Panitan	2,638	(MRWD)	995	1,824	69%	2,726	600	1,595	59%	None	2,420	89%	2,851	1,113	2,708
Plar	5,117	(MRWD)	860	3,972	78%	5,306	1,168	2,028	38%	None	5,054	95%	7,176	4,289	6,817
Poncedra	6,427	(MRWD)	362	4,042	63%	6,901	1,519	5,190	75%	None	5,579	81%	7,458	1,886	7,085
President Roxas	6,615		2,763	2,763	42%	6,972	1,535	1,535	22%	None	4,304	62%	6,936	5,054	6,589
Santa Cruz	59,024	(MRWD)	20,808	54,753	93%	73,329	33,945	33,945	46%	None	54,891	75%	102,887	63,798	97,743
Siguan	4,038		1,376	1,376	34%	4,239	933	933	22%	None	2,309	54%	4,669	3,503	4,436
Sigma	2,248		671	671	30%	2,375	523	523	22%	None	1,197	50%	2,375	1,733	2,256
Tapaz	2,135		1,711	1,711	81%	2,179				None	1,747	80%	2,317	2,201	2,201
Provincial Total	127,609		46,515	96,084	75%	148,096	15,151	61,666	42%		111,072	75%	188,394	117,308	176,974
															15,700
															24,500

(Note) WD: Water District, Prov: Province, Mun: Municipality, Asa: Association
 Unit consumption: (l/cap)
 Additional population served in 2010 includes the served population that will be absorbed by Level III system.

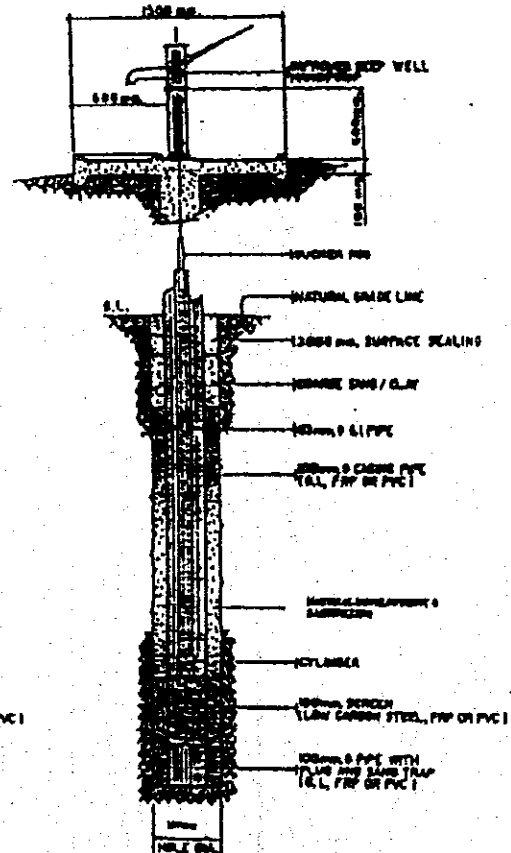


OPEN HOLE DRILLING & GRAVEL PACK METHOD

SHALLOW WELLS



OPEN HOLE DRILLING & GRAVEL PACK METHOD



OPEN HOLE DRILLING & NATURAL GRAVEL PACK METHOD

DEEP WELLS

FIGURE 8.4.1

TYPICAL STRUCTURE OF LEVEL I WELL FACILITY

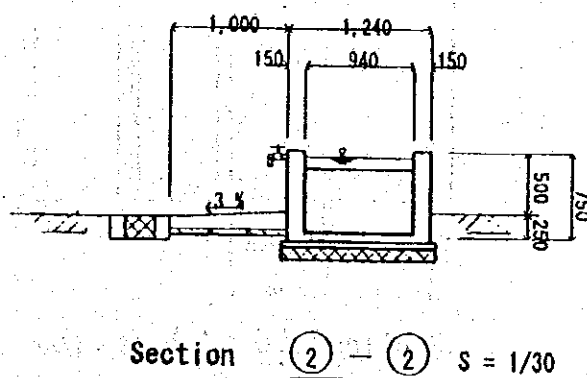
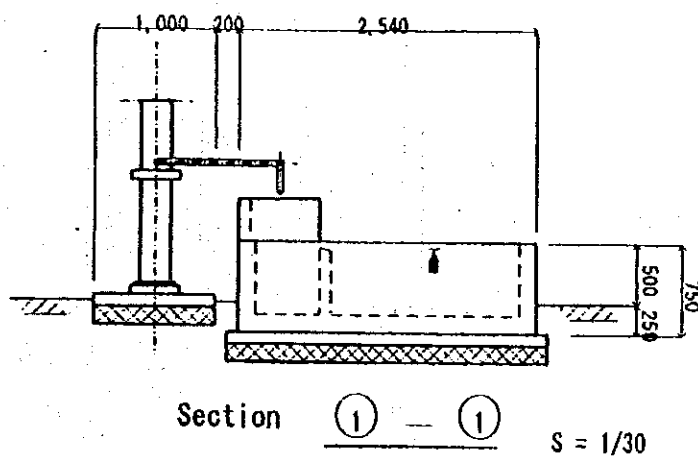
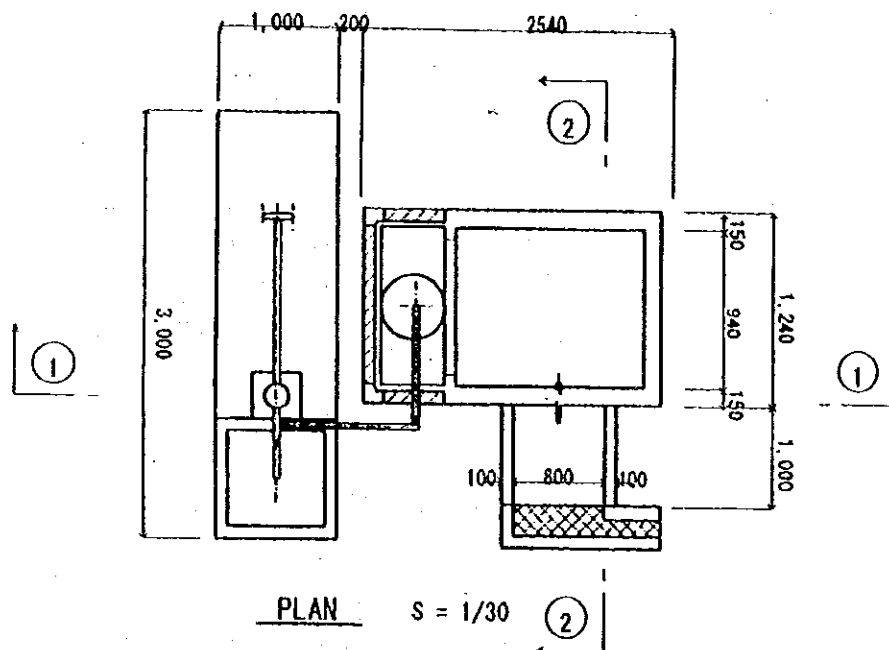
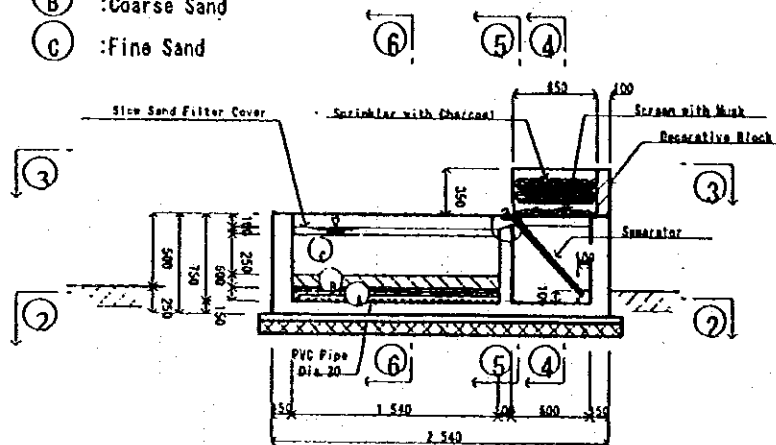
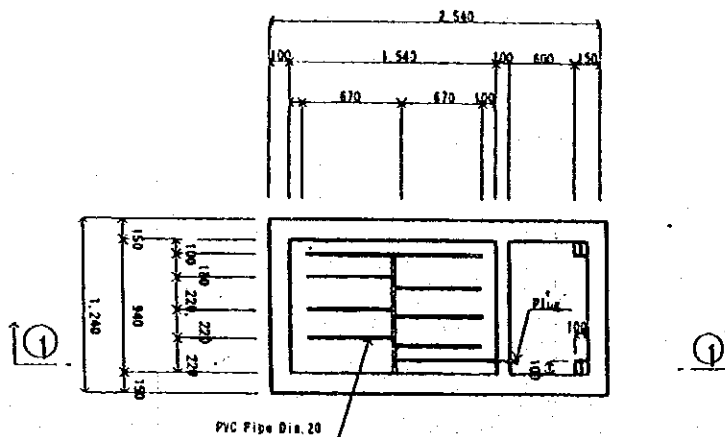


Figure 8.4.2(a) Iron Removal Facility

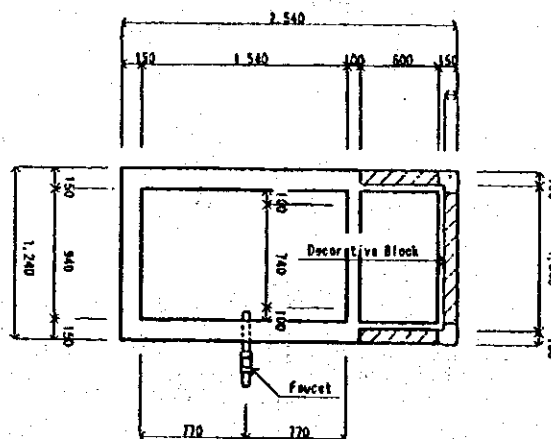
- (A) :Pebble
- (B) :Coarse Sand
- (C) :Fine Sand



Section ① - ① $S = 1/20$



Section ② - ② $S = 1/20$

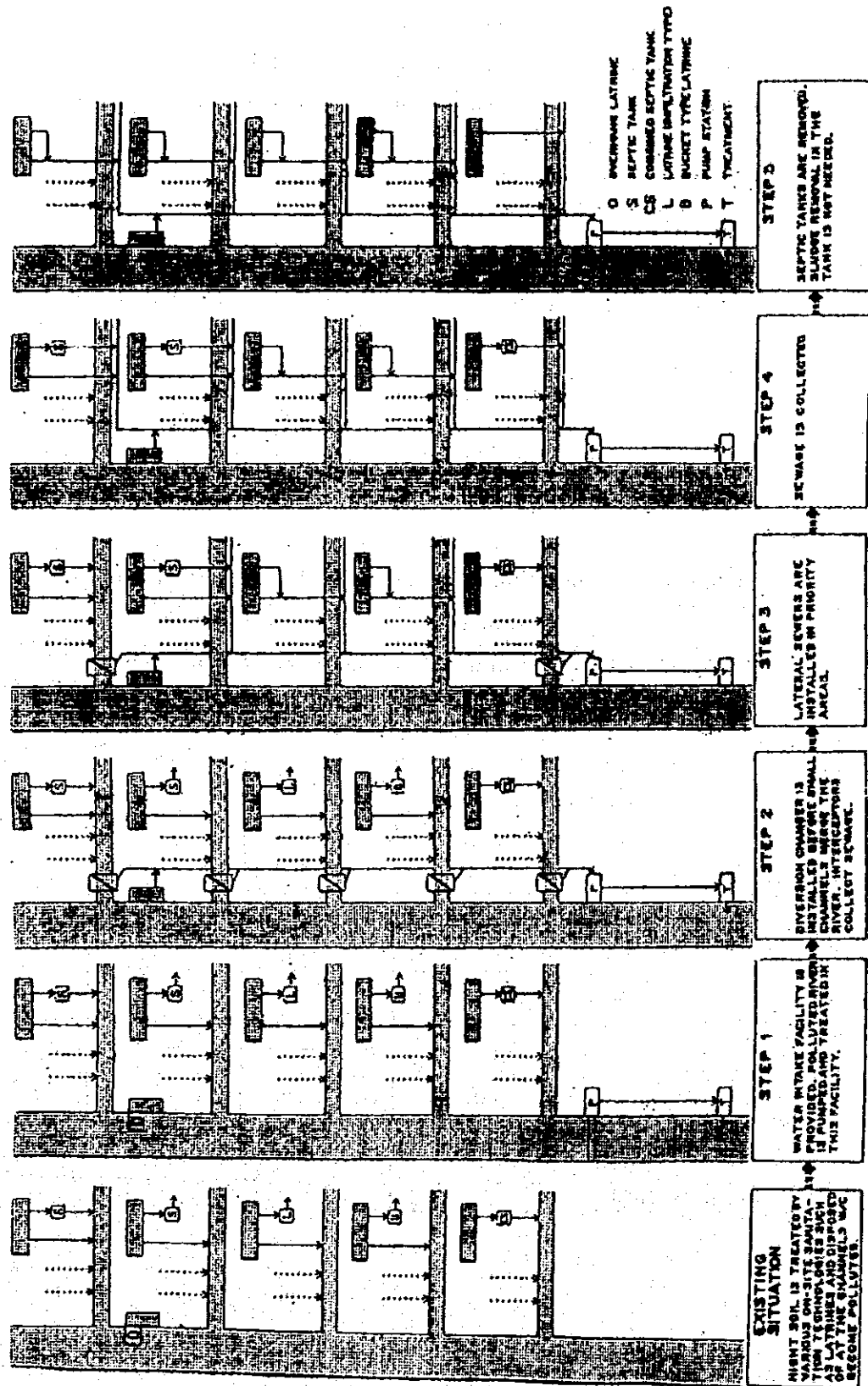


Section ③ - ③ $S = 1/20$

Figure 8.4.2(b) Iron Removal Facility

8.4.3 Urban Sewerage

Figure 8.4.3 STAGED IMPROVEMENT IN SEWAGE COLLECTION METHOD



8.5 Service Coverage by Target Year

8.5.1 Water Supply

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

Nineteen (19) untapped spring sources out of total 47 were confirmed to be suitable for Level II systems in rural water supply by the time of PW4SP preparation as shown in Table 8.5.1. Conditions and assumptions applied for this estimate are as follows:

Source capacity:

The average source capacity of untapped spring was assumed to meet the need of 100 households based on the review of existing Level II systems with spring sources.

Number of system:

Nineteen (20) out of total 47 untapped springs identified during the course of RW4SP preparation were considered to serve nineteen (19) Level II systems in nineteen (19) rural barangays of 5 municipalities.

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

Name of Municipality	Number of Untapped Spring	Number of Barangay to be Served	Number of Households to be Served	Population to be Served
Cuartero	3	3	300	1,698
Dao	2			
Dumalag	3			
Dumarao	20			
Ivisan	3			
Jamindan	7	7	700	3,661
Ma-ayon	7	7	611	3,177
Mambusao				
Panay				
Panitan				
Pilar				
Pontevedra				
President Roxas	1	1	100	526
Roxas City (Capital)				
Sapi-an				
Sigma	1	1	100	512
Tapaz				
Provincial Total	47	19	1,811	9,574

(2) Population to be served by target year

Phase I

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

Phase II

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

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

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

Name of Municipality/City	Area	Population Served in the Base Year			Phase I Coverage (2005)										
		Level III	Level II	Level I	Total	Total Population	Service Coverage			Additional Population to be Served					
							Level III	Level II	Level I	Total	Level III	Level II	Level I	Total	
Cuartero	Urban			1,774	1,774	4,938	1,087		1,774	2,861	1,087				1,087
	Rural		402	13,981	14,383	32,375		2,100	16,020	18,120		1,698	2,039	3,737	
	Total		402	15,755	16,157	37,313	1,087	2,100	17,794	20,981	1,087	1,698	2,039	4,824	
	Urban			3,864	3,864	5,769	1,270		3,864	5,134	1,270			1,270	
Dao	Rural			17,548	17,548	24,521			17,548	17,548					
	Total			21,412	21,412	30,290	1,270		21,412	22,682	1,270			1,270	
	Urban			2,841	2,841	3,768			2,841	2,841					
	Rural	2,465	775	18,464	21,704	32,277	2,465	775	18,464	21,704					
Dumalag	Total	2,465	775	21,305	24,545	36,045	2,465	775	21,305	24,545					
	Urban	1,890	75	2,309	4,274	5,799	3,167	75	2,309	5,551	1,277			1,277	
	Rural	340	350	28,215	28,905	35,944	340	350	28,215	28,905					
	Total	2,230	425	30,524	33,179	41,743	3,507	425	30,524	34,456	1,277			1,277	
Ivisan	Urban	1,285		1,687	2,972	5,083	2,404		1,687	4,091	1,119			1,119	
	Rural	655	675	10,117	11,447	20,957	655	675	10,117	11,447					
	Total	1,940	675	11,804	14,419	26,040	3,059	675	11,804	15,538	1,119			1,119	
	Urban			722	722	3,380	744		722	1,466	744			744	
Jamindan	Rural		300	1,232	1,532	48,670		3,961	3,190	7,151		3,661	1,958	5,619	
	Total		300	1,954	2,254	52,050	744	3,961	3,912	8,617	744	3,661	1,958	6,363	
	Urban			2,422	2,422	4,770	1,050		2,422	3,472	1,050			1,050	
	Rural		500	11,636	12,136	27,522		3,677	11,636	15,313		3,177		3,177	
Ma-ayon	Total		500	14,058	14,558	32,292	1,050	3,677	14,058	18,785	1,050	3,177		4,227	
	Urban	2,175		1,944	4,119	7,279	3,778		1,944	5,722	1,603			1,603	
	Rural	10	660	14,196	14,866	34,833	10	660	18,217	18,887			4,021	4,021	
	Total	2,185	660	16,140	18,985	42,112	3,788	660	20,161	24,609	1,603		4,021	5,624	
Mambuso	Urban	1,685		25	1,710	3,283	2,408		25	2,433	723			723	
	Rural	4,960		1,166	6,126	42,061	4,960		6,022	10,982			4,856	4,856	
	Total	6,645		1,191	7,836	45,344	7,368		6,047	13,415	723		4,856	5,579	

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

Name of Municipality/City	Area	Population Served in the Base Year			Phase I Coverage (2005)									
		Level III	Level II	Level I	Total	Total Population	Service Coverage			Additional Population to be Served				
							Level III	Level II	Level I	Total	Level III	Level II	Level I	Total
Panitan	Urban	995		825	1,820	2,726	1,595		825	2,420	600			600
	Rural	840	625	19,394	20,859	32,258	840	625	19,394	20,859				
	Total	1,835	625	20,219	22,679	34,984	2,435	625	20,219	23,279	600			600
Pilar	Urban	860		3,026	3,886	5,306	2,028		3,026	5,054	1,168			1,168
	Rural	195	665	24,365	25,225	33,241	195	665	24,365	25,225				
	Total	1,055	665	27,391	29,111	38,547	2,223	665	27,391	30,279	1,168			1,168
Pontevedra	Urban	3,680		380	4,060	6,901	5,199		380	5,579	1,519			1,519
	Rural	3,400	2,628	8,585	14,613	35,570	3,400	2,628	12,691	18,719		4,106		4,106
	Total	7,080	2,628	8,965	18,673	42,471	8,599	2,628	13,071	24,298	1,519	4,106		5,625
President Roxas	Urban			2,769	2,769	6,972	1,535		2,769	4,304	1,535			1,535
	Rural		125	4,997	5,122	19,748		651	6,751	7,402		526	1,754	2,280
	Total		125	7,766	7,891	26,720	1,535	651	9,520	11,706	1,535	526	1,754	3,815
Roxas City (Capital)	Urban	33,945		20,946	54,891	73,329	33,945		20,946	54,891				
	Rural	16,315	948	36,751	54,014	89,131	16,315	948	36,751	54,014				
	Total	50,260	948	57,697	108,905	162,460	50,260	948	57,697	108,905				
Sapi-an	Urban			1,376	1,376	4,239	933		1,376	2,309	933			933
	Rural		660	12,017	12,677	20,002		660	12,017	12,677				
	Total		660	13,393	14,053	24,241	933	660	13,393	14,986	933			933
Sigma	Urban			674	674	2,375	523		674	1,197	523			523
	Rural		1,100	6,232	7,332	25,633		1,612	8,679	10,291		512	2,447	2,959
	Total		1,100	6,906	8,006	28,008	523	1,612	9,353	11,488	523	512	2,447	3,482
Tapaz	Urban			1,747	1,747	2,179			1,747	1,747				
	Rural		500	16,576	17,076	39,474		500	21,133	21,633			4,557	4,557
	Total		500	18,323	18,823	41,653		500	22,880	23,380			4,557	4,557
Provincial Total	Urban	46,515	75	49,331	95,921	148,096	61,666	75	49,331	111,072	15,151			15,151
	Rural	29,180	10,913	245,472	285,565	594,217	29,180	20,487	271,210	320,877		9,574	25,738	35,312
	Total	75,695	10,988	294,803	381,486	742,313	90,846	20,562	320,541	431,949	15,151	9,574	25,738	50,463

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

Name of Municipality/City	Population Served in 2005					Phase II Coverage (2010)						
	Area	Level			Total	Total Population	Service Coverage			Additional Population to be Served		
		Level III	Level II	Level I			Level III	Level II	Level I	Level III	Level II	Level I
Cuartero	Urban	1,087		1,774	2,861	5,515	5,239		5,239	4,152		4,152
	Rural		2,100	16,020	18,120	36,242		2,100	31,605		15,585	15,585
	Total	1,087	2,100	17,794	20,981	41,757	5,239	2,100	31,605	4,152	15,585	19,737
Dao	Urban	1,270		3,864	5,134	8,052	7,649		7,649	6,379		6,379
	Rural			17,548	17,548	24,127			22,438		4,890	4,890
	Total	1,270		21,412	22,682	32,179	7,649		22,438	6,379	4,890	11,269
Dumalag	Urban			2,841	2,841	4,102	3,897		3,897	3,897		3,897
	Rural	2,465	775	18,464	21,704	34,742	2,465	775	29,070	32,310	10,606	10,606
	Total	2,465	775	21,305	24,545	38,844	6,362	775	29,070	3,897	10,606	14,503
Dumarao	Urban	3,167	75	2,309	5,551	7,876	7,482		7,482	4,315		4,315
	Rural	340	350	28,215	28,905	37,033	340	350	33,751	34,441	5,536	5,536
	Total	3,507	425	30,524	34,456	44,909	7,822	350	33,751	41,923	5,536	9,851
Ivisan	Urban	2,404		1,687	4,091	5,622	5,341		5,341	2,937		2,937
	Rural	655	675	10,117	11,447	22,640	655	675	19,725	21,055	9,608	9,608
	Total	3,059	675	11,804	15,538	28,262	5,996	675	19,725	26,396	9,608	12,545
Jamindan	Urban	744		722	1,466	4,053	3,850		3,850	3,106		3,106
	Rural		3,961	3,190	7,151	52,750		3,961	45,097	49,058	41,907	41,907
	Total	744	3,961	3,912	8,617	56,803	3,850	3,961	45,097	3,106	41,907	45,013
Ma-ayon	Urban	1,050		2,422	3,472	5,216	4,955		4,955	3,905		3,905
	Rural		3,677	11,636	15,313	28,674		3,677	22,990	26,667	11,354	11,354
	Total	1,050	3,677	14,058	18,785	33,890	4,955	3,677	22,990	31,622	11,354	15,259
Mambusao	Urban	3,778		1,944	5,722	7,904	7,509		7,509	3,731		3,731
	Rural	10	660	18,217	18,887	35,408	10	660	32,259	32,929	14,042	14,042
	Total	3,788	660	20,161	24,609	43,312	7,519	660	32,259	40,438	14,042	17,773
Panay	Urban	2,408		25	2,433	3,385	3,216		3,216	808		808
	Rural	4,960		6,022	10,982	44,952	4,960		36,845	41,805	30,823	30,823
	Total	7,368		6,047	13,415	48,337	8,176		36,845	45,021	30,823	31,631

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

Name of Municipality/City	Area	Population Served in 2005				Phase II Coverage (2010)						
		Level III	Level II	Level I	Total	Total Population	Service Coverage			Additional Population to be Served		
							Level III	Level II	Level I	Total	Level III	Level II
Panitan	Urban	1,595		825	2,420	2,851	2,708			2,708	1,113	
	Rural	840	625	19,394	20,859	34,117	840	625	30,264	31,729		10,870
	Total	2,435	625	20,219	23,279	36,968	3,548	625	30,264	34,437	1,113	10,870
Pilar	Urban	2,028		3,026	5,054	7,176	6,817			6,817	4,789	
	Rural	195	665	24,365	25,225	33,638	195	665	30,423	31,283		6,058
	Total	2,223	665	27,391	30,279	40,814	7,012	665	30,423	38,100	4,789	6,058
Pontevedra	Urban	5,199		380	5,579	7,458	7,085			7,085	1,886	
	Rural	3,400	2,628	12,691	18,719	38,030	3,400	2,628	29,340	35,368		16,649
	Total	8,599	2,628	13,071	24,298	45,488	10,485	2,628	29,340	42,453	1,886	16,649
President Roxas	Urban	1,535		2,769	4,304	6,936	6,589			6,589	5,054	
	Rural		651	6,751	7,402	20,729		651	18,627	19,278		11,876
	Total	1,535	651	9,520	11,706	27,665	6,589	651	18,627	25,867	5,054	11,876
Roxas City (Capital)	Urban	33,945		20,946	54,891	102,887	97,743			97,743	63,798	
	Rural	16,315	948	36,751	54,014	80,273	16,315	948	57,391	74,654		20,640
	Total	50,260	948	57,697	108,905	183,160	114,058	948	57,391	172,397	63,798	20,640
Sapi-an	Urban	933		1,376	2,309	4,669	4,436			4,436	3,503	
	Rural		660	12,017	12,677	20,930		660	18,805	19,465		6,788
	Total	933	660	13,393	14,986	25,599	4,436	660	18,805	23,901	3,503	6,788
Sigma	Urban	523		674	1,197	2,375	2,256			2,256	1,733	
	Rural		1,612	8,679	10,291	27,888		1,612	24,324	25,936		15,645
	Total	523	1,612	9,353	11,488	30,263	2,256	1,612	24,324	28,192	1,733	15,645
Tapaz	Urban			1,747	1,747	2,317	2,201			2,201	2,201	
	Rural		500	21,133	21,633	41,176		500	37,794	38,294		16,661
	Total		500	22,880	23,380	43,493	2,201	500	37,794	40,495	2,201	16,661
Provincial Total	Urban	61,666	75	49,331	111,072	188,394	178,973			178,973	117,307	
	Rural	29,180	20,487	271,210	320,877	613,349	29,180	20,487	520,748	570,415		249,538
	Total	90,846	20,562	320,541	431,949	801,743	208,153	20,487	520,748	749,388	117,307	249,538

8.5.2 Sanitation

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

Name of Municipality/City	Area	No. of Household Served in the Based Year			Phase I Coverage (2005)									
					Household Coverage			Additional No. of HHs to be Served						
		Flush	Pour Flush	VIP/Dry	Total	Total No. of HHs	Flush	Pour Flush	VIP/Dry	Total	Flush	Pour Flush	VIP/Dry	Total
Cuartero	Urban	152	512	12	676	903	152	546	142	840		34	130	164
	Rural		250	21	271	5,720	229	2,746	1,601	4,576	229	2,496	1,580	4,305
	Total	152	762	33	947	6,623	381	3,292	1,743	5,416	229	2,530	1,710	4,469
Dao	Urban	38	971		1,009	1,107	155	875		1,030	21			21
	Rural		1,571	2,635	4,206	4,817		1,571	2,635	4,206				
	Total	38	2,542	2,635	5,215	5,924	155	2,446	2,635	5,236	21			21
Dumalag	Urban	13	370		383	680	13	411	208	632		41	208	249
	Rural		2,585	1,779	4,364	5,933		2,848	1,898	4,746		263	119	382
	Total	13	2,955	1,779	4,747	6,613	13	3,259	2,106	5,378		304	327	631
Dumarao	Urban	40	801	206	1,047	1,196	167	945		1,112	65			65
	Rural	12	241	4,813	5,066	7,160	286	3,437	2,005	5,728	274	388		662
	Total	52	1,042	5,019	6,113	8,356	453	4,382	2,005	6,840	339	388		727
Ivisan	Urban		804		804	948	132	750		882	78			78
	Rural		2,540		2,540	4,117	165	3,129		3,294	165	589		754
	Total		3,344		3,344	5,065	297	3,879		4,176	243	589		832
Jamindan	Urban		450	40	490	683	95	540		635	95	50		145
	Rural		1,290	4,856	6,146	9,306	372	4,467	2,606	7,445	372	927		1,299
	Total		1,740	4,896	6,636	9,989	467	5,007	2,606	8,080	467	977		1,444
Ma-ayon	Urban		682	163	845	937	131	740		871	26			26
	Rural		2,459	1,125	3,584	5,293	212	2,540	1,482	4,234	212	81	357	650
	Total		3,141	1,288	4,429	6,230	343	3,280	1,482	5,105	238	81	357	676
Mambusao	Urban		439	642	1,081	1,316	184	796	244	1,224	143			143
	Rural		2	5,390	5,392	6,884	275	3,304	1,928	5,507	115			115
	Total		441	6,032	6,473	8,200	459	4,100	2,172	6,731	258			258
Panay	Urban		568		568	650	91	514		605	37			37
	Rural		5,699		5,699	7,675	307	5,833		6,140	307	134		441
	Total		6,267		6,267	8,325	398	6,347		6,745	344	134		478

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

Name of Municipality/City	Area	No. of Household Served			Phase I Coverage (2005)									
		Flush	Pour Flush	VIP/Dry	Total	Total No. of HHs	Household Coverage			Additional No. of HHs to be Served				
							Flush	Pour Flush	VIP/Dry	Total	Flush	Pour Flush	VIP/Dry	Total
Panitan	Urban	19	366		385	519	72	411		483	53	45		98
	Rural		1,742		1,742	6,144	246	2,949	1,720	4,915	246	1,207	1,720	3,173
	Total	19	2,108		2,127	6,663	318	3,360	1,720	5,398	299	1,252	1,720	3,271
Pilar	Urban		918		918	1,074	150	849		999	81			81
	Rural		1,092	4,406	5,498	6,430		1,092	4,406	5,498				
	Total		2,010	4,406	6,416	7,504	150	1,941	4,406	6,497	81			81
Pontevedra	Urban	379	488	93	960	1,211	379	732	15	1,126		166		166
	Rural	388	4,104	1,036	5,528	6,649	388	4,104	1,036	5,528				
	Total	767	4,592	1,129	6,488	7,860	767	4,836	1,051	6,654		166		166
President Roxas	Urban		635	339	974	1,346	188	814	250	1,252	188	90		278
	Rural		2,217	774	2,991	3,754	150	2,853		3,003	12			12
	Total		2,852	1,113	3,965	5,100	338	3,667	250	4,255	200	90		290
Roxas City (Capital)	Urban	4,148	6,954	179	11,281	14,350	4,148	8,675	523	13,346		1,721	344	2,065
	Rural	2,802	9,391	521	12,714	16,381	2,802	10,703		13,505		791		791
	Total	6,950	16,345	700	23,995	31,231	6,950	19,378	523	26,851		2,512	344	2,856
Sapi-an	Urban		742		742	846	118	669		787	45			45
	Rural		2,895		2,895	3,839	154	2,917		3,071	154	22		176
	Total		3,637		3,637	4,685	272	3,586		3,858	199	22		221
Sigma	Urban		261	122	383	472	66	285	88	439	56			56
	Rural		173	3,290	3,463	5,006	200	2,403	1,402	4,005	200	342		542
	Total		434	3,412	3,846	5,478	266	2,688	1,490	4,444	256	342		598
Tapaz	Urban		371		371	411		382		382		11		11
	Rural		1,856	1,536	3,392	8,056		3,867	2,578	6,445		2,011	1,042	3,053
	Total		2,227	1,536	3,763	8,467		4,249	2,578	6,827		2,022	1,042	3,064
Provincial Total	Urban	4,789	16,332	1,796	22,917	28,649	6,241	18,934	1,470	26,645	888	2,158	682	3,728
	Rural	3,202	40,107	32,182	75,491	113,664	5,786	60,763	25,297	91,846	2,286	9,251	4,818	16,355
	Total	7,991	56,439	33,978	98,408	142,313	12,027	79,697	26,767	118,491	3,174	11,409	5,500	20,083

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

Name of Municipality/City	No. households Served in 2005					Phase II Coverage (2010)						
	Household Coverage			Total No. of HHs	Additional No. of HHs to be Served			Total	Household Coverage			Total
	Flush	Pour Flush	VIP/Dry		Flush	Pour Flush	VIP/Dry		Flush	Pour Flush	VIP/Dry	
Cuartero	Urban	152	546	142	840	1,379	142	1,282	489			489
	Rural	229	2,746	1,601	4,576	9,061	1,601	8,427		3,851		3,851
	Total	381	3,292	1,743	5,416	10,440	1,743	9,709	489	3,851		4,340
Dao	Urban	155	875		1,030	2,013		1,872	781	61		842
	Rural		1,571	2,635	4,206	6,032	2,635	5,610		1,404		1,404
	Total	155	2,446	2,635	5,236	8,045	2,635	7,482	781	1,465		2,246
Dumalag	Urban	13	411	208	632	1,026	208	954	464			464
	Rural		2,848	1,898	4,746	8,686	1,898	8,078	808	2,524		3,332
	Total	13	3,259	2,106	5,378	9,712	2,106	9,032	1,272	2,524		3,796
Dumarao	Urban	167	945		1,112	1,969		1,831	749			749
	Rural	286	3,437	2,005	5,728	9,258	2,005	8,610	54	2,828		2,882
	Total	453	4,382	2,005	6,840	11,227	2,005	10,441	803	2,828		3,631
Ivisan	Urban	132	750		882	1,406		1,308	522			522
	Rural	165	3,129		3,294	5,660		5,264	361	1,609		1,970
	Total	297	3,879		4,176	7,066		6,572	883	1,609		2,492
Jamindan	Urban	95	540		635	1,013		942	376			376
	Rural	372	4,467	2,606	7,445	13,188		12,265		4,820		4,820
	Total	467	5,007	2,606	8,080	14,201		13,207	376	4,820		5,196
Ma-ayon	Urban	131	740		871	1,304		1,213	476			476
	Rural	212	2,540	1,482	4,234	7,169	1,482	6,667		2,433		2,433
	Total	343	3,280	1,482	5,105	8,473	1,482	7,880	476	2,433		2,909
Mambuso	Urban	184	796	244	1,224	1,976		1,838	735			735
	Rural	275	3,304	1,928	5,507	8,832		8,232		2,990		2,990
	Total	459	4,100	2,172	6,731	10,808		10,070	735	2,990		3,725
Panay	Urban	91	514		605	846		787	303			303
	Rural	307	5,833		6,140	11,238		10,451	738	3,573		4,311
	Total	398	6,347		6,745	12,084		11,238	1,041	3,573		4,614

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

Name of Municipality/City	Area	No. households Served in 2005				Phase II Coverage (2010)								
		Flush	Pour Flush	VIP/Dry	Total	Total No. of HHs	Household Coverage				Additional No. of HHs to be Served			
							Flush	Pour Flush	VIP/Dry	Total	Flush	Pour Flush	VIP/Dry	Total
Panitan	Urban	72	411		483	713	332	331		663	260			260
	Rural	246	2,949	1,720	4,915	8,529	793	5,419	1,720	7,932	547	2,470		3,017
	Total	318	3,360	1,720	5,398	9,242	1,125	5,750	1,720	8,595	807	2,470		3,277
Pilar	Urban	150	849		999	1,794	834	834		1,668	684			684
	Rural		1,092	4,406	5,498	8,410	195	3,220	4,406	7,821	195	2,128		2,323
	Total	150	1,941	4,406	6,497	10,204	1,029	4,054	4,406	9,489	879	2,128		3,007
Pontevedra	Urban	379	732	15	1,126	1,865	867	852	15	1,734	488	120		608
	Rural	388	4,104	1,036	5,528	9,508	884	6,922	1,036	8,842	496	2,818		3,314
	Total	767	4,836	1,051	6,654	11,373	1,751	7,774	1,051	10,576	984	2,938		3,922
President Roxas	Urban	188	814	250	1,252	1,734	807	556	250	1,613	619			619
	Rural	150	2,853		3,003	5,182	150	4,669		4,819		1,816		1,816
	Total	338	3,667	250	4,255	6,916	957	5,225	250	6,432	619	1,816		2,435
Roxas City (Capital)	Urban	4,148	8,675	523	13,346	25,722	11,961	11,437	523	23,921	7,813	2,762		10,575
	Rural	2,802	10,703		13,505	20,068	1,866	16,797		18,663		6,094		6,094
	Total	6,950	19,378	523	26,851	45,790	13,827	28,234	523	42,584	7,813	8,856		16,669
Sapi-an	Urban	118	669		787	1,167	543	542		1,085	425			425
	Rural	154	2,917		3,071	5,233	154	4,713		4,867		1,796		1,796
	Total	272	3,586		3,858	6,400	697	5,255		5,952	425	1,796		2,221
Sigma	Urban	66	285	88	439	594	276	188	88	552	210			210
	Rural	200	2,403	1,402	4,005	6,972	200	4,882	1,402	6,484		2,479		2,479
	Total	266	2,688	1,490	4,444	7,566	476	5,070	1,490	7,036	210	2,479		2,689
Tapaz	Urban		382		382	579	269	269		538	269			269
	Rural		3,867	2,578	6,445	10,294		6,995	2,578	9,573		3,128		3,128
	Total		4,249	2,578	6,827	10,873	269	7,264	2,578	10,111	269	3,128		3,397
Provincial Total	Urban	6,241	18,934	1,470	26,645	47,100	21,904	20,427	1,470	43,801	15,663	2,943		18,606
	Rural	5,786	60,763	25,297	91,846	153,340	7,784	109,524	25,297	142,605	3,199	48,761		51,960
	Total	12,027	79,697	26,767	118,491	200,440	29,688	129,951	26,767	186,406	18,862	51,704		70,566

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

Name of Municipality/City	Std. No. of Public School Student that can be Served in the Base Year (1998)	Projected No. of Public School Student in 2005	Phase I Coverage (2005)		Projected Number of Public School Students in 2010	Phase II Coverage (2010)	
			Public School Students Coverage	Additional No. of Public School Student to be Served		Public School Students Coverage	Additional No. of Public School Students to be Served
Quarero	640	8,719	2,369	1,729	10,332	9,299	6,930
Dao	960	6,883	2,325	1,365	7,770	6,993	4,668
Dumalag	1,600	6,670	2,923	1,323	7,702	6,932	4,009
Dumarao	3,920	10,547	6,012	2,092	11,978	10,780	4,768
Ivisan	1,440	7,146	2,857	1,417	8,001	7,201	4,344
Jamindan	2,480	12,842	5,027	2,547	14,839	13,355	8,328
Ma-ayon	3,200	9,524	5,089	1,889	9,495	8,546	3,457
Mambusao	1,640	9,011	3,427	1,787	9,886	8,897	5,470
Panay	1,200	10,287	3,241	2,041	11,652	10,487	7,246
Panitan	2,160	9,148	3,975	1,815	10,203	9,183	5,208
Pilar	2,080	10,808	4,224	2,144	11,805	10,625	6,401
Pontevedra	1,840	11,138	4,049	2,209	12,592	11,333	7,284
President Roxas	1,280	7,076	2,684	1,404	6,940	6,246	3,562
Roxas City (Capital)	6,360	36,215	13,544	7,184	43,232	38,909	25,365
Sapi-an	1,920	6,684	3,246	1,326	7,281	6,553	3,307
Sigma	1,280	5,562	2,383	1,103	6,440	5,796	3,413
Tapaz	2,120	10,869	4,276	2,156	11,980	10,782	6,506
Provincial Total	36,120	179,129	71,651	35,531	202,128	181,917	110,266

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

Name of Municipality/City	Type	Coverage in Base Year (1998)			Phase I Coverage (2005)			Phase I Coverage (2010)		
		No. of PU with Toilets Facilities	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l. No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l. No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	
Cuartero	Public Market	2	2	3	1	3	3		3	
	Bus/Jeepney Terminal							1	1	
	Parks/Playground			1	1	1	1		1	
	Total	2	2	4	2	4	5	1	5	
Dao	Public Market	2	2	3	1	3	3		3	
	Bus/Jeepney Terminal							1	1	
	Parks/Playground	2	2	3	1	3	3		3	
	Total	4	4	6	2	6	7	1	7	
Dumalag	Public Market	2	2	3	1	3	3		3	
	Bus/Jeepney Terminal							1	1	
	Parks/Playground	2	2	3	1	3	3		3	
	Total	4	4	6	2	6	7	1	7	
Dumarao	Public Market	1	1	2	1	2	2		2	
	Bus/Jeepney Terminal							1	1	
	Parks/Playground	2		3	3	3	3		3	
	Total	3	1	5	4	5	6	1	6	
Ivisan	Public Market	2	2	3	1	3	3		3	
	Bus/Jeepney Terminal							1	1	
	Parks/Playground			1	1	1	1		1	
	Total	2	2	4	2	4	5	1	5	
Jamindan	Public Market	2	2	3	1	3	3		3	
	Bus/Jeepney Terminal							1	1	
	Parks/Playground	2	2	3	1	3	3		3	
	Total	4	4	6	2	6	7	1	7	
Maayon	Public Market	2	2	3	1	3	3		3	
	Bus/Jeepney Terminal							1	1	
	Parks/Playground	2	2	3	1	3	3		3	
	Total	4	4	6	2	6	7	1	7	

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

Name of Municipality/City	Type	Coverage in Base Year			Phase I Coverage			Phase I Coverage		
		No. of PU with Facilities	No. of PU with Sanitary Toilets	No. of PU with Facilities	Add'l. No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	No. of PU with Facilities	Add'l. No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	No. of PU with Sanitary Toilets
Mambusao	Public Market	2	1	3	2	3	3			3
	Bus/Jeepney Terminal						1	1		1
	Parks/Playground	2		3	3	3	3			3
	Total	4	1	6	5	6	7	1		7
Panay	Public Market	2	2	3	1	3	3			3
	Bus/Jeepney Terminal						1	1		1
	Parks/Playground			1	1	1	1			1
	Total	2	2	4	2	4	5	1		5
Panitan	Public Market	2	2	3	1	3	3			3
	Bus/Jeepney Terminal						1	1		1
	Parks/Playground	2	2	3	1	3	3			3
	Total	4	4	6	2	6	7	1		7
Pilar	Public Market	2	2	3	1	3	3			3
	Bus/Jeepney Terminal						1	1		1
	Parks/Playground			1	1	1	1			1
	Total	2	2	4	2	4	5	1		5
Pontevedra	Public Market	2	2	3	1	3	3			3
	Bus/Jeepney Terminal						1	1		1
	Parks/Playground			1	1	1	1			1
	Total	2	2	4	2	4	5	1		5
President Roxas	Public Market	2	2	3	1	3	3			3
	Bus/Jeepney Terminal						1	1		1
	Parks/Playground			1	1	1	1			1
	Total	2	2	4	2	4	5	1		5
Roxas City (Capital)	Public Market	10	10	12	2	12	13			13
	Bus/Jeepney Terminal	3	3	4	1	4	6	2		6
	Parks/Playground			2	2	2	2			2
	Total	13	13	18	5	18	21	3		21

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

Name of Municipality/City	Type	Coverage in Base Year			Phase I Coverage			Phase I Coverage		
		No. of PU with Toilets Facilities	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l No. of Public Utilities with Sanitary Toilets	No. of PU with Sanitary Toilets	No. of PU with Toilets Facilities	Add'l No. of Public Utilities with Sanitary Toilets	No. of PU with Toilets Facilities	No. of PU with Sanitary Toilets
Sapi-an	Public Market	2	2	3	1	3	3		3	3
	Bus/Jeepney Terminal							1	1	1
	Parks/Playground			1	1	1	1		1	1
	Total	2	2	4	2	4	5	1	5	5
Sigma	Public Market	2	2	3	1	3	3		3	3
	Bus/Jeepney Terminal							1	1	1
	Parks/Playground			1	1	1	1		1	1
	Total	2	2	4	2	4	5	1	5	5
Tapaz	Public Market	3	3	4	1	4	4		4	4
	Bus/Jeepney Terminal							1	1	1
	Parks/Playground	2	2	3	1	3	3		3	3
	Total	5	5	7	2	7	8	1	8	8
Provincial Total	Public Market	42	41	60	19	60	61	1	61	61
	Bus/Jeepney Terminal	3	3	4	1	4	22	18	22	22
	Parks/Playground	16	12	34	22	34	34		34	34
	Total	61	56	98	42	98	117	19	117	117

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

8.6.1 Water Supply

(1) Required water supply facilities

Urban water supply:

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

As reference, the following requirements were also estimated:

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

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

Information pertaining to the expansion plan of Level III systems was arranged to be indicated in Table 8.6.1 and details presented in Table 8.6.2.

Rural water supply:

Rural water supply facilities required by target year shown in Table 8.6.3(a) were estimated as the number of Level II systems with number of communal faucets and the number of Level I wells broken-down to deep and shallow wells. Nineteen (19) untapped springs suitable for Level II system were confirmed during this PW4SP preparation.

(2) Required well drilling and rehabilitation equipment

The DEO-DPWH (in Roxas City) has one unit of rotary type drilling rig (12" of bit diameter and 150 m of depth). It was procured in 1991 and needs minor repair at present.

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

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

Table 8.6.1 Urban Water Supply Facilities Required by Target Year

Name of Municipality/City	Reference on Expansion of Existing Level III System					Phase I (2005) Requirements				Phase II (2010) Requirements				
	Name of Operating Body	Area	Coverage in 1998		Type of Water Source	Plan for Expansion	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m ³ /day)	Number of Spring Dev't./ Deep Well	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m ³ /day)	Number of Spring Dev't./ Deep Well
			No. of Barangay Served	Served Population										
Cuartero	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.	1,087	199	109	1	4,152	1,038	415	1
		Rural	N.A.	N.A.										
		Total												
Dao	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.	1,270	244	127	1	6,379	1,595	638	1
		Rural	N.A.	N.A.										
		Total												
Dumalag	Dumalag WS	Urban			SP	Yes					3,897	974	390	1
		Rural	3	2,465										
		Total	3	2,465										
Dumarao	Dumarao WD	Urban	2	1,890	SP	No	1,277	263	128	1	4,315	1,079	432	1
		Rural	2	340										
		Total	4	2,230										
Ivisan	Metro Roxas WD (a)	Urban	2	1,285		Yes	1,119	209	112	1	2,937	734	294	1
		Rural	5	655										
		Total	7	1,940										
Jamindan	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.	744	150	74	1	3,106	777	311	1
		Rural	N.A.	N.A.										
		Total												
Maayon.	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.	1,050	206	105	1	3,905	976	391	1
		Rural	N.A.	N.A.										
		Total												
Mambusao	Mambusao WD	Urban	2	2,175	DW	No	1,603	290	160	1	3,731	933	373	1
		Rural	1	10										
		Total	3	2,185										
Panay	Metro Roxas WD (b)	Urban	3	1,685		No	723	143	72	1	808	202	81	1
		Rural	24	4,960										
		Total	27	6,645										
Panitan	Panitan WD	Urban	2	995	Surf	No	600	114	60	1	1,113	278	111	1
		Rural	2	840										
		Total	4	1,835										
Pilar	Pilar WD	Urban	1	860	SP	No	1,168	236	117	1	4,789	1,197	479	1
		Rural	2	195										
		Total	3	1,055										

Table 8.6.1 Urban Water Supply Facilities Required by Target Year (Cont'd)

Name of Municipality/City	Name of Operating Body	Reference on Expansion of Existing Level III System				Phase I (2005) Requirements				Phase II (2010) Requirements				
		Area	Coverage in 1998		Type of Water Source	Plan for Expansion	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m ³ /day)	Number of Spring Dev't./ Deep Well	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m ³ /day)	Number of Spring Dev't./ Deep Well
			No. of Barangay Served	Served Population										
Pontevedra	Pontevedra WD	Urban	3	3,680	DW	No	1,519	266	152	1	1,886	472	189	1
		Rural	9	3,400										
		Total	12	7,080										
President Roxas	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.	1,535	296	154	1	5,054	1,264	505	1
		Rural	N.A.	N.A.										
		Total												
Roxas City (Capital)	Metro Roxas WD (c)	Urban	18	33,945	DW/Surf	Yes					63,798	15,950	6,380	9
		Rural	28	16,315										
		Total	46	50,260										
Sapi-an	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.	933	186	93	1	3,503	876	350	1
		Rural	N.A.	N.A.										
		Total												
Sigma	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.	523	104	52	1	1,733	433	173	1
		Rural	N.A.	N.A.										
		Total												
Tapaz	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.					2,201	550	220	1
		Rural	N.A.	N.A.										
		Total												
Provincial Total		Urban	33	46,515			15,151	2,906	1,515	14	117,307	29,328	11,732	25
		Rural	76	29,180										
		Total	109	75,695										

Table 8.6.2 Plan for Expansion of Existing Level III Systems

Name of Municipality/City	Name of Operating Body	Additional Areas Barangay to be Covered	Additional Population to be Served	Additional Water Sources	
				Type	Capacity (m ³ /day)
Dumalag	Dumalag WS	Sto. Angel & Sto. Niño	450		
Dumarao	Dumarao WD				
Ivisan	Metro Roxas WD (a)	Cudian	280		
Mambusao	Mambusao WD				
Panay	Metro Roxas WD (b)				
Panitan	Panitan WD				
Pilar	Pilar WD				
Pontevedra	Pontevedra WD				
Roxas City (Capital)	Metro Roxas WD (c)	All urban areas.	4,133		

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

Name of Municipality/City	Phase I (2005) Requirements										Phase II (2010) Requirements				
	Level II		Level I								Level I				
	Number of System	No. of Communal Faucets	Number of Deep Wells				No. of Shallow Wells	Total	Number of Deep Wells				No. of Shallow Wells	Total	
			40 m	80 m	120 m	Sub-total			40 m	80 m	120 m	Sub-total			
Cuartero	3	60		15		15	9	24		156		156	104	260	
Dao	2								82				82		
Dumalag	3								177				177		
Dumarao	20									66			66	27	93
Ivisan	3									161			161		161
Jamindan	7	140	8			8	17	25	210				210	489	699
Ma-ayon	7	123								114			114	76	190
Mambusao			53			53		53	235				235		235
Panay			59			59		59	514				514		514
Panitan										182			182		182
Pilar									11				11	90	101
Pontevedra			51			51		51	278				278		278
President Roxas	1	20	5			5	17	22	40				40	158	198
Roxas City (Capital)										344			344		344
Sapi-an										114			114		114
Sigma	1	20	32			32		32	261				261		261
Tapaz			38			38		62	167				167	111	278
Provincial Total	47	363	246	15		261	67	328	1,975	1,137		3,112	1,055	4,167	

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

Name of Municipality/City	Phase I (2005) Requirements										Phase II (2010) Requirements					
	Percentage Allocated to Public Facility (30%)										Percentage Allocated to Public Facility (80%)					
	Percentage Allocated for Public Wells (100%) and Percentage Allocated for Public Spring Development (0%)										Percentage Allocated for Public Wells (100%) and Percentage Allocated for Public Spring Development (0%)					
	Number of Deep Wells				No. of Shallow Wells	Total	No. of Spring Dev.	Grand Total	Number of Deep Wells				No. of Shallow Wells	Total	No. of Spring Dev.	Grand Total
	40 m	80 m	120 m	Sub-total					40 m	80 m	120 m	Sub-total				
Cuartero		5		5	2	7				125		125	83	208		208
Dao									66			66		66		66
Dumalag									142			142		142		142
Dumarao										52		52	22	74		74
Ivisan										129		129		129		129
Jamindan	3			3	5	8			168			168	391	559		559
Ma-ayon										92		92	60	152		152
Mambusao	16			16		16			188			188		188		188
Panay	18			18		18			411			411		411		411
Panitan										146		146		146		146
Pilar										9		9	72	81		81
Pontevedra	15			15		15			222			222		222		222
President Roxas	2			2	5	7			32			32	126	158		158
Roxas City (Capital)										275		275		275		275
Sapi-an										91		91		91		91
Sigma	10			10		10			209			209		209		209
Tapaz	12			12	7	19			134			134	88	222		222
Provincial Total	76	5		81	19	100			1,581	910		2,491	842	3,333		3,333

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

Average performance

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

Annual accomplishment

- 9 wells/year ($365 \text{ days/year} \div 30 \text{ days/well} \times 0.75$)

Required number

- 2 sets for the total 81 deep wells

Well rehabilitation equipment:

Average performance

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

Annual accomplishment

- 39 wells/year ($365 \text{ days/year} \div 7 \text{ days/well} \times 0.75$)

Required number

- 1 set for 10% of 81 Level I deep wells

Support vehicle:

Type - pick-up truck with winch, double cab

Required number

- 1 unit for well rehabilitation

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

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

In addition to the above, for long-term plan, each one unit of medium size percussion rig and service truck equipped with crane for hauling drilling tools/water is required.

8.6.2 Sanitation

Table 8.6.4 Urban Household Toilets Required by Target Year

Name of Municipality/City	Phase I (2005) Requirements						Phase II (2010) Requirements					
	Additional HHs to be Served			No. of HHs to be Served			Additional HHs to be Served			No. of HHs to be Served		
	Flush	Pour Flush	VIP/ Dry	Total	Flush	Pour Flush	VIP/ Dry	Total	Flush	Pour Flush	VIP/ Dry	Total
Quarero	34	21	130	164	34	21	130	164	489	781	61	489
Dao				21				21				842
Dumalag	41	65	208	249	41	65	208	249	464	749		464
Dumarao				78				78				522
Ivisan	50	95		145	50	95		145	376	376		376
Jamindan	26	143		169	26	143		169	476	476		476
Mayon	37	53		90	37	53		90	303	303		303
Mambuso	81	166		247	81	166		247	684	684		684
Panay	188	90	344	522	188	90	344	522	608	488	120	608
Pantar				278				278	619	619		619
Pontevedra				2,065				2,065	7,813	2,762		10,575
President Roxas				45				45	425	425		425
Roxas City (Capital)				56				56	210	210		210
Sapi-an				11				11	269	269		269
Sigma												
Tapaz												
Provincial Total	888	2,158	682	3,728	888	2,158	682	3,728	15,663	2,943		18,606

Table 8.6.5 Rural Household Toilets Required by Target Year

Name of Municipality/City	Phase I (2005) Requirements						Phase II (2010) Requirements					
	Additional HHs to be Served			No. of HHs to be Served			Additional HHs to be Served			No. of HHs to be Served		
	Flush	Pour Flush	VIP/ Dry	Total	Flush	Pour Flush	Flush	Pour Flush	VIP/ Dry	Total	Flush	Total
Cuartero	229	2,496	1,580	4,305	229	2,496			1,580	4,305		3,851
Dao												1,404
Dumalag		263	119	382		263		808	2,524	3,332	808	3,332
Dumarao	274	388		662	274	388		54	2,828	2,882	54	2,882
Ivisan	165	589		754	165	589		361	1,609	1,970	361	1,970
Jamindan	372	927		1,299	372	927						
Ma-ayon	212	81	357	650	212	81						
Mambusao	115			115	115							
Panay	307	134		441	307	134		738	3,573	4,311	738	4,311
Panitan	246	1,207	1,720	3,173	246	1,207		547	2,470	3,017	547	3,017
Pilar								195	2,128	2,323	195	2,323
Pontevedra								496	2,818	3,314	496	3,314
President Roxas	12			12	12							
Roxas City (Capital)		791		791		791						
Sapi-an	154	22		176	154	22						
Sigma	200	342		542	200	342						
Tapaz		2,011	1,042	3,053		2,011						
Provincial Total	2,286	9,251	4,818	16,355	2,286	9,251		3,199	48,761	51,960	3,199	48,761
												51,960

Table 8.6.6 Public School Toilets Required by Target Year

Name of Municipality/City	Phase I (2005) Requirements			Phase II (2010) Requirements		
	Additional Public School Students to be Served	No. of Toilet Unit	No. of Toilet Facilities	Additional Public School Students to be Served	No. of Toilet Unit	No. of Toilet Facilities
Cuartero	1,729	44	9	6,930	174	35
Dao	1,365	35	7	4,668	117	24
Dumalag	1,323	34	7	4,009	101	21
Dumarao	2,092	53	11	4,768	120	24
Ivisan	1,417	36	8	4,344	109	22
Jamindan	2,547	64	13	8,328	209	42
Ma-ayon	1,889	48	10	3,457	87	18
Mambusao	1,787	45	9	5,470	137	28
Panay	2,041	52	11	7,246	182	37
Panitan	1,815	46	10	5,208	131	27
Pilar	2,144	54	11	6,401	161	33
Pontevedra	2,209	56	12	7,284	183	37
President Roxas	1,404	36	8	3,562	90	18
Roxas City (Capital)	7,184	180	36	25,365	635	127
Sapi-an	1,326	34	7	3,307	83	17
Sigma	1,103	28	6	3,413	86	18
Tapaz	2,156	54	11	6,506	163	33
Provincial Total	35,531	899	186	110,266	2,768	561

Table 8.6.7 Public Toilets Required by Target Year

Name of Municipality/City	Phase I (2005) Requirements					Phase II (2010) Requirements				
	Number of Public Toilets					Number of Public Toilets				
	Public Market	Bus/Jeepney Terminal	Parks/Playground	Total	Public Market	Bus/Jeepney Terminal	Parks/Playground	Total	Public Market	Total
Cuartero	1		1	2				1		1
Dao	1		1	2				1		1
Dumalag	1		1	2				1		1
Dumarao	1		3	4				1		1
Ivisan	1		1	2				1		1
Jamindan	1		1	2				1		1
Ma-ayon	1		1	2				1		1
Mambusao	2		3	5				1		1
Panay	1		1	2				1		1
Panitan	1		1	2				1		1
Pilar	1		1	2				1		1
Pontevedra	1		1	2				1		1
President Roxas	1		1	2				1		1
Roxas City (Capital)	2	1	2	5	1			2		3
Sapi-an	1		1	2				1		1
Sigma	1		1	2				1		1
Tapaz	1		1	2				1		1
Provincial Total	19	1	22	42	1	18				19