

Table 4.1.2 Details on Existing Level II Systems  
Sheet 4 of 6

Name of Municipality/City	Name of Operating Body	Technical Staff	Administrative Staff	Collector	Total Number of Staff	Number of Staff			Repair Work			
						Local Tradesman	MEO/CEO	DEO	MEO/CEO	DEO	Others	
Almagro	Costa Rica I and II	3			3				✓			
	Guin-ansan								✓			
	Imelda								✓			
	Lunang I	10			10				✓			
	Lunang II	1			1				✓			
	Mabubay WS	2			2				✓			
	Pob. & Veloso	2			2				✓			
	San Jose	1			1				✓			
	Tonga-tonga	1			1				✓			
	Amandayehan											
	Anglit											
	Burgos WS											
	Basesy	Cambayan										
Can-abay												
Loog												
Mabini												
Magallanes												
May-it												
Pelit												
San Antonio												
Serum												
Tinaogan												
Banti-an												
Barry												
Bayo												
Bugtong												
Cabacungan											✓	
Calbayog City												

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)

Sheet 4 of 6

Name of Municipality/City	Name of Operating Body	Technical Staff	Administrative Staff	Collector	Total Number of Staff	Number of Staff			
						Local Tradesman	MEO/CEO	DEO	Others
Calbayog City	Cabatuan								
	Cabugawan WS								
	Caganahaw								
	Cag-anibong								
	Cagbayang								
	Cagbiwang								
	Caglanipao Sur								
	Cagnanipis Norte								
	Cagnanipis Sur								
	Cagnipa								
	Cag-olongo								
	Cangomaod								
	Carabunan								
	Caybago								
	Danao II								
	Dawo								
	Dinabongan								
	Dinagan								
	Hibabangan								
	Jose Roño								
	Libertad								
	Longsob								
	Mabini II								
	Malaga								
	Mancuno-o								
	Mantaong								
	Manuel Barral								
	Mawacat								

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)  
Sheet 4 of 6

Name of Municipality/City	Name of Operating Body	Number of Staff					Repair Work		
		Technical Staff	Administrative Staff	Collector	Total Number of Staff	Local Trademan	MEO/CEO	DEO	Others
Calbayog City	Panloaghan								
	Panoytoy								
	Peña								
	Pilar								
	Quezon								
	Rizal II								
	Roxas II								
	San Joaquin								
	San Rufino								
	Sigo								
	Simidman Occidental								
	Simidman Oriental								
	Tarabucan								
Catbalogan (Capital)	Tinambacan WS								
	Bangon								
	Buluan								
	Bunuanay								
	Cabugawan								
	Cagusipan								
	Cagutian								
	Cawayan								
	Cinco								
	Lobo								
	Poblacion 10								
	Poblacion 11								
	Poblacion 12								
Poblacion 13									

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)  
Sheet 4 of 6

Name of Municipality/City	Name of Operating Body	Technical Staff	Administrative Staff	Collector	Total Number of Staff	Number of Staff			Repair Work				
						Local Tradesman	MEO/CEO	DEO	Others				
Catbalogan (Capital)	Socorro												
	Totoringon												
	Baclayan												
	Bagacay												
	Batang												
	Birawan												
	Buenavista												
	Burgos												
	Cabac												
	Campelipa												
	Candugue												
	Mabini												
	Macalpe												
	Mayabay												
Gandara	Poblacion 1												
	Poblacion 2												
	Poblacion 3												
Jiabong	Real												
	San Vicente												
	Saugan												
	Ubo												
	Dumalo-Ong	2		1	3								
	Camaribonan												
	Cantongtong												
	Casapa												
	Catalina												
	Hinaga												
Jia-An													

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)  
Sheet 4 of 6

Name of Municipality/City	Name of Operating Body	Number of Staff					Repair Work		
		Technical Staff	Administrative Staff	Collector	Total Number of Staff	Local Traceman	MEO/CEO	DEO	Others
Jiabong	Jidanao					✓			
	Lulugayan					✓			
	Malino					✓			
	Nagbac					✓			
	Parina					✓			
	San Andres					✓			
	San Fernando					✓			
	Victory					✓			
	Binukyahan								
	Canyoyo								
Marabut	Catao Población								
	Ferreras WS								
	Legaspi WS								
	Logero WS								
	Mabuhay WS								
	Malobago								
	Odoc								
	Osmeña								
	Panan-awan								
	Pinalanga								
Pinamutinan									
Roño									
Santa Rita									
Sto. Niño									
Tagalag									
Tinabanan									
Veloso									

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)

Sheet 4 of 6

Name of Municipality/City	Name of Operating Body	Technical Staff	Administrative Staff	Collector	Total Number of Staff	Number of Staff			
						Local Tradesman	MEO/CEO	DEO	
						Repair Work			
						Others			
Mataguinao	Barruz	4			4				
	Mabuligon	6			6	✓			
Motiong	Calapi	1	1	2	4		✓		
	Poblacion I & I-A	1	1	1	3		✓		
Paranas (Wright)	Apolonia						✓		
	Bato	3	1	1	5				
	Buray	3	1	1	5		✓		
	Jose Roño					✓			
	Lipata			1	1		✓		
	Lokilekon			1	1		✓		
	Maylobe						✓		
	Pabanog						✓		
	Paco						✓		
	Pagsa-ogan			1	1		✓		
	San Isidro						✓		
	Tenani						✓		
Tigbawon						✓			
Tula						✓			
San Jorge	San Jorge (Coop.)	3		2	5	✓			
San Jose de Buan	Poblacion 1-4							Mun. Gov.	
Santa Rita	Ashum BWS					✓			
	Cabunga-an BWS					✓			
	Caticugan BWS					✓			
	Igang-igang BWS					✓			
	Lupig BWS					✓			
	Maligaya BWS					✓			
	Mun. Water Sys.		1	1	1			✓	
	Old Manunca BWS						✓		

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)  
Sheet 4 of 6

Name of Municipality/City	Name of Operating Body	Number of Staff					Repair Work		
		Technical Staff	Administrative Staff	Collector	Total Number of Staff	Local Tradedman	MEO/CEO	DEO	Others
Santa Rita	San Pascual BWS					✓			
	San Pedro BWS					✓			
	Santan BWS					✓			
	Tagacay BWS					✓			
	Tominamos BWS					✓			
Santo Niño	Balatguti WSA					✓			Mun. Off.
	Basud WSA					✓			
	Buenvista WSA					✓			
	Cabunga-an WSA					✓			
	Corocawayan WSA					✓			
	Ilijan WSA					✓			
	Ilo WSA					✓			
	Pinanangan WSA					✓			
	Sevilla WSA					✓			
	Takut WSA					✓			
	Villahermosa WSA					✓			
	Talalora	Independencia BWSA					✓		
Malaguinig BWSA						✓			
Mallorga BWSA						✓			
Placer BWSA						✓			
Poblacion I BWSA						✓			
Tagapul-an	Tatabunan BWSA					✓			
	Balocawe WS					✓			
	Baquiw WS					✓			
	Luna WS					✓			
	Mataluro WS					✓			
	Nipa WS					✓			

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)  
Sheet 4 of 6

Name of Municipality/City	Name of Operating Body	Technical Staff	Administrative Staff	Collector	Number of Staff				Repair Work			
					Total Number of Staff	Local Trademan	MEO/CEO	DEO	Others			
Tarangnan	Baras BWSA					✓	✓	✓	✓	PEO		
	Bisitahan BWSA					✓	✓	✓				
	Cabanga-an BWSA					✓	✓	✓				
	Libucan Dacu BWSA					✓	✓	✓				
	Majacob BWSA					✓	✓	✓				
	San Vicente BWSA					✓	✓	✓				
	Sugod BWSA					✓						
	Banquil					✓						
	Cambaguio					✓						
	Malonoy					✓						
San Roque					✓							
Tayud/Central/Villarosa				1	1							
Villarosa						✓						



Table 4.1.2 Details on Existing Level II Systems  
Sheet 5 of 6

Name of Municipality/City	Name of Operating Body	Expenditures						Tariff				Average Collection Efficiency (%)		
		Annual	Wages	Fuel, Chem.	Transport	Repairs	Loan Repayment	Other	Consumer Payment (Year)	Cost per Pail	Cost per Cu.		Cost per HH	Other
		(P. 000.00 / year)						(Pesos)						
Almagro	Costa Rica I and II			10										
	Guin-ansan	7.2	7.2											
	Imelda													
	Lunang I	8	8											
	Lunang II	1	1											
	Mabuhay WS	3.72	3.72											
	Pob. & Veloso	3	3											
	San Jose	2.4	2.4					11,988						
	Tonga-tonga	2.4	2.4											
	Bacey	Amandayehan												
Anglit														
Burgos WS														
Cambayan														
Can-abay														
Loog														
Mabini														
Magallanes														
May-it														
Pelit														
San Antonio														
Serum														
Tinaogan														
Baati-an														
Baray												20		
Bayo												40		
Bugrong														
Cabacungan														
Cabatuan														
Cabugawan WS														
Cagamahaw														
Cag-ambong														
Cagbayang														
Cagbilwang														
Caglampao Sur														
Cagmanipis Norte														
Cagmanipis Sur													20	

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)  
Sheet 5 of 6

Name of Municipality/City	Name of Operating Body	Expenditures					Tariff					Average Collection Efficiency (%)		
		Annual	Wages	Fuel, Chem. Mat'l.	Transport	Repairs	Loan Repayment	Other	Consumer Payment (Year)	Cost per Pail	Cost per Cu. Meter		Cost per HH	Other
(P. 000.00 / year)														
Calbayog City	Cagnipa													
	Cag-olongo													
	Cangomaod													
	Cambunan													
	Caybago													
	Danso II													
	Dawo													
	Dinabongan													
	Dinagan													
	Hibabangan													
	Jose Roto													
	Libertad													
	Longrob													
	Mabini II													
	Malaga													
	Manquino-o													
	Mantaong													
	Manuel Barral													
	Mawacat													
	Panloyahan													
	Panoytoy													
	Peña													
	Pilar													
	Quezon													
	Rizal II													
	Roxas II													
	San Joaquin													
	San Rufino													
	Sigo													
	Simdman Occidental													
	Simdman Oriental													
	Tarabucan													
	Tinambacan WS													
	Bangon													
	Bulhan													
	Carbalogan (Capital)													

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)  
Sheet 5 of 6

Name of Municipality/City	Name of Operating Body	Expenditures						Tariff				Average Collection Efficiency (%)		
		Annual	Wages	Fuel, Chem. Mat'l.	Transport	Repairs	Loan Repayment	Other	Consumer Payment (Year)	Cost per Pail	Cost per Cu. Meter		Cost per HH	Other
		(P '000.00 / year)						(Pesos)						
Carbalogan (Capital)	Bunuanay													
	Cabugawan													
	Cagusipan													
	Cagutian													
	Cawayan													
	Cinco													
	Lobo													
	Poblacion 10													
	Poblacion 11													
	Poblacion 12													
	Poblacion 13													
	Socorro													
	Totingon													
	Baclayan													
	Bagacay													
	Betaug													
	Birawan													
	Buenavista													
	Burgos													
	Cabac													
	Campelipa													
	Candugue													
	Mabini													
Macalpe														
Mayabby														
Poblacion 1														
Poblacion 2														
Poblacion 3														
Real														
San Vicente														
Saugan														
Ubo			24	50	10	30							25	
Dumalo-Ong														
Camarubo-an														
Camongtong														

Table 4.1.2. Details on Existing Level II Systems (Cont'd.)

Sheet 5 of 6

Name of Municipality/City	Name of Operating Body	Expenditures										Tariff			Average Collection Efficiency (%)			
		Annual	Wages	Fuel, Chem. Mat'l.	Transport	Repairs	Loan Repayment	Other	Consumer Payment (Year)	Cost per Pail	Cost per Cu. Meter	Cost per HH	Other					
(P 000.00 / year)												(Pesos)						
Zabong	Casapa																	
	Catalina																	
	Himaga																	
	Jia-An																	
	Jidanao																	
	Lulugayan																	
	Mahmo																	
	Nagbac																	
	Parina																	
	San Andres																	
	San Fernando																	
	Victory																	
	Marabut	Binukyahan																
		Canyoyo																
		Catato Poblacion																
		Ferreras WS																
		Legaspi WS																
Logero WS																		
Mabuhay WS																		
Malobago																		
Odoc																		
Osmella																		
Panan-awan																		
Pinalanga																		
Pinarmitman																		
Roho																		
Santa Rita																		
Sto. Niño																		
Tagalag																		
Tinabanan																		
Veloso																		
Mariguinao	Bartuz														20			
	Mabiligon	100													50			
	Calapi	40													40		15	
Motong	Poblacion I & I-A	25													25			



Table 4.1.2 Details on Existing Level II Systems (Cont'd.)

Sheet 5 of 6

Name of Municipality/City	Name of Operating Body	Expenditures (P '000.00 / year)						Tariff (Pesos)				Average Collection Efficiency (%)			
		Annual	Wages	Fuel, Chem. Mat'l	Transport	Repairs	Loan Repayment	Other	Consumer Payment (Year)	Cost per Pail	Cost per Cu. Meter		Cost per HH	Other	
Santo Nito	Ilo WSA														
	Pinarangan WSA														
	Sevilla WSA														
	Takut WSA														
	Villahermosa WSA														
	Independencia BWSA														
	Malaguning BWSA														
	Maitorga BWSA														
	Placer BWSA														
	Poblacion I BWSA														
Tagapul-an	Tatabunan BWSA														
	Balocawe WS														
	Baquiw WS														
	Luna WS														
	Matuluto WS														
	Nipa WS														
	Baras BWSA														
	Bisitahan BWSA														
	Cabanga-an BWSA														
	Libutan Dacu BWSA														
Tarlagon	Majacob BWSA														
	San Vicente BWSA														
	Sugod BWSA														
	Banquil														
	Cambaguio														
	Malonoy														
	San Roque														
	Tayud/Central/Villarosa														
	Villarosa														
	Villareal														

Table 4.1.2 Details on Existing Level II Systems

Sheet 6 of 6

Name of Municipality/City	Name of Operating Body	Billings			Revenues			Other	
		Annual Billing (Number)	Public Faucet Consumers	House Connection Consumers	Expected Subsidies	Others	Annual Income (P '000.00 / year)		Payment by Public Faucet Consumers
Almagro	Costa Rica I and II						1.5		
	Guin-ansan								
	Imelda								
	Lunang I								
	Lunang II								
	Mabuhay WS								
	Pop. & Veloso						10.44	5.64	4.8
	San Jose								
	Tonga-tonga								
	Amandayehan								
	Anglit								
	Burgos WS								
	Cambayan								
	Can-abay								
Loog									
Mabini									
Magallanes									
May-it									
Pelit									
San Antonio									
Serum									
Tinaogan									
Banti-an									
Baray									
Bayo									
Bugrong									
Cabacungan									
Cabatuan									
Cabugawan WS									
Caganahaw									
Balsey									
Calbayog City									

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)  
Sheet 6 of 6

Name of Municipality/City	Name of Operating Body	Billings				Revenues						
		Annual Billing (Number)	Public Faucet Consumers	House Connection Consumers	Expected Subsidies	Others	Annual Income (P'000.00 / year)	Payment by Public Faucet Consumers	Payment by House Connection Consumer	Subsidies	Other	
Calbayog City	Cag-anibong											
	Cagbayang											
	Cagbilwang											
	Caglanipao Sur											
	Cagmanipis Norte											
	Cagmanipis Sur											
	Cagnipa											
	Cag-olongo											
	Cangomaod											
	Catabunan											
	Caybago											
	Damao II											
	Dawo											
	Dinabongan											
	Dinagan											
	Hibabagan											
	Jose Roño											
	Libertad											
	Longsob											
	Mabini II											
	Malaga											
	Manuno-o											
	Mantraong											
	Manuel Barra!											
	Mawacat											
	Panloyahan											
	Panoyoy											
	Peña											
	Pilar											



Table 4.1.2 Details on Existing Level II Systems (Cont'd.)  
Sheet 6 of 6

Name of Municipality/City	Name of Operating Body	Billings					Revenues					
		Annual Billing (Number)	Public Faucet Consumer	House Connection Consumers	Expected Subsidies	Others	Annual Income (P '000.00 / year)	Payment by Public Faucet Consumers	Payment by House Connection Consumer	Subsidies	Other	
Calbayog City	Quezon											
	Rizal II											
	Roxas II											
	San Joaquin											
	San Rufino											
	Sigo											
	Sinidman Occidental											
	Sinidman Oriental											
	Tarabucan											
	Tinambacan WS											
	Bangon											
	Buluan											
	Catbalogan (Capital)	Bunuanay										
Cabugawan												
Cagusipan												
Cagutian												
Cawayan												
Cinco												
Lobo												
Poblacion 10												
Poblacion 11												
Poblacion 12												
Poblacion 13												
Socomo												
Totoringon												
Darang	Baclayan											
	Bagacay											
	Betang											
	Birawan											

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)

Sheet 6 of 6

Municipality/City	Name of Operating Body	Billings				Revenues						
		Annual Billing (Number)	Public Faucet Consumers	House Connection Consumers	Expected Subsidies	Others	Annual Income (P'000.00 / year)	Payment by Public Faucet Consumers	Payment by House Connection Consumer	Subsidies	Other	
Daram	Buenvista											
	Burgos											
	Cabac											
	Campelipa											
	Canduguc											
	Mabini											
	Macalpe											
	Mayabay											
	Poblacion 1											
	Poblacion 2											
	Poblacion 3											
	Real											
	San Vicente											
	Saugan											
	Ubo											
Gandara Jiabong	Dumalo-Ong											
	Camarubo-an											
	Cantongtong											
	Casapa											
	Catalina											
	Himaga											
	Jia-An											
	Jidanao											
	Lulugayan											
	Malino											
Nagbac												
Parina												
San Andres												

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)  
Sheet 6 of 6

Name of Municipality/City	Name of Operating Body	Billings				Revenues					
		Annual Billing (Number)	Public Faucet Consumers	House Connection Consumers	Expected Subsidies	Others	Annual Income (P '000.00 / year)	Payment by Public Faucet Consumers	Payment by House Connection Consumer	Subsidies	Other
Jiabong	San Fernando										
	Victory										
Marabut	Binukyahan										
	Canyoyo										
	Catato Poblacion										
	Fereras WS										
	Logaspi WS										
	Logero WS										
	Mabuhay WS										
	Malobago										
	Odoc										
	Osmeña										
	Panan-awan										
	Pinalanga										
	Pinarininan										
	Roflo										
Mataguinao	Santa Rita										
	Sio. Niño										
	Tagalag										
	Tinabanan										
	Veloso										
	Barruz										
	Mabuligon										
	Calapi										
	Poblacion I & I-A										
	Apollonia										
Motions	Bato										
	Buray										
Paranas (Wright)											

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)

Sheet 6 of 6

Name of Municipality/City	Name of Operating Body	Billings			Revenues						
		Annual Billing (Number)	Public Faucet Consumers	House Connection Consumers	Expected Subsidies	Others	Annual Income (P 000.00 / year)	Payment by Public Faucet Consumers	Payment by House Connection Consumer	Subsidies	Other
Paranas (Wright)	Jose Roño										
	Lipata										
	Lokilokon										
	Maylobc										
	Pabanog										
	Paco										
	Pagsa-ogán										
	San Isidro										
	Tenani										
	Tigbawon										
	Tula										
	San Jorge (Coop.)										
	Poblacion 1-4			120			138				
	Aslum BWS										
Cabunga-an BWS											
Caticugan BWS											
Igang-igang BWS											
Lupig BWS											
Maligaya BWS											
Mun. Water Sys.											
Old Marunca BWS											
San Pascual BWS											
San Pedro BWS											
Santan BWS											
Tagacay BWS											
Tominamos BWS											
Balaguti WSA											
Basud WSA											
Buнавista WSA											
Cabunga-an WSA											
Santo Niño											

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)

Sheet 6 of 6

Name of Municipality/City	Name of Operating Body	Billings				Revenues					
		Annual Billing (Number)	Public Faucet Consumers	House Connection Consumers	Expected Subsidies	Others	Annual Income (P '000.00 / year)	Payment by Public Faucet Consumers	Payment by House Connection Consumer	Subsidies	Other
Santo Nito	Corocawayan WSA										
	Ilijan WSA										
	Ilo WSA										
	Pinanangan WSA										
	Sevilla WSA										
	Takut WSA										
	Villahermosa WSA										
	Independencia BWSA										
	Malaguming BWSA										
	Mallorga BWSA										
Taalora	Placer BWSA										
	Poblacion I BWSA										
	Tatabunan BWSA										
	Balocawe WS										
	Baquiw WS										
	Luna WS										
	Maraluto WS										
	Nipa WS										
	Baras BWSA										
	Bisitahan BWSA										
Tagapul-an	Cabunga-an BWSA										
	Libucan Dacu BWSA										
	Majacob BWSA										
	San Vicente BWSA										
	Sugod BWSA										
	Banquil										
	Cambaguio										
	Malinoy										
	San Roque										
	Tayud/Central/Villarosa										
Villareal	Villarosa										

#### 4.1.5 Level I Facilities

##### Safe and Unsafe Classification of Level I Facilities

According to the 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 45% 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.

On the other hand, the PHO has been conducting water quality analysis on samples collected at public and private Level I wells and classified these into safe and unsafe sources/facilities. Table 4.3.1 presents the results of the water quality analysis on existing shallow wells (provincial total) in 1998. The breakdown on unsafe sources by municipality is not available.

**Table 4.1.3 Percentage of Unsafe Water Sources Based on the Survey by PHO**

No. of Level I Shallow Wells Sampled	No. of Unsafe Sources/Facilities	Percentage of Unsafe Sources
26	22	85%

The results of the bacteriological examination in the province indicated that 85 % of the shallow wells are under the classification of unsafe source. The high percentage of unsafe sources may imply the following conditions:

- The number of samples examined was very limited compared with the number of existing shallow wells (955) and water sampling by PHO is usually conducted where problems on water quality and/or incidence of water related diseases have been experienced.
- There are some cases that examination at the same Level I sources/facilities was conducted until the safety of the water was confirmed.
- Sources such as dug wells, which are defined as unsafe sources may be included in the above examination results.

Considering the above conditions, the unsafe percentage derived from the bacteriological examination may be overestimated.

As a reference information, the experiences in 1<sup>st</sup> and 2<sup>nd</sup> batch provinces in Mindanao area in the preparation of PW4SP show unsafe percentage of 20-50% as summarized below.

Surigao del Norte	Agusan del Norte	Agusan del Sur	Bukidnon	Misamis Oriental	Davao Oriental	Davao del Norte	Davao del Sur	Sarangani	South Cotabato
20%	50%	23%	50%	50%	40%	20%	46%	30%	50%

Based on the above study, the maximum percentage of 50% experienced in the 1<sup>st</sup> and 2<sup>nd</sup> batch study (10 provinces) may be adopted as an unsafe percentage to all municipalities both in urban and rural area in the unsafe classification of shallow wells. While, those sources other than shallow wells are processed as classified in the questionnaire. Table 4.1.4 (a) presents the 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 71% and 29% of the total number of Level I facility, respectively. Developed springs occupy 19% of the total number of public facilities.





Table 4.1.4(a) Number of Level I 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	Open Dug Well		Rain Water Collector	Sub-total	Total					
Pinabacdao	Urban	4	2			6														6	2			2	8	
	Rural	4	3		2	9															9	3			3	11
	Total	8	5		2	15															15	5			5	19
San Jorge	Urban																									
	Rural	20	1			21															21	1			1	21
	Total	20	1			21															21	1			1	22
San Jose De Buen	Urban																									
	Rural																									
	Total																									
San Sebastian	Urban	6	1	6		13															13	1			3	31
	Rural	6	1	6		13															13	1			3	41
	Total	12	2	12		26															26	2			6	71
Santa Magdalena	Urban	3	13	65	3	84	8														115	13			7	203
	Rural	7	5	5	17	34	5														49	6			2	94
	Total	10	18	70	20	108	13														164	19			9	197
Santa Rita	Urban	5	2	2	1	10															10	1			1	24
	Rural	28	5	10	12	55	3														60	4			4	130
	Total	33	7	12	13	65	4														70	5			9	154
Santo Niño	Urban	1	3	6		10															10	3			3	36
	Rural	1	3	6		10															10	3			3	28
	Total	2	6	12		20															20	6			6	44
Tagapul-an	Urban	2	11	4	4	17															22	7			7	29
	Rural	2	15	4	4	21															26	2			2	60
	Total	4	26	8	8	38															48	9			9	79
Talalora	Urban	2	2			4															4	2			2	9
	Rural	5	2	1		8															8	2			2	10
	Total	7	4	2		12															12	4			4	16
Tarangnan	Urban	6				6															6	3			3	35
	Rural	21	13	13	13	47															64	9			9	83
	Total	27	13	26	26	86															110	12			12	122
Villareal	Urban	1	2			3															3	2			2	5
	Rural	8	6			14															14	5			5	19
	Total	9	8			17															17	7			7	24
Zumarraga	Urban	6	1	1		8															8	1			1	11
	Rural	19	3	9	13	44															56	3			3	63
	Total	25	4	10	26	62															64	4			4	77
Provincial Total	Urban	101	68	82	16	267	57														331	66			67	492
	Rural	415	148	163	202	928	24														1,019	148			34	1,167
	Total	516	214	245	218	1,195	81														1,350	214			55	1,514

**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	415	95%	24	5%	439
Shallow Well	296	82%	67	18%	363
Spring Development	202	100%			202
Others	169	33%	343	67%	512
<b>Total</b>	<b>1,082</b>	<b>71%</b>	<b>434</b>	<b>29%</b>	<b>1,516</b>

#### 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 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. To come up with more realistic service coverage, the unserved population in 1997 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 the 1990 population census.
- 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. Tables 4.1.6 (a) and (b) presents the overall population covered by Level I facilities and the number of households.

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		%	
Almagro	Urban	321	4.94		222	222	65	33	51	99	
	Rural	10,503	5.02		1,908	1,908	1,982	233	12	1,235	7,360
	Total	10,824	5.02		2,130	2,130	2,047	266	13	1,334	7,360
Basey	Urban	11,078	4.90	3,957	589	4,546	2,174	289	13	1,473	5,059
	Rural	29,356	4.71	6,767	1,083	7,850	6,254	2,023	32	9,496	12,010
	Total	40,434	4.76	10,724	1,672	12,396	8,428	2,312	27	10,969	17,069
Calbayog City	Urban	73,851	5.16	39,358	1,729	41,087	11,238	499	4	3,279	29,485
	Rural	59,891	4.92	12,588	7,944	20,532	14,475	3,488	24	14,432	24,927
	Total	133,742	5.03	51,946	9,673	61,619	25,713	3,987	16	17,711	54,412
Calbiga	Urban	3,930	5.15	3,567		3,567	692	126	18	363	
	Rural	14,452	4.88	5,384		5,384	2,972	878	30	4,269	4,799
	Total	18,382	4.93	8,951		8,951	3,664	1,004	27	4,632	4,799
Catbalogan (Capital)	Urban	55,487	5.23	32,979	365	33,344	10,243	286	3	1,549	20,594
	Rural	22,753	5.16	2,588	1,033	3,621	4,411	2,003	45	10,332	8,800
	Total	78,240	5.21	35,567	1,398	36,965	14,654	2,289	16	11,881	29,394
Daram	Urban	11,066	5.62		1,434	1,434	1,829	87	5	526	9,106
	Rural	23,469	5.26		2,445	2,445	4,465	606	14	3,185	17,839
	Total	34,535	5.36		3,879	3,879	6,294	693	11	3,712	26,944
Gandara	Urban	5,303	5.24		210	210	874	266	30	1,614	3,479
	Rural	23,135	4.95				4,580	1,864	41	9,416	13,719
	Total	28,438	5.00		210	210	5,454	2,130	39	11,030	17,198
Hinabangan	Urban	5,216	5.60	4,799		4,799	861	70	8	417	
	Rural	7,015	5.58				1,313	488	37	2,607	4,408
	Total	12,231	5.59	4,799		4,799	2,174	558	26	3,024	4,408
Jiabong	Urban	3,944	5.64	3,634		3,634	644	145	23	310	
	Rural	12,435	5.36		1,526	1,526	2,209	1,014	46	5,708	5,201
	Total	16,379	5.43	3,634	1,526	5,160	2,853	1,159	41	6,018	5,201

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	Total No. of HHs	Unserved Percentage (1995)			
								No. of Unserved	%		
Marabut	Urban	1,309	4.88		171	171	268	62	23	303	835
	Rural	8,984	5.10		1,482	1,482	1,772	431	24	2,185	5,317
	Total	10,293	5.08		1,653	1,653	2,040	493	24	2,488	6,152
Manguinab	Urban	2,431	5.55		610	610	356	60	17	410	1,411
	Rural	3,228	5.43				595	419	70	2,273	955
	Total	5,659	5.47		610	610	951	479	50	2,683	2,366
Motiong	Urban	4,766	5.40		1,404	1,404	818	99	12	577	2,785
	Rural	8,759	5.21				1,681	691	41	3,601	5,158
	Total	13,525	5.27		1,404	1,404	2,499	790	32	4,177	7,944
Pagsanghan	Urban	1,124	5.00				182	14	8	86	1,038
	Rural	6,652	5.56				1,158	98	8	563	6,089
	Total	7,776	5.49				1,340	112	8	649	7,127
Paranas (Wright)	Urban	8,887	5.15	2,540	1,282	3,822	1,442	218	15	1,344	3,721
	Rural	15,850	5.18	370	2,116	2,486	3,247	1,528	47	7,459	5,905
	Total	24,737	5.17	2,910	3,398	6,308	4,689	1,746	37	8,802	9,627
Pinabacdao	Urban	1,154	5.37				210	30	14	165	989
	Rural	10,838	5.11				2,046	213	10	1,128	9,710
	Total	11,992	5.14				2,256	243	11	1,293	10,699
San Jorge	Urban	2,271	5.62		422	422	298	82	28	1,849	
	Rural	10,261	4.98		1,145	1,145	2,062	575	28	2,861	6,255
	Total	12,532	5.06		1,567	1,567	2,360	657	28	4,710	6,255
San Jose De Buan	Urban	2,130	4.79		479	479	392	95	24	516	1,135
	Rural	3,751	4.69				766	662	86	3,242	509
	Total	5,881	4.72		479	479	1,158	757	65	3,758	1,644
San Sebastian	Urban	1,947	5.38				325	47	14	282	1,665
	Rural	4,646	5.01				925	327	35	1,642	3,004
	Total	6,593	5.10				1,250	374	30	1,924	4,669

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 Total No. of HHs	Unserved Percentage (1995)	No. of Unserved		Unserved Population 1998
Santa Margarita	Urban	13,467	4.85				2,482	139	6	754	12,713
	Rural	6,421	5.06				1,407	975	69	4,450	1,971
	Total	19,888	4.92				3,889	1,114	29	5,204	14,684
Santa Rita	Urban	11,417	4.97		920		1,871	66	4	403	10,094
	Rural	18,733	5.14		667		3,819	462	12	2,266	15,800
	Total	30,150	5.08		1,587		5,690	528	9	2,669	25,894
Santo Niño	Urban	2,728	4.74		332		541	2	0	10	2,386
	Rural	10,366	4.95		917		2,060	17	1	86	9,363
	Total	13,094	4.91		1,249		2,601	19	1	96	11,749
Tagapul-An	Urban	1,493	4.33				255				1,493
	Rural	6,845	5.10		587		1,343				6,258
	Total	8,338	4.97		587		1,598				7,751
Talaora	Urban	2,165	5.00		75		427	1	0	5	2,085
	Rural	4,548	5.39		351		823	5	1	28	4,169
	Total	6,713	5.25		426		1,250	6	0	33	6,254
Tarangnan	Urban	3,258	5.07				603	34	6	184	3,074
	Rural	16,481	5.09		458		3,091	241	8	1,285	14,758
	Total	19,739	5.09		458		3,694	275	7	1,469	17,812
Villareal	Urban	3,436	5.34		160		634	6	1	33	3,243
	Rural	19,141	5.28		238		3,598	42	1	223	18,680
	Total	22,577	5.29		398		4,232	48	1	256	21,923
Zumarraga	Urban	1,265	5.39				232	53	23	289	976
	Rural	13,627	5.34				2,483	370	15	2,031	11,596
	Total	14,892	5.34				2,715	423	16	2,320	12,572
Provincial Total	Urban	235,444	5.17	90,834	10,404	101,238	39,956	2,809	7	16,839	117,367
	Rural	372,140	5.07	27,697	23,900	51,597	75,537	19,653	26	96,002	224,541
	Total	607,584	5.10	118,531	34,304	152,835	115,493	22,462	19	112,841	341,908



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										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				
			Safe	Unsafe	Total	Safe	Unsafe	Total	Safe	Unsafe	Total	Safe	Unsafe	Total				
Motions	Urban	2,785	9	1	9	3	3	6	2	2	3	8	8	16				
	Rural	5,158	28	1	29													
	Total	7,944	37	2	38	3	3	6	2	2	3	8	8	16				
Pagsanghan	Urban	1,038	3	2	4													
	Rural	6,089	27	16	42	5	5	5	3	3	3	13	13	13				
	Total	7,127	29	17	46	5	5	5	3	3	3	13	13	13				
Paranas (Wright)	Urban	3,721	6	1	7	3	3	11	14	2	6	7	8	28				
	Rural	5,905	28	1	29													
	Total	9,627	34	2	36	3	3	11	14	2	6	7	8	28				
Pinabacdao	Urban	989	6	2	8													
	Rural	9,710	9	3	11													
	Total	10,699	15	5	19													
San Jorge	Urban																	
	Rural	6,255	21	1	21													
	Total	6,255	21	1	21													
San Jose De Buan	Urban	1,135	1		1													
	Rural	509	9		9													
	Total	1,644	10		10													
San Sebastian	Urban	1,665				1	3	4	1	2	2	3	8	11				
	Rural	3,004	13	1	13	3	3	3										
	Total	4,669	13	1	13	1	6	7	1	3	4	3	16	19				
Santa Margarita	Urban	12,713	84	13	96	31	7	38	16	4	19	75	17	92				
	Rural	1,971	17	9	25	5	5	5	3	3	3	12	12	12				
	Total	14,684	100	21	121	36	7	43	18	4	22	87	17	104				
Santa Rita	Urban	10,094	8	1	9	7	9	15	3	4	8	16	21	37				
	Rural	15,800	55	5	60	18	53	70	9	26	35	43	130	174				
	Total	25,894	63	6	69	24	61	85	12	31	43	60	152	211				
Santo Niño	Urban	2,386	1	1	1	3	3	3	2	2	2	2	7	7				
	Rural	9,363	10	3	12	5	22	26	2	11	13	11	51	62				
	Total	11,749	10	3	13	5	25	29	2	12	15	11	58	69				
Tagapul-An	Urban	1,493	4	4	4	3	10	13	2	5	7	6	22	28				
	Rural	6,258	17	2	18	7	18	25	4	9	13	15	39	54				
	Total	7,751	21	2	22	10	28	38	5	14	19	22	61	82				

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						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
Taalora	Urban	2,085	4	2	6	7	7	13	3	3	7	16	16	33
	Rural	4,169	8	2	9	7	7	13	3	3	7	16	16	33
	Total	6,254	12	4	15	14	14	26	6	6	12	32	32	66
Tarangnan	Urban	3,074	9	9	17	33	33	66	17	17	33	84	84	167
	Rural	14,738	47	21	68	10	7	17	5	4	9	25	18	43
	Total	17,812	56	30	85	43	40	83	22	20	42	109	101	210
Villares	Urban	3,243	4	2	6	10	33	42	5	16	21	25	87	112
	Rural	18,680	20	6	26	1	187	187	0	93	94	1	498	499
	Total	21,923	24	8	32	10	219	229	5	110	115	27	585	611
Zumarraga	Urban	976	8	1	8	18	2	19	9	1	10	47	4	51
	Rural	11,596	44	3	46	2	2	4	1	1	2	5	5	11
	Total	12,572	51	3	54	20	4	23	10	2	12	53	9	62
Provincial Total	Urban	117,367	285	67	352	331	309	640	166	155	320	849	796	1,645
	Rural	224,541	930	152	1,082	89	346	434	44	173	217	220	899	1,119
	Total	341,908	1,215	219	1,434	420	655	1,074	210	327	537	1,070	1,695	2,764





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 and Public			Number of Households			No. of HHs per Shared Facility	Safe		Unsafe		Total	
		Safe	Unsafe	Total	Safe	Unsafe	Total		Pop.	%	Pop.	%		Pop.
Matuguiniao	Urban	1,411		1,411	254		254	254	1,411	58			1,411	58
	Rural	955		955	176		176	176	955	30			955	30
	Total	2,366		2,366	430		430	215	2,366	42			2,366	42
Moriang	Urban	2,321	448	2,769	430	83	513	43	2,329	49	456	10	2,785	58
	Rural	4,981	178	5,158	956	34	990	34	4,981	57	178	2	5,158	59
	Total	7,302	626	7,927	1,386	117	1,503	37	7,310	54	634	5	7,944	59
Pagsanghan	Urban	648	389	1,038	130	78	208	52	648	58	389	35	1,038	92
	Rural	3,968	2,108	6,077	714	379	1,093	25	3,981	60	2,108	32	6,089	92
	Total	4,617	2,497	7,114	843	457	1,300	27	4,629	60	2,497	32	7,127	92
Paranas (Wright)	Urban	1,994	1,692	3,685	387	329	716	51	2,001	23	1,720	19	3,721	42
	Rural	5,702	204	5,905	1,101	39	1,140	39	5,702	36	204	1	5,905	37
	Total	7,695	1,895	9,591	1,488	368	1,856	43	7,703	31	1,924	8	9,627	39
P. Inabacdao	Urban	742	247	989	138	46	184	23	742	64	247	21	989	86
	Rural	7,503	2,207	9,710	1,468	432	1,900	173	7,503	69	2,207	20	9,710	90
	Total	8,245	2,454	10,699	1,606	478	2,084	110	8,245	69	2,454	20	10,699	89
San Jorge	Urban	6,106	149	6,255	1,226	30	1,256	60	6,106	60	149	1	6,255	61
	Rural	6,106	149	6,255	1,226	30	1,256	60	6,106	49	149	1	6,255	50
	Total	1,135		1,135	237		237	237	1,135	53			1,135	53
San Jose De Buan	Urban	509		509	109		109	12	509	14			509	14
	Rural	1,644		1,644	345		345	35	1,644	28			1,644	28
	Total	416	1,238	1,655	77	230	308	154	419	22	1,246	64	1,665	86
San Sebastian	Urban	2,589	406	2,996	517	81	598	41	2,589	56	414	9	3,004	65
	Rural	3,006	1,645	4,650	594	311	905	55	3,008	46	1,661	25	4,669	71
	Total	10,944	1,677	12,621	2,257	346	2,602	23	11,019	82	1,694	13	12,713	94
Santa Margarita	Urban	1,362	597	1,959	269	118	387	14	1,374	21	597	9	1,971	31
	Rural	12,306	2,274	14,580	2,526	464	2,989	21	12,393	62	2,291	12	14,684	74
	Total	6,882	3,175	10,057	1,385	639	2,024	123	6,899	60	3,196	28	10,094	88
Santa Rita	Urban	10,602	5,023	15,626	2,063	977	3,040	32	10,646	57	5,154	28	15,800	84
	Rural	17,485	8,193	25,678	3,448	1,616	5,064	45	17,545	58	8,349	28	25,894	86
	Total													

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 and Public			Number of Households			No. of HHs per Shared Facility		Safe		Unsafe		Total	
		Safe	Unsafe	Total	Safe	Unsafe	Total	Facility	%	Pop.	%	Pop.	%	Pop.	%
Santo Niño	Urban	477	1,902	2,379	101	401	502	201	477	17	1,909	70	2,386	87	
	Rural	4,401	4,901	9,302	889	990	1,879	75	4,411	43	4,952	48	9,363	90	
	Total	4,878	6,803	11,681	990	1,391	2,381	87	4,889	37	6,861	52	11,749	90	
Tagapul-An	Urban	782	683	1,465	181	158	338	32	789	53	704	47	1,493	100	
	Rural	4,104	2,100	6,204	805	412	1,216	40	4,119	60	2,139	31	6,258	91	
	Total	4,886	2,783	7,669	985	570	1,555	38	4,907	59	2,844	34	7,751	93	
Taalora	Urban	1,209	843	2,052	242	169	410	33	1,226	57	859	40	2,085	96	
	Rural	3,474	695	4,169	645	129	774	86	3,474	76	695	15	4,169	92	
	Total	4,684	1,538	6,222	886	298	1,184	55	4,700	70	1,554	23	6,254	93	
Taranigan	Urban	1,537	1,370	2,907	303	270	573	11	1,621	50	1,453	45	3,074	94	
	Rural	10,018	4,677	14,695	1,968	919	2,887	38	10,043	61	4,695	28	14,738	89	
	Total	11,555	6,047	17,602	2,271	1,189	3,460	27	11,664	59	6,148	31	17,812	90	
Villareal	Urban	1,051	2,080	3,131	197	390	586	22	1,076	31	2,167	63	3,243	94	
	Rural	3,165	15,015	18,180	600	2,844	3,443	29	3,167	17	15,513	81	18,680	98	
	Total	4,216	17,095	21,312	796	3,233	4,030	28	4,243	19	17,680	78	21,923	97	
Zumarraga	Urban	906	19	925	168	3	172	10	953	75	23	2	976	77	
	Rural	10,751	835	11,586	2,013	156	2,170	45	10,756	79	840	6	11,596	85	
	Total	11,657	853	12,510	2,181	160	2,341	36	11,710	79	863	6	12,572	84	
Provincial Total	Urban	77,515	38,207	115,722	15,127	7,436	22,563	34	78,364	33	39,003	17	117,367	50	
	Rural	169,080	54,342	223,422	33,158	10,589	43,747	34	169,300	45	55,241	15	224,541	60	
	Total	246,595	92,549	339,144	48,285	18,025	66,309	34	247,664	41	94,243	16	341,908	56	

The number of households per shared public/private facility is estimated at 34 households in urban area and 47 in rural area as provincial averages. Compared with the service level standard of Level I public facility (15 households/facility), these figures are considered rather high. In particular, those figures in the municipalities of Gandara, Hinabangan, Jiabong, Marabut, Matuguinao, Paranas, Pinabacdao, San Jorge, San Jose De Buan, San Sebastian, Santo Nino and Talalora are considered quite large. This reason seems to arise from a considerable 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 Level I 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 246,500 persons or more than 95% of the population served by Level I water supply are covered by public facilities.

4.2 Sanitation and Sewerage

4.2.2 Types of Facilities and Definition of Service Level Standard

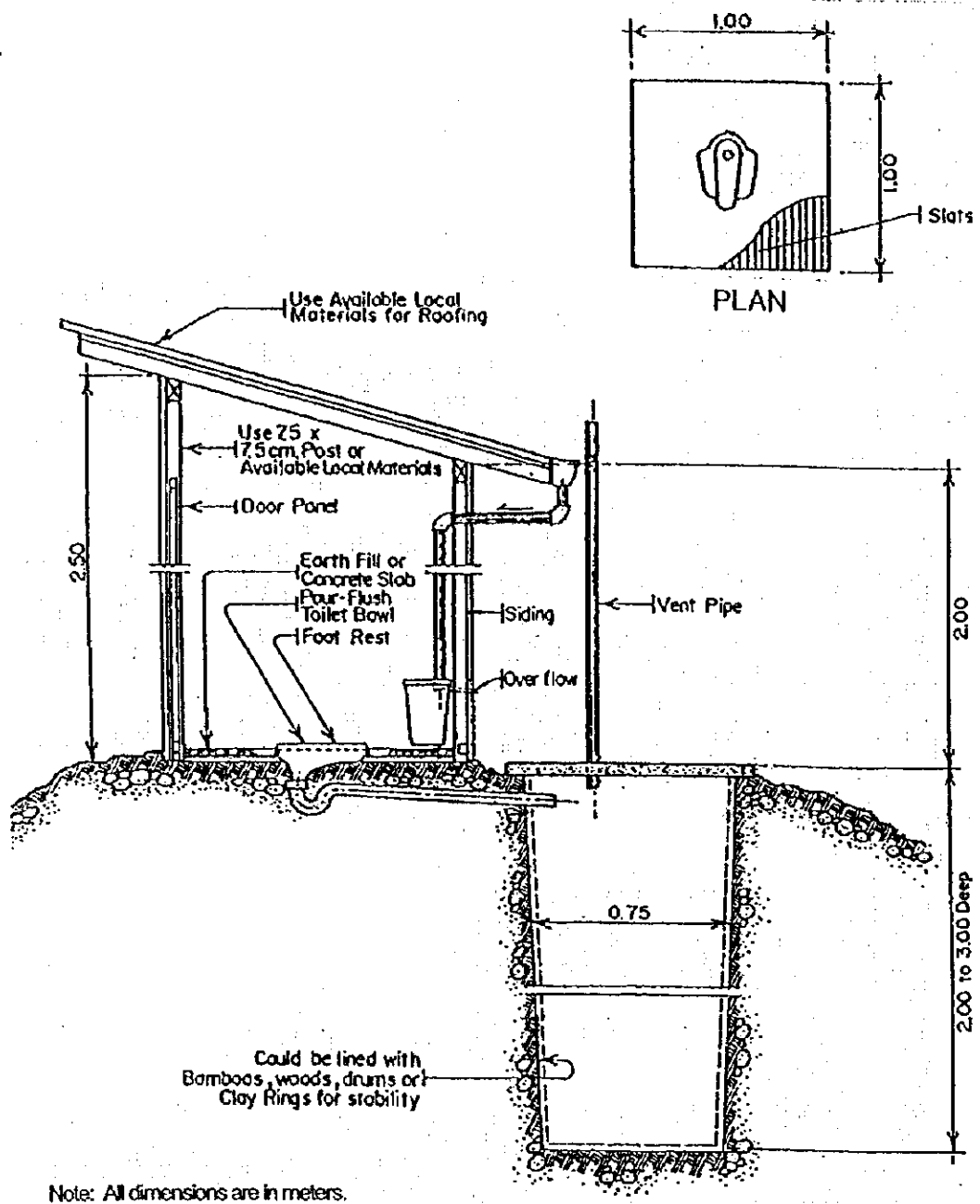
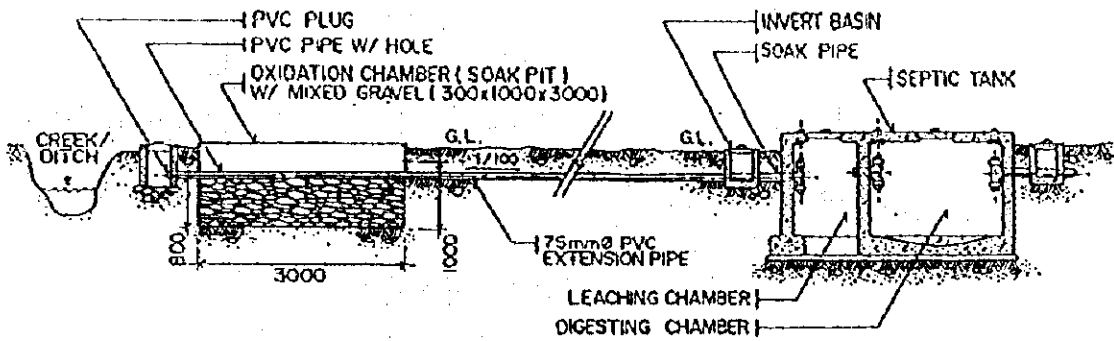


FIGURE 4.2.1  
STANDARD STRUCTURE OF PRIVATE TOILET FACILITY

Source: Department of Health



LAYOUT PLAN OF HIGH GROUND WATER SITE

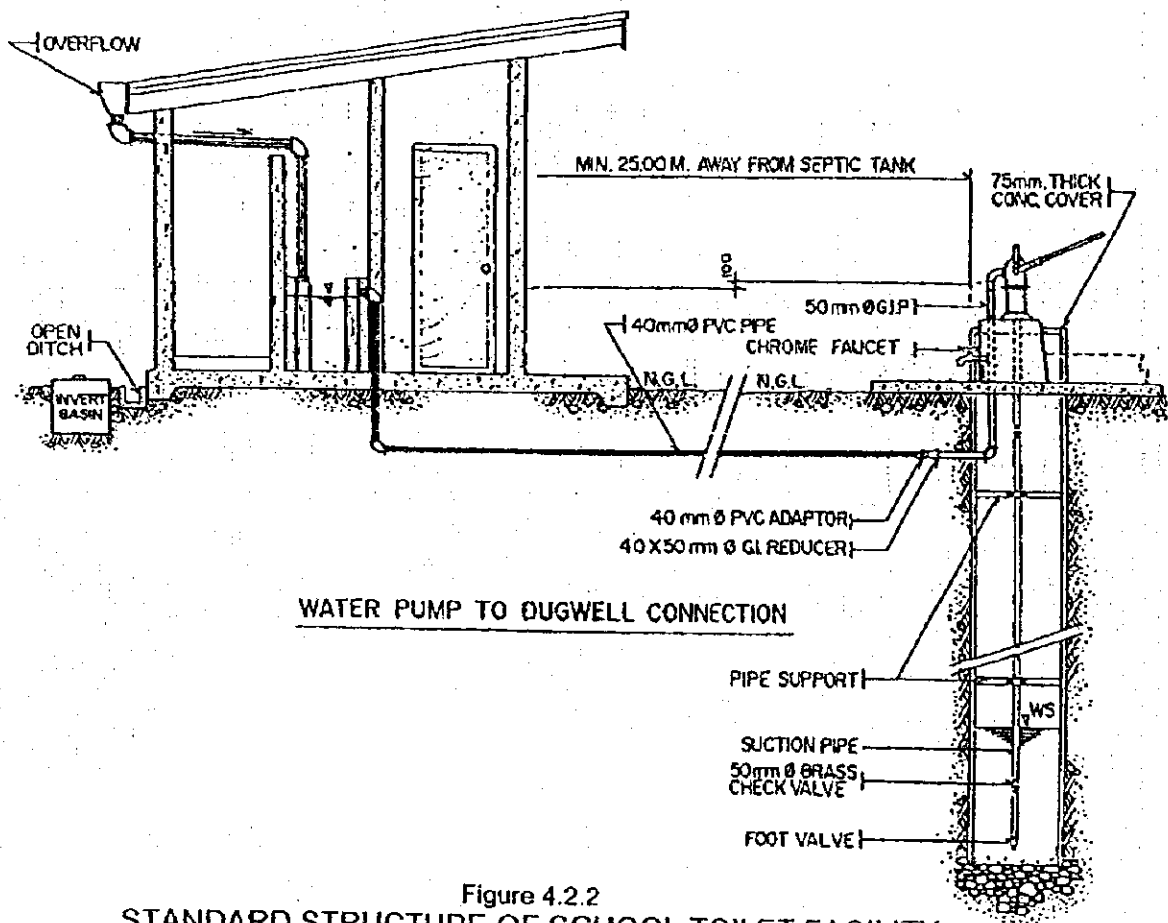
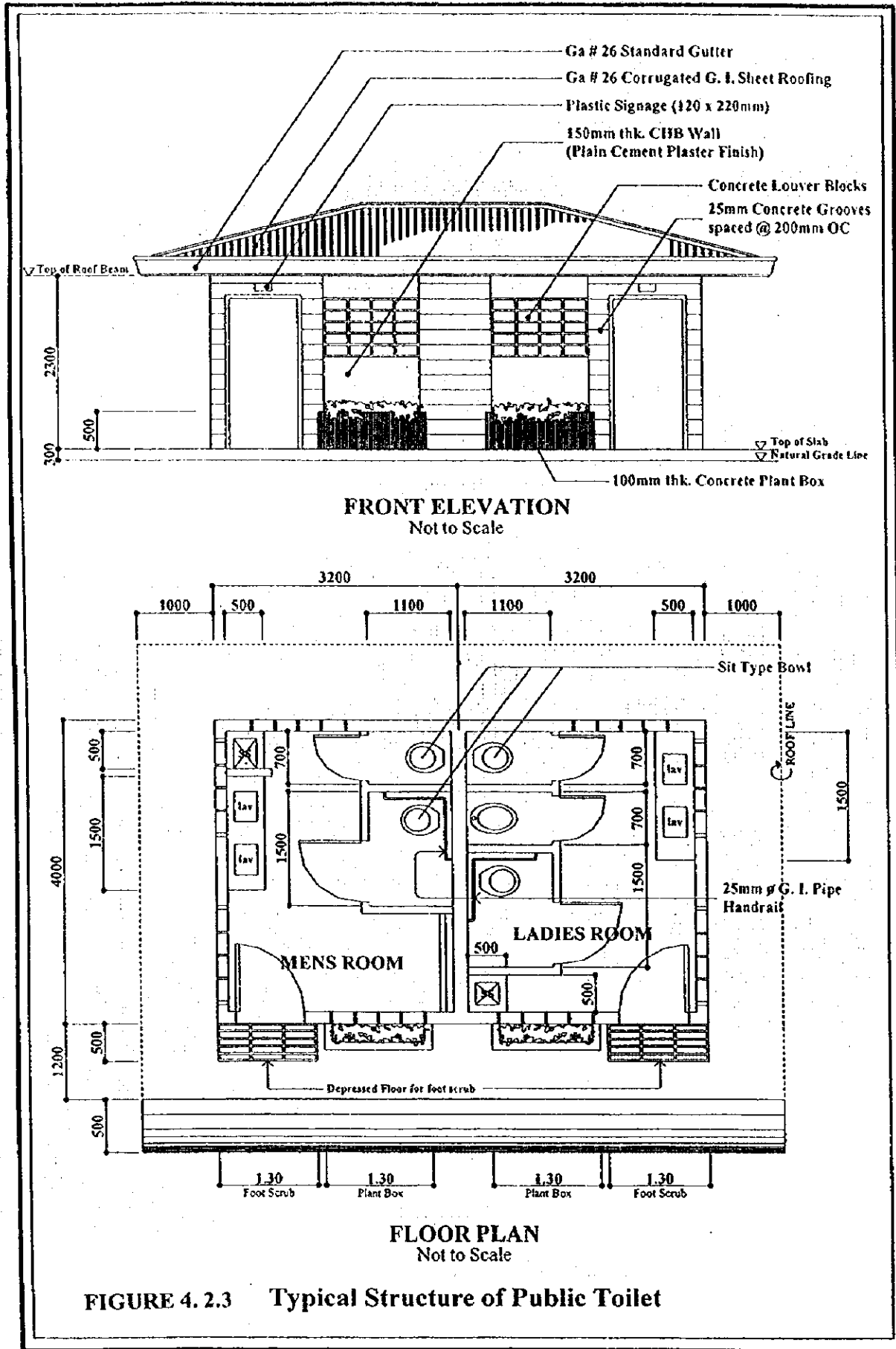


Figure 4.2.2  
STANDARD STRUCTURE OF SCHOOL TOILET FACILITY

SOURCE: JICA - DPWH RURAL ENVIRONMENTAL SANITATION PROJECT



**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/Unservd Hhls			
			Flush Toilet		Pour Flush		VIP/Dry		Total		Unsanitary		No Facility	
			Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Almagro	Urban	65			25	38	2	3	27	42	20	31	18	28
	Rural	2,092			439	21	209	10	648	31	628	30	816	39
	Total	2,157			464	22	211	10	675	31	648	30	834	39
Bacay	Urban	2,261	90	4	791	35	68	3	949	42	678	30	634	28
	Rural	6,233			1,309	21	623	10	1,932	31	1,870	30	2,431	39
	Total	8,494	90	4	2,100	25	691	8	2,881	34	2,548	30	3,065	36
Calbayog City	Urban	14,312	572	4	5,009	35	429	3	6,010	42	4,294	30	4,008	28
	Rural	12,173			2,556	21	1,217	10	3,773	31	3,652	30	4,748	39
	Total	26,485	572	2	7,565	29	1,646	6	9,783	37	7,946	30	8,756	33
Calbiga	Urban	763	31	4	267	35	23	3	321	42	229	30	213	28
	Rural	2,961			622	21	296	10	918	31	888	30	1,155	39
	Total	3,724	31	4	889	24	319	9	1,239	33	1,117	30	1,368	37
Carabalogan (Capital)	Urban	10,609	424	4	3,713	35	318	3	4,455	42	3,183	30	2,971	28
	Rural	4,409			926	21	441	10	1,367	31	1,323	30	1,719	39
	Total	15,018	424	3	4,639	31	759	5	5,822	39	4,506	30	4,690	31
Duram	Urban	1,969			768	39	59	3	827	42	591	30	551	28
	Rural	4,462			937	21	446	10	1,383	31	1,339	30	1,740	39
	Total	6,431			1,705	27	505	8	2,210	34	1,930	30	2,291	36
Gandara	Urban	1,012			395	39	30	3	425	42	304	30	283	28
	Rural	4,674			982	21	467	10	1,449	31	1,402	30	1,823	39
	Total	5,686			1,377	24	497	9	1,874	33	1,706	30	2,106	37
Hinabangan	Urban	931	37	4	326	35	28	3	391	42	279	30	261	28
	Rural	1,257			264	21	126	10	390	31	377	30	490	39
	Total	2,188	37	2	590	27	154	7	781	36	656	30	751	34
Jiabong	Urban	699	28	4	245	35	21	3	294	42	210	30	195	28
	Rural	2,320			487	21	232	10	719	31	696	30	905	39
	Total	3,019	28	1	732	24	253	8	1,013	34	906	30	1,100	36
Marabut	Urban	268			105	39	8	3	113	42	80	30	75	28
	Rural	1,762			370	21	176	10	546	31	529	30	687	39
	Total	2,030			475	23	184	9	659	32	609	30	762	38
Matuguino	Urban	438			171	39	13	3	184	42	131	30	123	28
	Rural	594			125	21	59	10	184	31	178	30	232	39
	Total	1,032			296	29	72	7	368	36	309	30	355	34
Motiong	Urban	883			344	39	26	3	370	42	265	30	248	28
	Rural	1,681			353	21	168	10	521	31	504	30	656	39
	Total	2,564			697	27	194	8	891	35	769	30	904	35
Pagsanghan	Urban	225			88	39	7	3	95	42	68	30	62	28
	Rural	1,196			251	21	120	10	371	31	359	30	466	39
	Total	1,421			339	24	127	9	466	33	427	30	528	37
Paranas (Wright)	Urban	1,726	69	4	604	35	52	3	725	42	518	30	483	28
	Rural	3,060			643	21	306	10	949	31	918	30	1,193	39
	Total	4,786	69	1	1,247	26	358	7	1,674	35	1,436	30	1,676	35
Pinabacdao	Urban	215			84	39	6	3	90	42	65	30	60	28
	Rural	2,121			445	21	212	10	657	31	636	30	828	39
	Total	2,336			529	23	218	9	747	32	701	30	888	38
San Jorge	Urban	404			158	39	12	3	170	42	121	30	113	28
	Rural	2,060			433	21	206	10	639	31	618	30	803	39
	Total	2,464			591	24	218	9	809	33	739	30	916	37
San Jose De Buan	Urban	445			174	39	13	3	187	42	134	30	124	28
	Rural	800			168	21	80	10	248	31	240	30	312	39
	Total	1,245			342	27	93	7	435	35	374	30	436	35
San Sebastian	Urban	362			144	39	11	3	152	42	109	30	101	28
	Rural	927			195	21	93	10	288	31	278	30	361	39
	Total	1,289			336	26	104	8	440	34	387	30	462	36
Santa Margarita	Urban	2,777			1,083	39	83	3	1,166	42	833	30	778	28
	Rural	1,269			266	21	127	10	393	31	381	30	495	39
	Total	4,046			1,349	33	210	5	1,559	39	1,214	30	1,273	31
Santa Rita	Urban	2,297			896	39	69	3	965	42	689	30	643	28
	Rural	3,645			765	21	365	10	1,130	31	1,094	30	1,421	39
	Total	5,942			1,661	28	434	7	2,095	35	1,783	30	2,064	35
Santo Niño	Urban	576			225	39	17	3	242	42	173	30	161	28
	Rural	2,094			440	21	209	10	649	31	628	30	817	39
	Total	2,670			665	25	226	8	891	33	801	30	978	37
Tagapul-An	Urban	345			135	39	10	3	145	42	104	30	96	28
	Rural	1,342			282	21	134	10	416	31	403	30	523	39
	Total	1,687			417	25	144	9	561	33	507	30	619	37
Talaora	Urban	433			169	39	13	3	182	42	130	30	121	28
	Rural	844			177	21	84	10	261	31	253	30	330	39
	Total	1,277			346	27	97	8	443	35	383	30	451	35
Tarangnan	Urban	643			251	39	19	3	270	42	193	30	180	28
	Rural	3,238			680	21	324	10	1,004	31	971	30	1,263	39
	Total	3,881			931	24	343	9	1,274	33	1,164	30	1,443	37
Villareal	Urban	643			251	39	19	3	270	42	193	30	180	28
	Rural	3,625			761	21	363	10	1,124	31	1,088	30	1,413	39
	Total	4,268			1,012	24	382	9	1,394	33	1,281	30	1,593	37
Zuniarraga	Urban	235			92	39	7	3	99	42	71	30	65	28
	Rural	2,552			536	21	255	10	791	31	766	30	995	39
	Total	2,787			628	23	262	9	890	32	837	30	1,060	38
Provincial Total	Urban	45,536	1,251	3	16,510	36	1,363	3	19,124	42	13,665	30	12,347	28
	Rural	73,391			15,412	21	7,338	10	22,750	31	22,019	30	28,622	39
	Total	118,927	1,251	1	31,922	27	8,701	7	41,874	35	35,684	30	41,369	35



**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
Almagro	Public	17	2,110	34		34
	Private					
	Total	17	2,110	34		34
Basey	Public	58	9,582	90		90
	Private					
	Total	58	9,582	90		90
Calbayog City	Public	163	29,438	41	6	47
	Private	2	2,847	47		47
	Total	165	32,285	88	6	94
Calbiga	Public	36	4,459	82		82
	Private					
	Total	36	4,459	82		82
Catbalogan (Capital)	Public	52	19,431	197		197
	Private	6	282	20		20
	Total	58	19,713	217		217
Daram	Public	60	7,081	114		114
	Private					
	Total	60	7,081	114		114
Gandara	Public	59	5,698	96		96
	Private	1	215	7		7
	Total	60	5,913	103		103
Hinabangan	Public	19	3,080	38		38
	Private					
	Total	19	3,080	38		38
Jiabong	Public	27	3,005	56		56
	Private					
	Total	27	3,005	56		56
Marabut	Public	15	2,710	26		26
	Private					
	Total	15	2,710	26		26
Matuguinao	Public	6	736	14		14
	Private					
	Total	6	736	14		14
Motionsg	Public	31	3,211	64		64
	Private					
	Total	31	3,211	64		64
Pagsanghan	Public	10	1,670	24		24
	Private					
	Total	10	1,670	24		24

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
Paranas (Wright)	Public	44	6,812	90		90
	Private					
	Total	44	6,812	90		90
Pinabacdao	Public	25	2,896	46		46
	Private					
	Total	25	2,896	46		46
San Jorge	Public	32	2,183	30		30
	Private					
	Total	32	2,183	30		30
San Jose De Buan	Public	15	918	32		32
	Private					
	Total	15	918	32		32
San Sebastian	Public	10	1,496	18		18
	Private					
	Total	10	1,496	18		18
Santa Margarita	Public	37	3,738	69		69
	Private					
	Total	37	3,738	69		69
Santa Rita	Public	46	5,670	90		90
	Private					
	Total	46	5,670	90		90
Santo Niño	Public	16	2,850	30		30
	Private					
	Total	16	2,850	30		30
Tagapul-An	Public	16	1,806	28		28
	Private					
	Total	16	1,806	28		28
Taalora	Public	11	1,684	20		20
	Private					
	Total	11	1,684	20		20
Tarangnan	Public	36	4,137	76		76
	Private					
	Total	36	4,137	76		76
Villareal	Public	37	5,954	66		66
	Private	1	229			
	Total	38	6,183	66		66
Zumarraga	Public	22	2,792	44		44
	Private	1	310	8		8
	Total	23	3,102	52		52
<b>Provincial Total</b>	Public	909	135,147	1,515	6	1,521
	Private	11	3,883	82		82
	Total	911	139,030	1,597	6	1,603

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	
Almagro										
Basey										
Calbayog City	1		1	8		8	3		3	12
Calbiga										
Catbalogan (Capital)							1		1	1
Daram										
Gandara	1		1							1
Hinabangan										
Jiabong										
Marabut										
Matuguiniao										
Motiong										
Pagsanghan										
Paranas (Wright)										
Pinacdao										
San Jorge										
San Jose De Buan										
San Sebastian										
Santa Margarita										
Santa Rita										
Santo Niño										
Tagapul-An										
Talalora										
Tarangnan										
Villareal										
Zumarraga										
<b>Provincial Total</b>	<b>2</b>		<b>2</b>	<b>8</b>		<b>8</b>	<b>4</b>		<b>4</b>	<b>14</b>

5. EXISTING SECTOR ARRANGEMENT AND INSTITUTIONAL CAPACITY

5.5 Sector Agencies at the Local Level

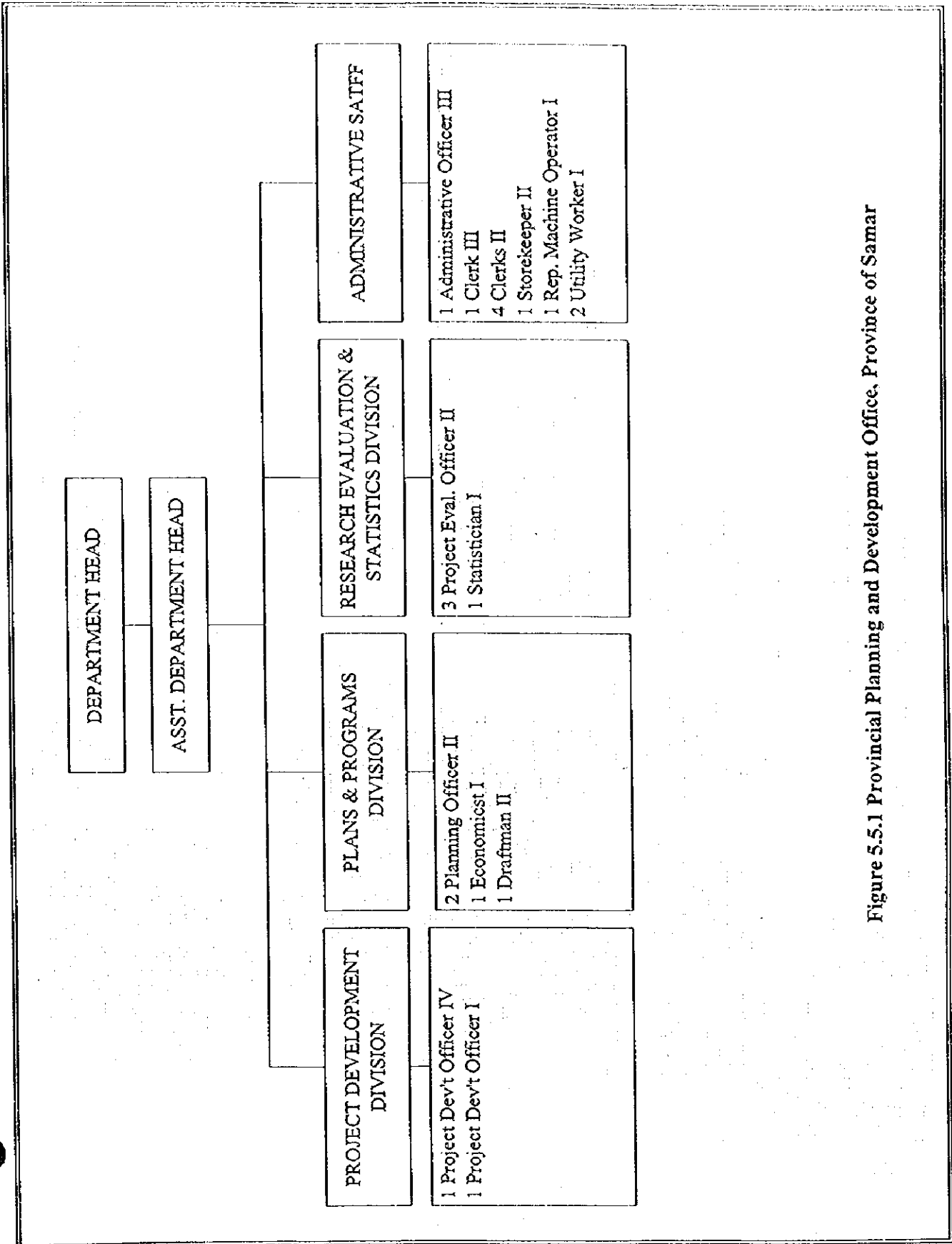


Figure 5.5.1 Provincial Planning and Development Office, Province of Samar

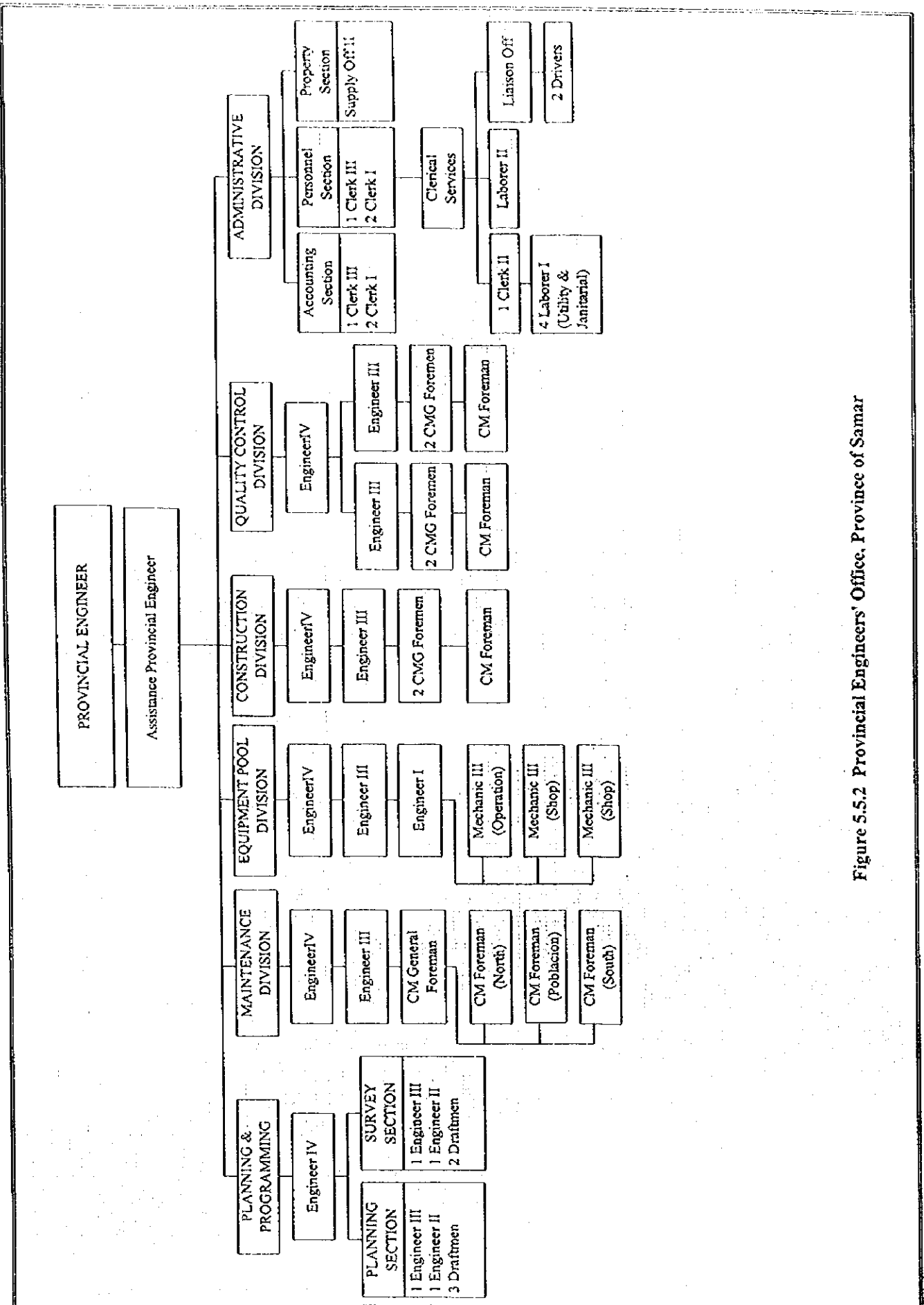


Figure 5.5.2 Provincial Engineers' Office, Province of Samar

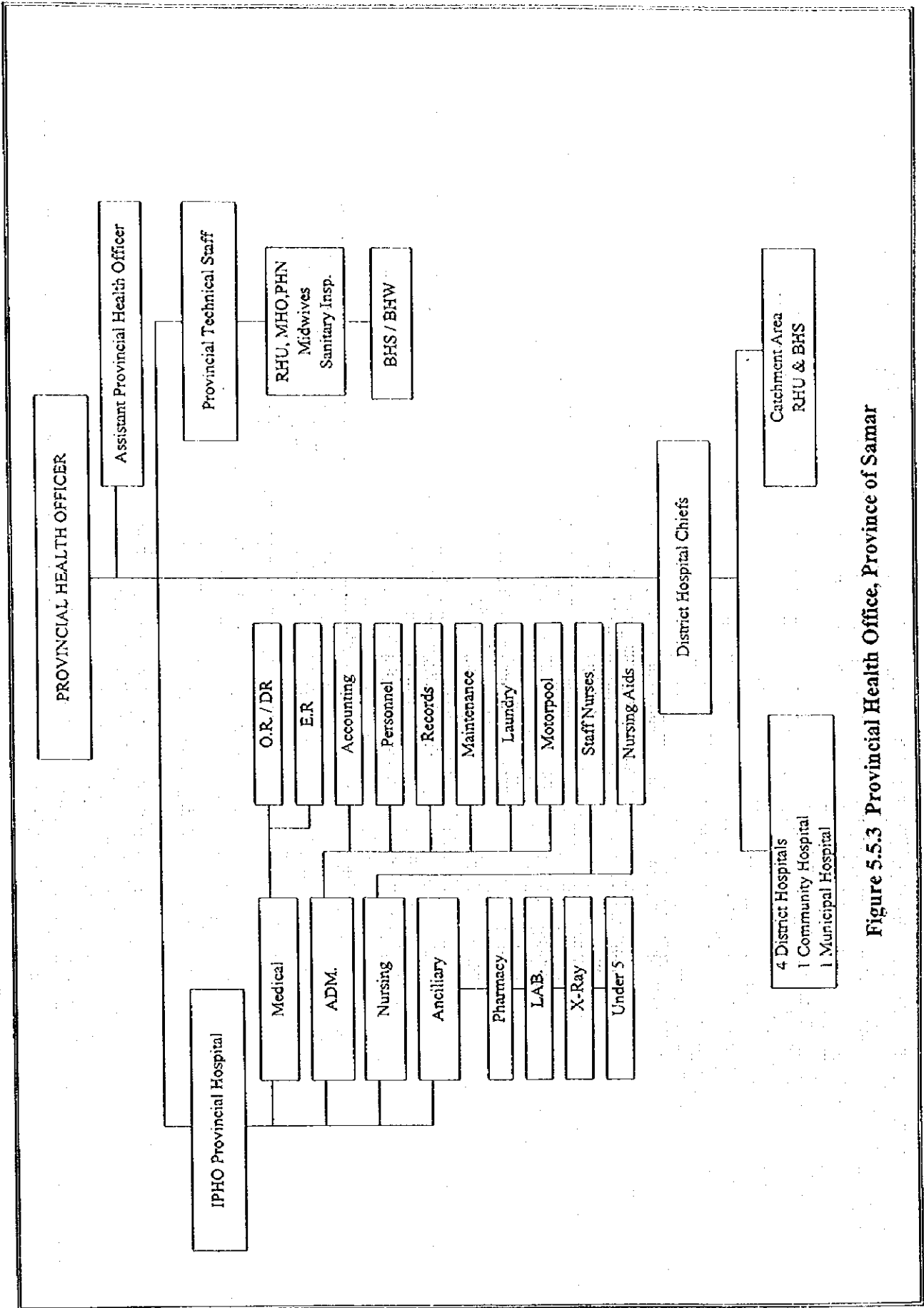


Figure 5.5.3 Provincial Health Office, Province of Samar

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
OECD	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. Environmental projects. Interest free.	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 (steel, cattle, drilling).	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.

**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 (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.
UNICEF	Providing grant aids for technical assistance. Priority areas: 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.	AWSOP 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, LGU-Urban Water and Sanitation Project.



## (1) Foreign Agencies

The World Bank supported the *First Water Supply, Sewerage and Sanitation Sector Project* or *FW4SP*. This project provided capital funds (US\$58.0M) for rural water supply system in Luzon provinces and sanitation system nationwide based on completed provincial master plans. The project concept called for a community-based approach through BWSAs. The project was implemented from 1991 to 1995 with an extension up to 1997. Subsequently, the Capacity Enhancement Program (CEP) with DILG as implementing agency was conducted until the end of 1997.

In addition, the World Bank prepared a new loan for DILG implementation - the *Local Government Unit Urban Water Supply & Sanitation Project (LGUWSSP)*. This project aims to support the water supply requirement in the urban centers of approximately 250 small and medium-sized municipalities nationwide, benefitting about 6 million people. The project consists of three components, namely: i) Water and Sanitation Facilities Component, ii) Institutional Development Component and iii) Technical Assistance Component. The project is to be implemented from 1999 to 2006 in three phases, and estimated cost is US\$ 250 M. More information on this project is attached on the following pages.

UNDP assists the *Institution Building for Decentralized Implementation of Community-Managed Water Supply and Sanitation Project* or *IBWSSP* known as *UNDP PHI/93/010* Project under the Fifth Country Program (1994-1997). This project directly responds to the government's Poverty Alleviation Program. UNDP provides assistance in strengthening the institution involved in the delivery of water supply and sanitation services with emphasis on support to local government units, NGOs, and communities through the BWSAs. The project will complement earlier efforts by UNDP (through the UNDP/ World Bank Water and Sanitation Program) to promote appropriate cost effective technologies in water and sanitation and to improve the training capacity of the sector. The project covered seven (7) provinces; 180 sub-projects were implemented in the objective areas during implementation period 1994-1997.

The United Nations Children's Fund (UNICEF) supports the sector through the Philippines Plan of Action for Children. Apart from hardware support in the priority project site, UNICEF assisted NEDA in updating the national master plan. UNICEF works through the inter-agency committee on environmental health and through NGOs. With the World Health Organization (WHO), UNICEF has been assisting in the preparation of Information, Education and Communication (IEC) materials and in strengthening the sector monitoring system. As part of these various

assistance, UNICEF supported NEDA in 1997 for the assessment of WATSAN Sector of Eastern Visayas (Region VIII) and Southern Mindanao (This was compelled by the sudden and unexpected occurrence of water-borne epidemics that hit Region XI).

Asian Development Bank (ADB) support the *Rural Water Supply & Sanitation Sector Project (RW3SP)* through sector lending approach for the 20 prospect provinces of the country. The project area covers about 3,000 rural communities with population ranging from 200 to 5,000 persons in provinces located in Luzon, Visayas (Biliran, Eastern Samar and Southern Leyte included from Region VIII) and Minadanao. RW3SP will: i) provide capacity-building to local government units (LGUs) to enhance the delivery of social services, ii) improve social infrastructure for basic needs such as water supply and sanitation, and iii) reduce poverty incidence. The project also includes: i) comprehensive institutional capacity-building, ii) community development program, iii) point source water supply systems, and iv) public and household latrine facilities. This will be implemented from 1995 – 2000. More information on this project is attached on the following pages.

The Japan International Cooperation Agency (JICA) has been extending a grant aid program for the *Rural Environmental Sanitation Project* which is/was jointly implemented by DPWH and DOH. The project covered construction of Level I and II rural water systems and school toilet facilities in ten- (10) provinces. With DPWH, rural water supply systems were constructed at the evacuation centers for the Pinatubo refugees. JICA also supported the ground water development study in Cavite province (with LWUA) and the institutional development activities for MWSS. The *PW4SPs* for the nine (9) provinces in Luzon area were completed through previous technical cooperation.

The Overseas Economic Cooperation Fund (OECF) provided financial assistance for the *RWS IV Project*. It provided a loan of up to Y 5.08B, with a counterpart fund of P 400M. The project covered construction/rehabilitation of Level I systems, construction of workshop building and procurement of various equipment. OECF has also been supporting the *Provincial Cites Water Supply Project* of LWUA and the *Angat Water Supply Optimization Project* of MWSS.

DILG requested OECF last year to provide a loan for the *Water Supply and Sanitation Project* or *WSSP* for the 6 provinces (based on JICA assisted *PW4SPs*). The project will achieve additional service coverage both for water supply and sanitation as follows: 549,100 persons with water supply, 9,579 households provided with latrines, 18,750 students with 375 school toilets and 72 public toilets.

The *Barangay Water Program (BWP)* was a special project being implemented by the then Ministry of Local Government (now DILG) with financial assistance from the USAID. The program envisions to alleviate the health standards of small rural farming and fishing communities by providing safe, adequate and potable water through the establishment of public faucets or individual house connections. The systems for these communities should be owned, operated, maintained and managed by the users themselves through rural waterworks and sanitation associations. The program also intended to enhance the capabilities of local government units in project planning, programming, designing, implementation, evaluation and monitoring. Phase I of the BWP was implemented in the period 1978 – 1981; Phase II started in 1982 and was extended until December 1987. Phase II operations officially ended in December 1987, but a one-year winding-up period was agreed upon between the GOP and USAID. USAID extended loans to cover the construction costs and the installation of facilities on a reimbursement basis while the GOP through DILG shouldered the operational, training and personnel costs. Through BWP, waterworks projects were implemented in 50 provinces, 22 cities and 7 municipalities.

The Australian International Development Assistance Bureau (AIDAB) supported the *Central Visayas Water and Sanitation Project* through a \$ 14.65M grant. The project was implemented by the LGUs and the Regional Development Council. Project components include: planning and monitoring information systems; infrastructure planning and rehabilitation; and institution building with an emphasis on community management based on experience from other AIDAB-funded projects. The project period was extended until 1997.

The *Water Supply and Sanitation Performance Enhancement Project (WPEP)* funded by AusAid through WSP-EAP aims: i) to initiate a systematic program of applied research examining what works and what does work in the field from the recent past and from the new generation of WATSAN projects, ii) to provide technical advice to any privately sponsored community-based field experiments which would seek to apply demand-responsive approaches to bring sustainable WSS; iii) to enhance capacity building programs and implemented to LGUs about operationalizing demand-responsive approaches in the field and; iv) to help refine policy implementation guideline, and policy where were learned from the field. WPEP is an applied research activity. It will help National Government consolidate its facilitative role in the future. Its structured approach will be a key collaborative activity with NEDA's new Project Performance Monitoring System (PPMS). The project will be executed by DILG in coordination with NEDA in two years from 1999.

The Canadian International Development Agency (CIDA) carried out until March 1998 pre-feasibility study of *Malalag Bay Alliance Water Supply Project*. This project covers ten (10) coastal municipalities. The project includes water source development, construction of storage, transmission and distribution facilities, and service connections. Basic construction costs will be allocated between MBA and its municipalities. Implementation period is scheduled from 1998 to 2002. The Malalag Bay Area Development Office will submit a proposal for assistance to CIDA through the Regional Management Committee of NEDA Region XI office.

## **(2) WATSAN project by GOP**

To provide safe/accessible water and sanitation serves to the basic sector groups within the 5<sup>th</sup> and 6<sup>th</sup> class municipalities; to enhance the capabilities of the target LGUs in terms of WATSAN planning, implementation and maintenance of the facilities; and to minimize the incidence of water borne diseases through proper site selection, disinfection of contaminated water sources and management waster water, the project of the WATSAN component of PAF 2 (Poverty Alleviation Fund 2 – Potable Water Development and Sanitation Component) was implemented with GOP fund in all the 960 municipalities belonging to the 5<sup>th</sup> and 6<sup>th</sup> class. The project started from 1997 to 1998. GOP provided project fund of P533M (P485,000 for each municipality as capital outlay). The project was implemented with a strategy: i) facility construction by the LGUs themselves; ii) water supply facilities limited to Level I hand pumps with some Level II on a case to case basis; iii) provision of skills enhancement training for LGU personnel; iv) provision of assistance to LGUs in the organization, training, and sustainability of BWSAs; v) installation of an effective projects monitoring and evaluation network; and other effective arrangements.

## **(3) Local Government Unit - Urban Water Supply and Sanitation Project (LGUWSSP)**

### **1) Project Objectives**

The Project has the following objectives: (i) to assist LGUs in improving and sustaining the provision of water, sanitation, drainage and other environmental services to their urban populations; (ii) to build institutional capability for decentralized planing, implementation and management of water and sanitation services at all levels of government national provincial and municipal; and (iii) to test the implementation of the government policy framework vis-a-vis LGU financing of local infrastructure.

### **2) Basic Project Principles**

The project is based on two underlying principles aimed at ensuring project sustainability, to wit: (i) The "demand driven approach" in project development and implementation, meaning

that the project shall provide services that the consumers want and are willing to pay for and that the services shall be managed at the lowest appropriate levels; and (ii) The adoption of commercial principles in the management/operation of water utilities by involving the private sector, or simply put, the facilities must be operated as commercial entities and water treated as an economic commodity.

### 3) The Project Rules

- i) The project promotes full cost recovery, that is, the tariff to be paid by the consumers should cover the cost of operation and maintenance and the repayment of the LGU DBP loan.
- ii) The system shall be operated by a private operator under a long-term lease contract with the LGU.

### 4) Project Coverage

The project aims to support the water supply requirement in the urban centers of approximately 250 small and medium-sized municipalities, benefiting about 6 million people. There are two sets of market targets, namely: (i) Municipalities/cities, irrespective of income class, which have not formed a water district; and (ii) Municipalities/cities, irrespective of income class, which have water districts but are not in LWUA's current program of assistance (in which case, the LGU should secure a certification/clearance to that effect. In the event that the local water district is servicing a loan from LWUA, the local water district shall seek clearance from LWUA prior to entering into an agreement with LGU concerned in any program of system expansion/rehabilitation).

### 5) Project Components

The project consists of three components, namely:

#### Part A Water and sanitation facilities component

- construction/improvement/rehabilitation of Level III water facilities
- provision/improvement of sanitation facilities construction/improvement
- construction/improvement of urban drainage

#### Part B Institutional development component

- Training of LGUs in decentralized planning, implementation and management of water facilities applying the following commercial principles:
  - i) Demand-driven approach, ii) Private sector participation, iii) Full cost recovery

#### Part C Technical assistance component consists of

- This component consists of i) Feasibility study and ii) Detailed engineering

6) Estimated cost and implementation timetable

Phase	World Bank	LGU	Total	LGU Coverage
I. 1999 – 2002	\$ 23.3 M	\$13.7 M	\$ 37.0 M	40
II. 2000 – 2004	60. 0 M	20.0 M	80.0 M	80
III. 2003 – 2006	100.0 M	33.0 M	133.0 M	130
Total	\$ 183.3 M	\$ 66.7 M	\$ 250.0 M	250

\* The required LGU equity ranges from 10% -25% of the total project cost.

7) Relending Terms

World Bank funds shall be channeled thru the Development Bank of the Philippines (DBP) which shall relend them as subproject loans to the LGUs. The DBP subproject loans shall include costs of feasibility study, technical design and construction of the water facility. Basic terms of the loan are: i) Interest per annum: 15 % per annum, ii) Amortization period: 15 years with 3-year grace period.

8) DBL Scheme

The subprojects will be implemented thru the DBL (Design, Build and Lease). A qualified private constructor designs and constructs the facility (while F/S is done by WB consultant), and another private entity, qualified, undertakes the system operation thru a lease contract with LGU (respective municipality).

(4) Rural Water Supply & Sanitation Sector Project (RW3SP)

1) Project overview

The RW3SP's objectives are: i) to improve the capacity of sector agencies in enhancing the delivery of social services; ii) to provide safe, adequate and reliable WSS services to selected low-income rural communities through community-based arrangements; and iii) to support health and hygiene education, water quality surveillance, and community management activities. The project will help develop the technical capability of LGUs and communities in the planing, implementation and O&M of basic WSS services, promote a sense of subproject ownership and enhance community management of rural WSS services, and improve health and hygiene education in the Project areas to ensure the sustainability of Project benefits.

The project will cover about 3,000 rural communities (barangays) with populations ranging from 200 to 5,000 persons. This represents about 50% of the total number of communities in the SRA (Social Reform Agenda) provinces, spread through Luzon, Visayas and Mindanao. They are also the least developed provinces in the country. Presently, only about 40% of the

rural population in these provinces have adequate access to safe and reliable WSS facilities compared with the nation wide average of 70% for the rural areas.

SRA provinces: Batanes, Benguet, Abra, Ifugao, Apayao, Kalinga, Mt. Province, Aurora, Masbate, Romblon, Antique, Guimaras, Biliran, Eastern Samar, Southern Leyte, Agusan del Sur, Surigao del Sur, Basila, Sulu, Tawi-tawi

The project involves institutional development and improvement of WSS in about 3,000 rural income communities through the construction and rehabilitation of WSS facilities serving approximately 2.0 million persons and thereby increase the coverage of the project areas rural population from 40 to 90 percent by the year 2000. The project will cover five years and 50% of the rural communities in the poorest provinces under the National Rural WSS Development Programs. The project consists of two main parts; Part A: Institutional Development, and Part B: Water Supply and Sanitation Facilities.

Part A. Institutional Development consists of four components

- Capacity –building program for local institutions covering training courses for LGUs
- Community management program to help the communities to design and set up cost recover, O&M and the community management organization
- Health and hygiene education program focusing in safe drinking water, good habits for personal hygiene and the control of diarrhea. Various media will be used. Educational material (handouts, posters, cassettes and vide tapes) will be developed. A total of 750 person-months of sanitary inspector and 750 person months of midwives will implement the education program covering the target communities
- Water quality control and surveillance program: A total of 500 person months of sanitary inspectors and 500 person months of water quality technicians will establish this program in the project provinces, in addition, 50 laboratories will be constructed and equipped.

Part B. WSS Facilities consists of subprojects for the construction and rehabilitation of point source (Level 1) water supply systems. It is estimated that over 6,100 new water supply systems will be constructed. In addition, 2,000 shallow and deep wells, 130 springs, and transmission lines will be rehabilitated. The subprojects will also selectively cover sanitation facilities, such as the construction of sanitary public and household latrines, and district laboratories.

2) Cost estimates and budgetary requirement

Based on the cost estimates of the eight representative subprojects appraised and the subprojects proposed for about 200 communities the total cost of the designated segment of the rural investment program the project is estimated at \$57.4 million equivalent, including taxes and duties as well as interest during construction. The foreign exchange cost is estimated at \$20.0 million equivalent (including \$1.4 million for interest and service charge during construction) or about 35 percent of the project cost, and the local currency cost is \$ 37.4 million equivalent of about 65% of the project cost. The fund to be provided by the government to the executing and implementing agencies will be channeled through regular budgetary allocations. Each province participation in the project will provide for the contribution of 10% for the total cost of each subproject in a particular province.

3) Implementation Schedule

Designed to commence in mid 1997, the project is planned to implement over a period of five years, with completion expected by 1 August 2001. The advance project preparation activities that have been carried out in about 200 communities in the project areas through the community management approach will ensure that the project gets off to a fast start.