

3.5 Health Status

3.5.1 Morbidity, Mortality and Infant Mortality

Table 3.5.1 Morbidity, Mortality and Infant Mortality

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PWASP)			Prov. Number 0630			Page 1 of 1						
Content: Health - Morbidity and Mortality			Prov. Name: HoHo			Date: 17 Jan 2000						
Data Collection Level: Provincial			Municipal Number:			Filename: Health.xls						
Region Number: V1			Municipal Name:			Form Number: P.3.1						
Cause Group Diseases of	Disease No	Name of Diseases (Group)	Water Related Diseases	Annual Incidence								
				Morbidity			Mortality			Infant Mortality		
				Male	Female	Total	Male	Female	Total	Male	Female	Total
Infective and Parasitic (001-136)	A 01	3-4 Typhoid Paratyphoid	X			329			5			1
	A 02	5-7 Dysentery	X			27						
	A 03	8-10 Intestinal Parasites	X			2,544						
	A 04	11-13 Diarrhea	X			10,248			377			72
	A 05	14-16 Tuberculosis				1,896			243			
	A 06	17-19 Conjunctivitis	X			591						
	A 07	20-22 Whooping Cough				320						
	A 08	23-25 Throat Ear Nose				165						
	A 09	26-28 Tetanus				1			1			
	A 10	29-31 Septicemia				4			37			14
	A 11	32-34 Cholera	X									
	A 12	35-37 Varicella, Chickenpox				157			29			
	A 13	38-40 Measles				100			16			
	A 14	41-43 Dengue Fever	X			1,975			32			
	A 15	44-46 Viral Hepatitis	X			153			8			2
	A 16	47-49 Malaria	X									
	A 17	50-52 Schistosomiasis	X									
	A 18	53-55 Filariasis	X									
	A 19	56-58 Venereal Diseases										
	A 20	59-61 Other Bacter / Viral Dis				282						
Neoplasms (140-239)	B 01	62-64 Malignant Neoplasms				5			106			
	B 02	65-67 Leukemia				1			3			
Endocrine, Nutritional & Metabolic (250-279)	C 01	68-70 Diabetes Mellitus				42			28			
	C 02	71-73 Nutritional Deficiencies				2,717			7			2
	C 03	74-76 Endocrine Disorder				8						1
Blood & Blood Forming Organs (280-289)	D 01	77-79 Anemias				1,243						
Mental Disorder (290-319)	E 01											
Nervous System & Sense Organs (320-359)	F 01	80-82 Meningitis				2			4			3
	F 02	83-85 Nervous System										
Circulatory Systems (360-439)	G 01	86-88 Heart Diseases				674			226			4
	G 02	89-91 Vascular Diseases				456			195			
Respiratory Systems (450-519)	H 01	92-94 Bronchitis				4,700			91			
	H 02	95-97 Pneumonia				4,867			965			23
	H 03	98-100 Influenza				4,702			92			
	H 04	101-103 Obstructive Pulmonary				32			25			
	H 05	104-106 ARI				12,100						
Digestive System (520-579)	I 01	107-109 Appendicitis										
	I 02	110-112 Gastroent. Colitis				131						
	I 03	113-115 Chronic Liver Disease				15			25			
	I 04	116-118 Other Diges. Diseases				27			12			1
Genito-Urinary System (580-629)	J 01	119-121 Kidney/Nephritis				84			31			
	J 02	122-124 Urinary Infections				553			1			
Complication of Pregnancy & the Puerperium (630-676)	K 01	125-127 Prematurity				7			6			29
Skin & Subcutaneous Tissue (680-709)	L 01	128-130 Skin Diseases	X			5,594						
	L 02	131-133 Scabies	X			2,474						
Musculoskeletal & Connective Tissue (710-739)	M 01	134-136 Anthrop. Rheumatism				255						
Congenital Anomalies (740-759)	N 01	137-139 Congenital Anomalies				3			11			23
	P 01	140-142 Birth Trauma							1			
Certain Causes of Prenatal Morbidity & Mortality (760-779)	P 02	143-145 Birth Injuries & Difficult Labor										8
	P 03	146-148 Resp. Fetus Newborn							2			10
	P 04	149-151 Other Prenatal Causes										5
Symptoms & Ill-defined Condition (780-799)	Q 01	152-154 Senility				2			55			
	Q 02	155-157 Ill Defined Condition				1						
Accidents, Poisoning & Violence (800-999)	R 01	158-160 Burns				29						
	R 02	161-163 Suffoc. Foreign Body				14						
	R 03	164-166 Other Accidents				452			62			

Source: PHO-HoHo, 1999

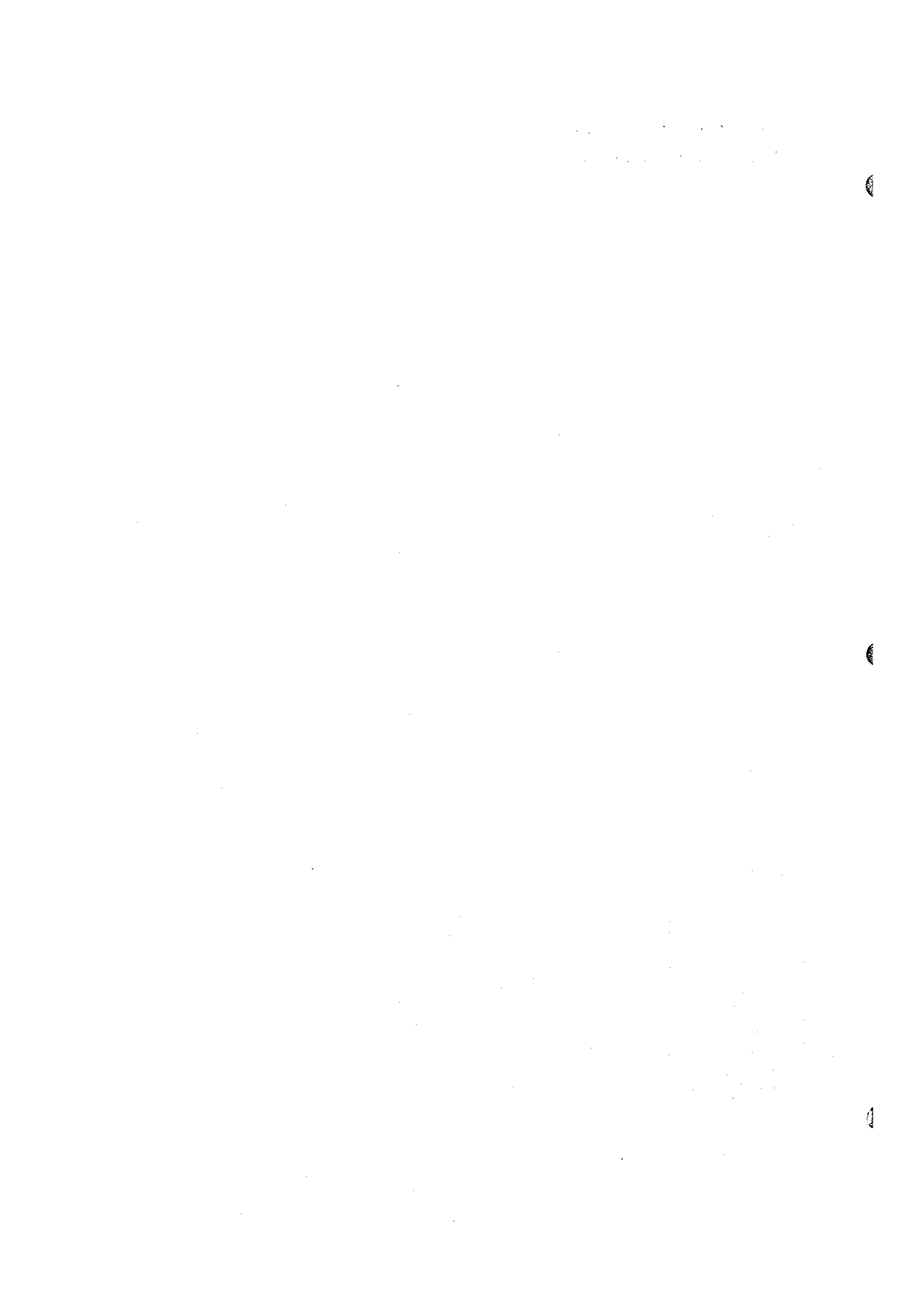
3.6 Environmental Conditions

3.6.3 Solid Waste Disposal

Table 3.6.1 Municipal Solid Waste Collection and Disposal by Municipality

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)							Page 1 of 1			
Content: Environment Sanitation - Solid Waste Collection and Disposal							Date: 17 Jan 2000			
Data Collection Level: Provincial				Prov. Number: 0630			Filename: Sanitation.xls			
Region Number: VI				Prov. Name: Iloilo			Form Number: P 66			
Geographic Code	Name of City or Municipality	With Municipal Service					Without Service			
		Number of Collection Trucks			Disposal		Number of Household by Manner of Disposal			
		Open Trucks	Dump Closed Type Trucks	Total	Number of Households Served by Open Dump Site	Number of Household Served by Sanitary Landfill	Dumping (Land and Water) and Burying	Burying, Burning	Composting	
Number	Character	Number	Number	Number	Number	Number	Number	Number	Number	
063001	Ajuy	3		3	1,087		1,663	2,029	2,790	
063002	Alimodian	1		1		658	503	4,040	510	
063003	Anilao				254		106	1,761	1,959	
063004	Badiangan	1		1	338		115	4,056	75	
063005	Balasan		1	1	612		2,747	454	875	
063006	Banate				875		1,087	1,638	1,310	
063007	Barotac Nuevo	1		1	711		659	4,302	2,405	
063008	Barotac Viejo	1		1	777		1,252	2,409	2,088	
063009	Barad	1		1	90	1,541	922	533	58	
063010	Bingawan	1		1	359		1,300	238	513	
063011	Cabatuan				1,857		2,654	1,950	1,813	
063012	Calinog	2	1	3	3,978		1,206	3,178	888	
063013	Carles				3,953		2,043	2,643	601	
063014	Concepcion	3		3	642		1,215	3,491	711	
063015	Dingle	2		2		2,594	1,456	1,784	1,269	
063016	Duenas	1		1	913		1,399	3,229	86	
063017	Dumangas	1		1	1,989		3,100	4,674	526	
063018	Estancia	2		2	2,127		1,551	2,695	84	
063019	Guimbal	1		1	1,029		1,877	659	1,621	
063020	Igbaras				250		1,112	3,577	372	
063021	Janiuay	1		1	2,108		2,224	2,675	2,852	
063022	Lambunao	1		1	2,984		3,458	3,257	1,259	
063023	Leganes	1		1	230		501	2,936	119	
063024	Lemery				295		1,253	2,466	379	
063025	Leon		1	1	189	1,375	85	730	5,585	
063026	Maasin	3		3	527		466	441	3,683	
063027	Miagao	3		3	1,371		1,972	3,933	2,959	
063028	Mina	1		1	832		840	929	540	
063029	New Lucena				273		1,350	1,340	288	
063030	Oton	2		2	2,070		3,362	3,884	2,345	
063031	Passi City	2		2	3,445		1,385	2,686	4,159	
063032	Pavia	1		1	1,558		2,471	1,000	558	
063033	Pototan	2		2	2,834	1,630	2,080	3,475	1,117	
063034	San Dionisio	1		1	1,235	789	1,370	645	1,057	
063035	San Enrique	1		1	875		1,715	1,327	1,075	
063036	San Joaquin	2		2	855		1,332	2,855	3,482	
063037	San Miguel				701		1,850	1,183	105	
063038	San Rafael				200		500	1,483	135	
063039	Santa Barbara				1,653	592	878	3,035	1,937	
063040	Sara	1		1	1,859		2,599	2,345	1,126	
063041	Tigbauan	1		1	458		2,467	4,842	1,561	
063042	Tubungan	1		1	399		207	1,891	1,234	
063043	Zaraga	2		2	206		270	2,861	236	

Source: PSPT-Iloilo, 1999



4. EXISTING FACILITIES AND SERVICE COVERAGE

4.1 Water Supply

4.1.2 Type of Facilities and Definition of Service Level Standard

NEDA Board Resolution

No. 12 (s. 1995)

APPROVING THE COMMON DEFINITION OF TERMS RELATIVE TO WATER SUPPLY, SEWERAGE AND SANITATION

DEFINITION OF TERMS

Water Supply

Levels of Service

Three levels of water service shall be provided to urban and rural communities depending upon technical and financial considerations, the needs of the WDs and RWSAs, and their willingness and ability to share in the costs and the responsibility of constructing and maintaining the water systems, These are:

1. Level I (point source) - a protected well or a developed spring with an outlet but without a distribution system, generally adaptable for rural areas where the houses are thinly scattered. A Level I facility normally serves an average of 15 households.
2. Level II (communal faucet system or standposts) – a system composed of a source, a reservoir, a piped distribution network, and communal faucets. Usually one faucet serves 4 to 6 households. Generally suitable for rural and urban fringe areas where houses are clustered densely to justify a simple piped system.
3. Level III (waterworks system or individual house connections) – a system with a source, a reservoir, a piped distribution network and household taps. It is generally suited for densely populated urban areas.

Urban – the revised definition of urban population included the criteria on the economic and social functions of barrios, poblaciones and central districts resulting to the new definition which states:

1. In their entirety, all municipal jurisdictions which, whether designated as chartered cities, provincial capital or not, have a population density of at least 1,000 persons per square kilometers.
2. Poblaciones or central districts of municipalities and cities which have a population density of at least 500 persons per square kilometer.
3. Poblaciones or central districts (not included in nos. 1 and 2) regardless of population size which have the following:
 - a. Street pattern, i.e., network of streets in either at parallel or right angle orientation;
 - b. At least six establishments (commercial, manufacturing, recreational and/or personal services); and
 - c. At least three of the following:
 - i) a town hall, church or chapel with religious services at least once a month;
 - ii) a public plaza, park or cemetery;
 - iii) a market place or building on at least once a week and
 - iv) a public building like school, hospital, puericulture and health center or library.
4. Barrios having at least 1,000 inhabitants which meet the conditions set forth in no. 3 above, and in which the occupation of the inhabitants is predominantly non-farming/fishing.

Rural – all areas not falling under the urban classification (National Statistics Office).

Rural Waterworks and Sanitation Association (RWSAs) – non-stock, non-profit organizations envisioned to operate and manage Level II water supply facilities.

Barangay Waterworks and Sanitation Association (BWSA) – non-stock, non-profit organizations envisioned to operate and manage Level I water supply facilities.

Water Supply – for purpose of the plan, refers to the supply of the water for domestic, municipal, industrial/commercial uses.

Water Supply Coverage – refers to the number of people in a given community of geographical area who have access to safe water. The extent to which the population of a geographical area is covered (expressed in terms of the number of people served compared to the total population of that community or area).

Adequate Served -- refers to those with the following rate or consumption:

Level I	at least 20 liters/capita/day
Level II	at least 60 liters/capita/day
Level III	at least 100 liters/capita/day

Service Coverage – the no. of people a facility can serve.

Level I Water Supply Systems

1. Deepwell – are characterized by aquifers or water bearing formations generally located at a depth of more than 20 (mbgs.). Construction of deepwells with depths greater than 20 meters are recommended in these areas.
2. Shallow Well – are areas suitable for construction of well with depths not more than 20 meters and are recommended for rural water supply development, particularly levels I and II services. Static water level in these areas are generally within 6 meters below ground surface.
3. Developed Springs – developed to capture the natural flow of an aquifer, pollution generally originates close to the point of capture. It is protected by: 1) excluding shallow seepage waters through encircling the spring with a watertight chamber penetrating a safe-distance into the aquifer and; 2) diverting surface run-off away from the immediate vicinity.
4. Protected Dug Wells – WASAMS defines protected dug wells as those which are adequately protected (guarded) against surface or outside contamination through the use of lining or covering, with a rim sufficiently raised above the ground level, and may be equipped with a pump (any type).

Salt Intrusion – encroachment of salt water upon fresh water.

Potable Water – water that is satisfactory for drinking, culinary and domestic purposes and meets the requirements of the health authority having jurisdiction. (Plumbing Code).

Population Underserved – population inadequately served.

Population Unserved – population without access to water supply facility.

Population Served – no. of population adequately served of connections x no. of persons served per connection.

Rainwater Cisterns/Collectors/Catchers – reservoirs, tanks or vessels for the storage of rainwater.

Reliable Water Supply -- efficiency in the delivery of water supply in terms of quantity and quality.

Safe Drinking Water – water must be free of disease-producing bacteria (pathogens). In addition, the water should not possess undesirable tastes, odors, colors, turbidity or chemicals.

Service Area – geographic jurisdiction of water utilities.

Non-revenue Water – unbilled water.

Appropriate Technologies – suited to local conditions and resources.

Infiltration Galleries – horizontal wells which collect water over the entire length.

Accounted-for-water – billed water.

Access to Water Supply Facilities – access to water supply is categorized as follows:

- Level I - the farthest user is not more than 250 meters from the point source.
- Level II - the farthest house is not more than 25 meters from the communal faucet system.
- Level III - the house have service connection from the system.

Private Water System – privately-owned water supply system.

Public Water System – system owned by the government.

DEFINITION OF TERMS

Sewerage and Sanitation

Sanitation – the development and practical application of sanitary measures for the sake of cleanliness and protecting health.

Sanitary Toilet – is an approved type of facility used for receiving and disposing human waste (feces and urine).

APPROVED TYPES

1. Flush – type of toilet facility with a mechanical device used to wash the waste into the receiving sewer or septic tank by the use of flushing water and with traps to provide a “water seal”.
2. Poor Flush – type of toilet facility without a mechanical device and in hand-flush with “water seal” connected to receiving sewer, septic tank or leaching pit.
3. Ventilated Improved Pit refers to an on-site toilet facility without using any amount of water comprising a vent pipe with a fly screen used to trap flies in a pit and, also allows evacuation of foul air into the atmosphere. This minimizes foul odor with the latrine superstructure and traps flies that could not spread diseases through fecal contamination.
4. Sanitary Pit Privy – type of toilet facility without using any amount of water, with a pit of at least 1-2 meters depth, a hole of one square meter, provided with a floor covering a riser, seat with cover which are all fly-and rodent proof and a building for privacy including the Antipolo type.

Unsanitary Toilet – a type of facility used for receiving and disposing human waste which does not fall under the category of approved types of toilet facilities.

UNAPPROVED/UNSANITARY TYPES

1. Open Pit Privy- a pit of at least the same dimension as the sanitary pit privy, provided with pit flooring, with or without riser and seat and without cover to protect from flies and rodents.
2. Overhang – a structure provided with flooring and with an opening built above the body of water or above the ground without pit under it, used for defecation of the disposal of human waste. It can be a part of the house or a separate structure outside the house.

LEVELS OF TOILET USE

1. Communal – a toilet facility shared by two or more households.
2. Public – toilet facility located at public places like markets, bus stations, etc. intended for public use.
3. School – a toilet facility located in a school.
4. Household – a toilet facility being used by an individual household.

Sewerage - facilities that collect human waste and sullage from residences and establishments usually piped and conveyed in structures (sewers, pump stations) for eventual central treatment and safe disposal. Piped sewerage includes a collection system (street laterals), a conveyance system (trunk sewers and pump stations), and a treatment plant/disposal system.

Human Waste – solid (feces) and liquid (urine) wastes from human.

Sullage – liquid wastes resulting from washing, bathing and laundry.

Drainage System – facilities that deal with rainwater.

Unsanitary Drainage System -- facilities without treatment that deal with rainwater and also receive septic tank overflow and sullage. Includes open canals.

Without Toilet – households without any toilet but using body of water like rivers, lakes, etc. open field including coastal areas, and other mean to dispose human waste.

Access – availability of toilet facility within the household premises that can be used anytime.

On Site – the human waste is deposited and treated where the toilet facility is located.

Off Site – the human waste is transported for treatment.

4.2 Sanitation and Sewerage

4.2.3 Sanitation Facilities and Service Coverage

Table 4.2.1 Number Household Toilets, by Type

Geographic Code	Name of City or Municipality	Number of Households Using Sanitary Toilets														
		Flush		Pour Flush		Sanitary Pit Latrine (VIP)		Total		Number of Households Using Unsanitary Toilets				Number of Households Without Toilets		
		Urban Number	Rural Number	Urban Number	Rural Number	Urban Number	Rural Number	Urban Number	Rural Number	Urban Number	Rural Number	Urban Number	Rural Number	Urban Number	Rural Number	Total Number
Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)																
Content: Environment Sanitation - Household Toilet																
Data Collection Level: Provincial																
Region Number: VI																
Prov. Name: Iloilo																
Prov. Number: 0630																
Page: 1 of 1																
Date: 19 Jan. 2000																
Filename: Sanitation.xls																
Form Number: P.6.1																
063001	Ayuy Character	10	353	2,194	26	1,365	389	3,759	202	2,952	3,154	16	311	327	267	267
063002	Almodan	56	1,180	2,340	922	1,236	1,61	3,320	103	725	828	16	311	327	418	458
063003	Amihao	19	142	922	1,320	300	3,153	27	1,104	1,131	40	418	458	251	251	251
063004	Badiangan	38	262	1,810	335	532	855	162	2,888	3,050	69	622	691	474	474	474
063005	Balsan	40	25	337	495	155	166	1,672	51	2,330	2,381	3	471	474	704	751
063006	Banue	219	183	409	4,060	115	628	4,338	92	2,525	2,617	47	704	751	187	187
063007	Baroce Nuevo	8	2	118	291	471	1,278	597	1,571	1,12	3,495	3,607	6	181	187	187
063008	Baroce Viejo	26	60	22	634	27	1,118	75	1,812	166	904	1,070	6	181	187	187
063009	Badad	28	603	1,038	67	674	7,339	812	812	123	123	123	123	123	123	123
063010	Bayawan	194	1,645	2,444	2,791	438	768	876	5,204	71	2,774	2,845	15	310	325	325
063011	Cabnang	3	1	264	3,369	671	1,693	267	3,370	146	1,777	1,923	51	3,634	3,685	3,685
063012	Carles	59	1,130	5,255	671	1,693	1,189	5,255	9	659	659	71	1,335	1,406	1,406	1,406
063013	Concepcion	40	537	1,296	249	1,451	826	2,751	176	1,833	2,009	49	49	49	49	49
063014	Dumangas	22	330	6,341	602	352	6,349	17	2,913	2,930	14	644	658	1,176	1,176	1,176
063015	Estancia	193	148	534	1,965	249	976	2,715	315	1,275	1,590	215	961	1,176	1,176	1,176
063016	Gumbal	49	1,142	3,044	56	387	1,247	3,539	250	250	42	108	150	150	150	150
063017	Igbaras	83	1,998	3,199	3,843	1,681	7,042	400	2,242	116	493	609	388	388	388	388
063018	Janauay	745	7,655	8,000	745	8,455	49	1,684	1,733	25	25	25	25	25	25	25
063019	Lambunao	285	42	804	1,635	181	353	1,270	2,030	56	316	372	20	94	114	114
063020	Leganes	18	41	298	530	128	1,879	444	2,450	99	1,274	1,373	38	88	126	126
063021	Lentery	39	28	839	4,286	14	58	892	4,372	14	2,592	2,606	94	94	94	94
063022	Leon	184	540	1,382	1,765	540	3,531	1,303	6,015	136	2,299	2,435	38	444	482	482
063023	Masahn	1	358	1,683	61	942	1,003	359	1,683	116	493	609	388	388	388	388
063024	Mingao	17	10,001	400	2,242	10,018	1,255	10,018	2,242	1,255	388	388	388	388	388	388
063025	New Lucena	11	1,264	3,957	1,275	3,963	260	5,549	5,809	86	542	628	628	628	628	628
063026	Oton	513	385	2,073	278	1,617	1,376	3,724	183	304	487	222	222	222	222	222
063027	Pasig City	269	1,991	2,626	730	2,724	2,990	6,039	125	1,755	1,880	161	161	161	161	161
063028	Pavia	17	204	738	22	897	243	1,662	516	1,641	161	146	146	146	146	146
063029	Pototan	145	363	980	725	368	2,068	28	3,382	3,410	22	1,018	1,040	1,040	1,040	1,040
063030	San Dionisio	52	602	4,156	10	43	664	4,251	126	2,441	2,567	20	25	45	45	45
063031	San Enrique	2,422	1,042	1,042	192	138	330	20	25	45	45	45	45	45	45	45
063032	San Joaquin	882	2,238	251	467	251	467	251	467	251	467	251	467	251	467	251
063033	San Miguel	2	337	1,647	137	2,067	476	3,714	257	3,028	3,285	28	426	454	454	454
063034	San Rafael	155	160	1,218	5,186	1,353	5,346	35	1,841	1,876	111	120	120	120	120	120
063035	San Roque	55	208	2,254	3	820	266	3,074	3	268	271	46	155	181	181	181
063036	San Sebastian	152	168	1,818	38	945	588	2,804	30	36	46	155	181	181	181	181

Source: PSP/I, Iloilo, 1999

Table 4.2.2 Number of School Toilets by Public and Private Classification

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)						Page: 1 of 2	
Content: Environment Sanitation - School and Student						Date: 19 Jan. 2000	
Data Collection Level: Provincial			Prov. Number: 0630			Filename: Sanitation.xls	
Region Number: VI			Prov. Name: Iloilo			Form Number: P.6.2	
Geographic Code	Name of City or Municipality	Number of School			Number of Student		
		Public	Private	Total	Public	Private	Total
Number	Character	Number	Number	Number	Number	Number	Number
063001	Ajuy	32		32	9,749		9,749
063002	Alimodian	28		28	5,271		5,271
063003	Anilao	19		19	5,408		5,408
063004	Badiangan	22		22	4,420		4,420
063005	Balasan	17	2	19	6,065	125	6,190
063006	Banate	15		15	7,083		7,083
063007	Barotac Nuevo	23	3	26	7,049	1,755	8,804
063008	Barotac Viejo	30	1	31	8,149	1,943	10,092
063009	Batad	11	1	12	2,707	153	2,860
063010	Bingawan	16		16	3,008		3,008
063011	Cabatuan	43		43	7,790		7,790
063012	Calinog	46	2	48	11,029	525	11,554
063013	Carles	40	2	42	11,821	1,092	12,913
063014	Concepcion	31	1	32	7,137	190	7,327
063015	Dingle	25	2	27	7,493	405	7,898
063016	Dueñas	30	2	32	7,209	45	7,254
063017	Dumangas	32	3	35	8,569	415	8,984
063018	Estancia	13	4	17	8,104	1,090	9,194
063019	Guimbal	14		14	6,565		6,565
063020	Igbaras	21		21	6,202		6,202
063021	Janiuay	41	3	44	11,476	827	12,303
063022	Lambunao	48	1	49	13,033	29	13,062
063023	Leganes	14		14	6,070		6,070
063024	Lemery	24		24	5,292		5,292
063025	Leon	33	1	34	10,415	290	10,705
063026	Maasin	38	1	39	7,241	463	7,704
063027	Miagao	34	2	36	11,281	846	12,127
063028	Mina	12		12	3,768		3,768
063029	New Lucena	18	1	19	4,780	50	4,830
063030	Oton	20	4	24	12,723	596	13,319
063031	Passi City	37	1	38	15,663	413	16,076
063032	Pavia	12		12	6,167		6,167
063033	Pototan	31	4	35	11,532	1,370	12,902
063034	San Dionisio	25	1	26	7,072	25	7,097
063035	San Enrique	21		21	5,209		5,209
063036	San Joaquin	40	1	41	9,571	111	9,682
063037	San Miguel	10		10	5,332		5,332
063038	San Rafael	11		11	3,588		3,588
063039	Santa Barbara	34		34	7,070		7,070
063040	Sara	25	4	29	9,107	1,660	10,767
063041	Tigbauan	29	1	30	6,409	293	6,702
063042	Tubungan	18		18	3,718		3,718
063043	Zarraga	9	2	11	1,800	1,480	3,280

Source: PSPT - Iloilo, 1999

Table 4.2.2 Number of School Toilets by Public and Private Classification (cont'd)

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)						Page: 2 of 2		
Content: Environment Sanitation - School Toilets						Date: 19 Jan. 2000		
Data Collection Level: Provincial			Prov. Number: 0630			Filename: Sanitation.xls		
Region Number: VI			Prov. Name: Iloilo			Form Number: P.6.3		
Geographic Code	Name of City or Municipality	Number of School Toilets						Total Units
		Sanitary			Unsanitary			
Number	Character	Public Number	Private Number	Total Number	Public Number	Private Number	Total Number	Number
063001	Ajuy	101		101				101
063002	Alimodian	2		2				2
063003	Anilao	52		52				52
063004	Badiangan	134		134				134
063005	Balasan	41	4	45				45
063006	Banate	99		99				99
063007	Barotac Nuevo		11	11				11
063008	Barotac Viejo	73	13	86				86
063009	Batad	81	7	88				88
063010	Bingawan	2		2				2
063011	Cabatuan	128		128				128
063012	Calinog	139	11	150				150
063013	Carles	140	2	142				142
063014	Concepcion	98	6	104				104
063015	Dingle	96	12	108				108
063016	Dueñas	123	8	131				131
063017	Dumangas	168	5	173				173
063018	Estancia	298	14	312				312
063019	Guimbal	23		23				23
063020	Igbaras	2		2				2
063021	Janiuay	112	13	125				125
063022	Lambunao	174	2	176				176
063023	Leganes	67		67				67
063024	Lemery	84		84				84
063025	Leon	154	6	160				160
063026	Maasin	118	6	124				124
063027	Miagao	228	20	248				248
063028	Mina	78		78				78
063029	New Lucena	64	1	65				65
063030	Oton	69	7	76				76
063031	Passi City	219	2	221				221
063032	Pavia	69		69				69
063033	Pototan	6	39	45				45
063034	San Dionisio	95	2	97				97
063035	San Enrique	39		39				39
063036	San Joaquin	45	2	47				47
063037	San Miguel	73		73				73
063038	San Rafael	37		37				37
063039	Santa Barbara	199		199				199
063040	Sara	81	16	97				97
063041	Tigbauan	37	9	46				46
063042	Fubungan	57		57				57
063043	Zarraga	11	10	21				21

Source: PSPT - Iloilo, 1999

Table 4.2.3 Number of Public Toilets by Type of Facility

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)							Page: 1 of 3		
Content: Environment Sanitation - Public Toilets(Public Market)							Date: 19 Jan. 2000		
Data Collection Level: Provincial				Prov. Number: 0630			Filename: Sanitation.xls		
Region Number: VI				Prov. Name: Iloilo			Form Number: P.6.4.1		
Geographic Code	Name of City or Municipality	Number	Public Markets						
			Number	Number of Toilets				Total	
				Sanitary		Unsanitary		Male	Female
				Male	Female	Male	Female		
Number	Character	Number	Number	Number	Number	Number	Number		
063001	Ajuy	1							
063002	Alimodian	1	2	2			2	2	
063003	Anilao	1	1	1			1	1	
063004	Badiangan	1	1	1			1	1	
063005	Balasan	1	1	1			1	1	
063006	Banate	1	3	3			3	3	
063007	Barotac Nuevo	1	2	2			2	2	
063008	Barotac Viejo	1	3	3			3	3	
063009	Batad	2	4	4			4	4	
063010	Bingawan	2	1	1			1	1	
063011	Cabatuan	2	3	3			3	3	
063012	Calinog	2	3	3			3	3	
063013	Carles	1			1	1	1	1	
063014	Concepcion	2	3	3			3	3	
063015	Dingle	1	1	1			1	1	
063016	Dueñas	1	2	1			2	1	
063017	Dumangas	2	1	1			1	1	
063018	Estancia	2	2	2			2	2	
063019	Guimbal	2	1	1			1	1	
063020	Igaras	3	1	1			1	1	
063021	Janiuay	2	5	5			5	5	
063022	Lambunao	2	1	1			1	1	
063023	Leganes	1	1	1			1	1	
063024	Lemery	1							
063025	Leon	4	2	2			2	2	
063026	Maasin	5	4	4			4	4	
063027	Miagao	1	3	3			3	3	
063028	Mina	1	1	1			1	1	
063029	New Lucena	3	3	3			3	3	
063030	Oton	1	2	2			2	2	
063031	Passi City	2	5	5	3	3	8	8	
063032	Pavia	1	1	1			1	1	
063033	Pototan	4	2	2			2	2	
063034	San Dionisio	2	1	1			1	1	
063035	San Enrique	1	1	1			1	1	
063036	San Joaquin	3	2	2			2	2	
063037	San Miguel	1	1	1			1	1	
063038	San Rafael	1	1	1			1	1	
063039	Santa Barbara	1	1	1			1	1	
063040	Sara	2	1	1			1	1	
063041	Tigbauan	1	1	1			1	1	
063042	Tubungan	1	2	2			2	2	
063043	Zarraga	1	1	1			1	1	

Source: PSPT, Iloilo, 1999

Table 4.2.3 Number of Public Toilets by Type of Facility (cont'd)

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)							Page: 2 of 3	
Content: Environment Sanitation - Public Toilets(Jeepney/Bus Terminal)							Date: 19 Jan. 2000	
Data Collection Level: Provincial				Prov. Number: 0630			Filename: Sanitation.xls	
Region Number: VI				Prov. Name: Iloilo			Form Number: P.6.4.2	
Geographic Code	Name of City or Municipality	Jeepney/Bus Terminal						
		Number	Number of Toilets					
			Sanitary		Unsanitary		Total	
			Male	Female	Male	Female	Male	Female
Number	Character	Number	Number	Number	Number	Number	Number	
063001	Ajuy							
063002	Alimodian	1	1	1			1	1
063003	Anilao							
063004	Badiangan							
063005	Balasan							
063006	Banate							
063007	Barotac Nuevo							
063008	Barotac Viejo	1	3	4			3	4
063009	Bataad							
063010	Bingawan							
063011	Cabatuan							
063012	Calinog							
063013	Carles							
063014	Concepcion							
063015	Dingle							
063016	Dueñas							
063017	Dumangas	2	1				1	
063018	Estancia							
063019	Guimbal							
063020	Igbaras							
063021	Janiuay	2	1	1			1	1
063022	Lambunao	3						
063023	Leganes	1	1	1			1	1
063024	Lemery							
063025	Leon							
063026	Maasin							
063027	Miagao	1	1	1			1	1
063028	Mina	1						
063029	New Lucena							
063030	Oton	2	1	1			1	1
063031	Passi City	5	5	2			5	2
063032	Pavia							
063033	Pototan	2	1	1			1	1
063034	San Dionisio							
063035	San Enrique							
063036	San Joaquin	1	1	1			1	1
063037	San Miguel							
063038	San Rafael	1						
063039	Santa Barbara							
063040	Sara	2	1	1			1	1
063041	Tigbauan							
063042	Tubungan							
063043	Zarraga							

Source: PSPT, Iloilo, 1999

Table 4.2.3 Number of Public Toilets by Type of Facility (cont'd)

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)							Page: 3 of 3	
Content: Environment Sanitation - Public Toilets(Parks/Playground)							Date: 19 Jan. 2000	
Data Collection Level: Provincial				Prov. Number: 0630			Filename: Sanitation.xls	
Region Number: VI				Prov. Name: Iloilo			Form Number: P.6.4.3	
Geographic Code	Name of City or Municipality	Number	Parks/Playground					
			Number of Toilets					
			Sanitary		Unsanitary		Total	
Number	Character	Number	Male Number	Female Number	Male Number	Female Number	Male Number	Female Number
063001	Ajuy	1						
063002	Alimodian	1	1	1			1	1
063003	Anilao	2	1	1			1	1
063004	Badiangan	1	2	1			2	1
063005	Balasan	1	1	1			1	1
063006	Banate							
063007	Barotac Nuevo	1	1	1			1	1
063008	Barotac Viejo	1	1	1			1	1
063009	Batad	2	3	3			3	3
063010	Bingawan	2	1	1			1	1
063011	Cabatuan	1	1	1			1	1
063012	Calinog							
063013	Carles	1			1	1	1	1
063014	Concepcion	1	2	2			2	2
063015	Dingle	1	1	1			1	1
063016	Dueñas							
063017	Dumangas	1	2	2			2	2
063018	Estancia							
063019	Guimbal	4	2	2			2	2
063020	Igbaras	1						
063021	Janiuay	2	3	4			3	4
063022	Lambunao							
063023	Leganes							
063024	Lemery							
063025	Leon	2	2	2			2	2
063026	Maasin	1						
063027	Miagao	1	1	1			1	1
063028	Mina	1						
063029	New Lucena	3	3	3			3	3
063030	Oton	2	2	2			2	2
063031	Passi City	3	8	8			8	8
063032	Pavia	1	1	1			1	1
063033	Pototan	2	1	1			1	1
063034	San Dionisio	2	1	1			1	1
063035	San Enrique							
063036	San Joaquin	2	2	2			2	2
063037	San Miguel	1	1	1			1	1
063038	San Rafael							
063039	Santa Barbara	5	5	5			5	5
063040	Sara	4	2	2			2	2
063041	Tigbauan	1	1	1			1	1
063042	Tubungan	1	1	1			1	1
063043	Zarraga	1	1				1	

Source: PSPT, Iloilo, 1999

5. EXISTING SECTOR ARRANGEMENT AND INSTITUTIONAL CAPACITY

5.2 Sector Reforms

A. IMPLEMENTING RULES AND REGULATION

**IMPLEMENTING RULES AND REGULATIONS OF
NEDA BOARD RESOLUTION NO. (SERIES OF 1994), CLAUSE (G)**

PREFACE

The following Implementing Rules and Regulations (IRR) of Clause (g) of NEDA Board Resolution No. 4 (series of 1994) was prepared with assistance from the World Bank, upon request of the Philippine Government, through the Department of the Interior and Local Government (DILG). It is an update of the earlier draft prepared in August 1995 and incorporates the developments that have occurred in the sector since that time. The intention is to provide a comprehensive and consistent set of IRR that reflects evolving policies in the sector to address basic service deficits. In particular, it attempts to translate the global sectoral principles of managing water as an economic good and managing services at the most appropriate level, into rules and regulations that can be understood and implemented by the local government units. This IRR reflects the following policies currently being developed by the Government:

- a. Encouraging LWUA lending rates to local water districts to be aligned to market rates;
- b. Providing national government grants for source development of Level I systems in support of a national objective of poverty alleviation;
- c. Developing a national sector plan that will provide the basis for provinces and cities/municipalities to plan and implement water and sanitation investments based on what communities want and are willing to pay for;
- d. Instituting a framework for economic regulation of the water supply and sanitation sector and defining the role of the LGU in this framework; and
- e. Instituting a system of public performance audit of public and private water utilities, so that consumers feedback on service coverage and reliability is available at the national and local levels of Government.

A major development was the creation of the Presidential Task Force on Water Resources Development and Management in October 1996, which has the objective of streamlining the regulatory environment of the sector, that is, linking resource regulation with the economic regulation aspects. A proposed bill prepared by the Task Force has been filed with Congress in July 1997 for the creation of a Water Resources Authority of the Philippines (WRAP) to undertake these regulatory functions, among others. Once this is approved by Congress and passed into law, the IRR may have to be revised to reflect the major institutional changes, particularly with regard to the roles of national government agencies in the sector.

RULE 1 PURPOSE AND OBJECTIVES

Article 1. Title. These rules shall be known as the Implementing Rules and Regulations of clause (g) of NEDA Board Resolution No. 4, (series of 1994).

Article 2. Purpose. The purpose of these rules and regulations is to implement clause (g) of NEDA Board Resolution No. 4, (series of 1994), and is in support of NEDA Board Resolution No. 6, (series of 1996) which defines the executing agency arrangement for devolved infrastructure activities/facilities, including water supply, where national government assistance is provided. Clause (g) of NEDA Board Resolution No. 4 (series of 1994) states that:

“Level I (point source system), Level II (command faucet) and Level III (house connections) water supply projects may be implemented by the concerned LGUs within their jurisdiction. LWUA shall implement only financially viable Level III water supply projects in areas outside the MWSS jurisdiction. DILG’s participation will consist of general administration and institution building, such as assistance to LGUs in the formation of Rural and/or Barangay Waterworks and Sanitation Associations (RWSAs/BWSAs) as well as in the identification of water supply systems. MWSS will be responsible for Level III water systems in Metro Manila and adjacent areas. DPWH, together with DILG and DOH, will provide technical assistance (within a period of about two years) to LGUs in the planning, implementation, and operation and maintenance of water supply facilities.”

Annex C presents NEDA Board Resolution No. 6, (series of 1996).

Article 3. Objectives. The objectives of the Implementing Rules and Regulations are as follows:

- a. To definite the role of local government units (LGUs) in the provision of water supply services and the assistance to be made available to them by national government agencies concerned;

- b. To provide guidance to the LGUs in the development and implementation of viable and sustainable water supply projects, to the extent feasible, supporting the principles espoused by the sector of managing water as an economic good, promoting a demand-oriented approach in the provision of services and management to be made at the most appropriate level, and greater private sector participation in service delivery; and
- c. To identify institutional strengthening needs of LGUs to further develop their capacity to adequately perform their agreed functions in the sector.

RULE 2

SCOPE

Article 4. Scope. These Implementing Rules and Regulations shall apply to water supply projects to be implemented and managed by LGUs where national government assistance is provided.

RULE 3

DEFINITION OF TERMS

Article 5. Definition of Terms. For purpose of these Implementing Rules and Regulations, the following terms shall be construed to mean as follows:

- a. **Levels of Service.** Based on NEDA Board Resolution No. 12 (series of 1995), approving the common definition of terms relative to water supply, sewerage and on-site sanitation, levels of service are defined as follows:

Level I (point source) – a protected well or a developed spring with an outlet but without a distribution system; generally adaptable for rural areas where the houses are thinly scattered. A Level I facility normally serves an average of 15 households.

Level II (communal faucet system or standposts) – a system composed of a source, a reservoir, a piped distribution network, and communal faucets. Usually, one faucet serves four to six households. It is generally suited for rural and urban fringe areas where houses are clustered densely to justify a simple piped system.

Level III (waterworks system or individual house connections) – a system with a source, a reservoir, a piped distribution network and household taps. It is generally suited for densely populated urban areas.

- b. A financially viable water supply system refers to a system wherein its revenues can cover for all costs related to capital and operation and maintenance, including providing for reasonable reserves for future expansion. For those systems managed by water districts, a financially viable system is one that is able to generate revenues directly from user payments sufficient to cover all costs¹. For LGU-managed systems, capital and operations and maintenance costs shall be recovered through a combination of user fees, general municipal taxes and other incomes available to the LGUs.

RULE 4

ROLE OF LOCAL GOVERNMENT UNITS

Article 6. General. The Local Government Code of 1991 mandates the decentralization and devolution of authority to LGUs in providing for certain basic services, which include safe potable water. At the local level, the LGUs are responsible for providing reliable water supply to their constituents, whether these are in the form of Levels I, II or III systems, depending on the expressed demand by the community for these services. LGUs may both directly provide and finance these services, or involve the private sector to participate in both provision and financing through concession, management or service contracts.

Article 7. Financing and Cost Recovery. In financing water supply investments, the LGUs may tap their Internal Revenue Allotment and/or locally generated revenues, or leverage these resources to borrow from government and private financial institutions. The amount that an LGU can borrow, including the required equity, is dependent on its current and expected revenue performance, as well as the amount of user charges and equity contributions from the community. The amount of equity contributions from the community shall be a local decision of the LGUs concerned.

For any national government grant that may be provided for the development of Level I systems, the LGU and beneficiaries concerned shall be required to provide any remaining amount as equity to the

¹ The Department of Finance is considering aligning the LWUA lending rates to local water districts toward market rates to allow for a more efficient use of scarce resources, as well as to provide for consistent policy on lending to LGUs by government financial institutions.

investment. No subsidies from the national government shall be provided for Levels II and III systems.²

In providing for Level III service, the LGUs may opt to form a water district or an LGU company, provide a franchise to a private party or participate in a joint venture with a private party. Except in areas with water districts, LGUs shall maintain overall responsibility for ensuring consumer satisfaction through the exercise of institutional and/or contractual regulatory powers over local water utilities³, in collaboration with other national regulatory agencies, and by instituting a system of public performance audit.

Cost recovery through user payments shall be encouraged for both capital and operation and maintenance costs. However, at the minimum, user payments shall be required to cover the operation and maintenance costs in all services levels. For LGU- owned, operated and/or guaranteed systems, any shortfall in revenues required for loan repayment shall be financed by the LGU from its Internal Revenue Allotment and/or locally-generated revenues, following a process of negotiation between the LGU and the beneficiaries concerned on the level of user payments.

For systems managed by local water districts, full cost recovery, through user charges, is required by LWUA.

In areas where there are existing local water districts, LGUs may finance rehabilitation works and/or expansion of the existing waterworks system on the following conditions:

- a. The local water district concerned is not in LWUA's current program of assistance, that is, it is not included in any loan of LWUA with a financing institution, and
- b. Endorsement by the local water district concerned should have been secured.

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 the LGU concerned on any program of system expansion.

² This policy has been approved by the Investment Coordination Committee of the NEDA Board.

³ As per Presidential Decree No. 198 (Provincial Water Utilities Act), LWUA regulates the technical standards and the tariffs of local water districts, based on its requirement to issue a certificate of conformance on every loan disbursed to the latter. Source regulation is done by the National Water Resources Board. At the moment, there is no recourse by the LGU in case of non-performance by the local water district. This is an issue that needs to be addressed by Government.

Article 8. Management of Systems. LGUs shall adopt commercial principles in the operation and management of water utilities in order to provide cost-effective and reliable services to consumers, whether management of the system is a direct responsibility of the LGU or is contracted out by the LGU to the private sector. An LGU may also consider amalgamating or consolidating its system with that of its neighboring LGUs in order to benefit from economies of scale that could expand water supply services to consumers at the lowest possible cost.

For the operation and management of Level I and II systems, the LGUs shall initiate the formation of Barangay and Rural Waterworks and Sanitation Associations (BWSAs/RWSAs), respectively, through a participatory approach involving consultation with all stakeholders (Article 20) and assist in their registration with the appropriate authorities (Article 21). Upon request, LGUs may accredit duly registered RWSAs/BWSAs in order to enable them to avail of financial assistance from local governments. LGUs shall have overall supervision of RWSAs and BWSAs.

Article 9. Project Planning and Development. Provinces and cities/municipalities shall be required to prepare, and update on an annual basis, provincial and city/municipal sector plans that are consistent with a national sector plan⁴. These sector plans shall be integrated into the local investment programs. Water supply projects shall be identified from the local investment program. A financing program of foreign and nationally/locally-generated resources, including private sector resources, shall support the local investment program.

Article 10. Approval and Award of Contracts. The LGUs shall be required to conduct public bidding, in accordance with the provisions of Law, including Presidential Decree No. 1594, as amended, Executive Order No.164, Executive Order No.302 and other applicable laws, and shall have the final authority to approve and award contracts for water supply and sanitation projects within their jurisdictions.

Article 11. Application for Water Rights. LGUs or the concerned water utility shall apply for water rights from the National Water Resources Board prior to implementing a project that would require extraction of water.

Article 12. Public Performance Audit. The LGUs shall establish a system of public performance audit for public and private water utilities focusing on critical performance indicators. Upon request

⁴ ADB is assisting the preparation of a National Sector Plan for Water Supply, Sewerage and Sanitation for 1999-2004

of the LGUs, DILG may provide technical assistance for this purpose, in coordination with appropriate national government agencies.⁵

RULE 5

ROLES OF NATIONAL GOVERNMENT AGENCIES

Article 13. Department of the Interior and Local Government (DILG). The DILG shall have the following responsibilities in the sector:

- a. Raise awareness of LGUs on opportunities relating to the sector, within the framework of relevant government policies, such as financing schemes and available assistance from local and foreign financing institutions, technological breakthroughs, management and institutional arrangements, etc.;
- b. Facilitate transactions between LGUs and communities and lending institutions by preparing water supply investment packages, assisting in the financial, economic and institutional and environmental data collection and analysis, etc., in coordination with appropriate national government agencies;
- c. Build capacity of LGUs and BWSAs/RWSAs in the general areas of planning, implementation, management, monitoring and evaluation, and regulation, upon agreement with the LGUs, and as required by financing institutions, in coordination with national government agencies such as DPWH in the case of the engineering aspects;
- d. Develop and maintain a national data management system of LGU-managed water systems to include data on extent of service coverage, cost recovery, collection efficiency, size of water systems, nature of water resources, among others, in coordination with appropriate national government agencies;
- e. Establish a system for monitoring strategic performance of LGUs in relation to the sector, including compliance with technical standards established by LWUA and DPWH;
- f. Upon agreement with the LGU, provide technical assistance in the establishment of a system of public performance audit, in collaboration with appropriate national government agencies;

⁵ This system shall be pilot-tested in Metro Manila by the MWSS with World Bank financing.

- g. Coordinate sector activities of LGUs vis-a-vis other national government agencies involved in the sector;
- h. Register RWSAs/BWSAs and maintain a record of all documents and issue regular bulletins;
- i. Monitor the implementation of this IRR, including the formulation of monitoring and evaluation parameters and reporting requirements; and
- j. Act as the coordinator for projects funded by the National Government per NEDA Board Resolution No. 6 (series of 1996).

Article 14. Local Water Utilities Administration (LWUA). The LWUA shall have the following responsibilities in the sector:

- a. Act as a specialized lending institution for local water districts;
- b. Provide technical assistance to local water districts in the areas of operation, maintenance, personnel training and fiscal practices;
- c. Upon agreement with the LGU, provide technical and financial assistance in the conduct of engineering studies;
- d. Approve tariffs of local water districts;
- e. Establish and update, as and when necessary, the technical standards for local water utilities, including LGU-managed systems;
- f. Monitor and evaluate the performance of local water districts; and
- g. Register RWSAs and furnish all registration documents to DILG.

Article 15. Department of Public Works and Highways (DPWH). The DPWH shall have the following responsibilities in the sector:

- a. Set and/or update, as and when necessary, technical standards for engineering surveys, design, construction and operation and maintenance of Level I systems;

- b. Upon agreement with the LGUs, assist in the conduct of engineering surveys and in the preparation of plans, specifications and programs of work, through its District Offices;
- c. Upon agreement with the LGUs, assist in construction management, through its District Offices; and
- d. Conduct technical researches in coordination with the LGUs.

Article 16. Department of Health (DOH). The DOH shall have the following responsibilities in the sector:

- a. Set and/or update, as and when necessary, standards on water quality testing, treatment and surveillance, and sanitary practices;
- b. Provide technical assistance to the LGUs in the conduct of periodic water quality control and surveillance-related activities; and
- c. Monitor and evaluate, on a regular basis, health and hygiene education programs implemented by local health offices, particularly in areas where waterworks systems are expected to be constructed.

Article 17. National Water Resources Board (NWRB). The NWRB shall have the following responsibilities in the sector:

- a. Regulate the use of water resources through the issuance of water rights;
- b. Regulate tariffs of privately-run water systems; and
- c. Establish and manage a user-friendly water resources data management system.

Article 18. Metropolitan Waterworks and Sewerage System (MWSS). The MWSS shall be responsible for water systems in Metro Manila and its adjacent areas.

RULE 6

RURAL/BARANGAY WATERWORKS AND SANITATION ASSOCIATIONS

Article 19. General Provision. A Rural/Barangay Waterworks and Sanitation Association shall be formed to manage public water systems and sanitation facilities: RWSAs for Level II systems and BWSAs for Level I systems. RWSAs/BWSAs shall initiate/assist in site identification, planning, implementation and evaluation of water supply projects as well as guide the construction and/or maintenance of household and community latrines (toilets).

Article 20. Organization of RWSAs/BWSAs. RWSAs and BWSAs shall be organized upon initiation of the LGU. A participatory approach shall be adopted in the formation of RWSAs/BWSAs with the LGU concerned taking the lead and non-government organizations (NGOs) providing technical assistance, as necessary. Prior to the formation of RWSAs/BWSAs, dialogues shall be conducted with and among all stakeholders such as women's groups, civic and religious organizations, health practitioners, NGOs and other people's organizations.

Article 21. Registration Requirements. RWSAs/BWSAs shall register with DILG. BWSAs shall be encouraged to associate with other BWSAs or with RWSAs prior to registration. DILG shall keep a record of all registration documents.

Article 22. Powers. Every duly registered RWSAs/BWSA shall be autonomous and shall have the power and capacity to:

- a. Award and enter into a contract(s) with private contractors for the delivery of necessary services or the supply of materials, in the course of managing a public water and sanitation facility, subject to existing laws, rules and regulations;
- b. Oversee the implementation of projects undertaken by private contractors;
- c. Own and manage the operation of the water facility in a sustainable manner, including providing for adequate reserves for maintenance and repair, setting appropriate levels of user fees, and implementing billing and collection schemes;
- d. Handle the activities required of any lawful business transaction entered into by the Association;
- e. Enter into agreement with other RWSAs/BWSAs for any merger or consolidation as may be proven advantageous to their operations;

- f. Convene meetings of water users for the purpose of information dissemination, consultation, public hearing on water rates and other activities deemed important;
- g. Initiate improvements in operations found to be advantageous and favorable to the communities concerned;
- h. Decide on matters found to be advantageous and favorable to the communities concerned; and
- i. Prepare an annual report on its operations.

Article 23. Capability Building of RWSAs/BWSAs. RWSAs and BWSAs may request assistance for capability building from LGUs and/or DILG, DPWH and other concerned agencies, through the LGUs.

RULE 7

PROJECT DEVELOPMENT AND IMPLEMENTATION

Article 24. Sector Planning. Planning and development of water supply investment shall be made within the framework of national policies, and shall implement specific targets in the provincial and city/municipal sector plans. These plans shall define the strategies, policies and approaches in sector development at different levels of government. A National Sector Plan for Water Supply, Sewerage and Sanitation shall be prepared, and updated, on a regular basis, by the National Economic and Development Authority (NEDA), in coordination with the concerned oversight water agencies, and shall provide the national policy framework. At the provincial level, the LGUs, through their respective Provincial Planning and Development Offices, shall prepare, and update, on an annual basis, the Provincial Water Supply, Sewerage and Sanitation Sector Plans. At the city/municipal level, a similar sector plan shall be prepared and updated, on an annual basis, by the LGUs, through their City/Municipal Planning and Development Offices. The respective Local Councils shall approve the provincial and city/municipal sector plans.

Article 25. Project Identification. On the basis of the provincial and city/municipal sector plans, water supply investments shall be identified and developed into a local investment program that includes an appropriate financing plan. The Local Council concerned shall approve the local investment program. The proposed investments shall then be developed according to a demand-driven approach that would allow beneficiaries to select from among cost-effective technical options

and from among financing options. The LGUs may avail of technical assistance from the DILG in the preparation of these project packages (Rule 5).

Water supply investment shall be developed to the principles of managing water services at the most appropriate level and providing services based on what local consumers want and are willing to pay for. This means that LGU systems shall be constructed on the basis of choosing among technical options that are affordable through the financial resources made available by users, communities and LGUs. The process of determining demand for a particular service delivery shall be concluded through a negotiated agreement between the LGU, water utility and the users, on how the costs will be shared at the town, barangay and household levels.

Article 26. Technical Aspects. Technically feasible options shall be developed, particularly for a Level III service level. These options may include varying levels of operation (in terms of operating hours), which may have substantial implications on capital and operating and maintenance costs. In addition, the operation and management (O&M) cost of a technical option is strongly influenced by the management mode chosen by an LGU, economies of scale factors and the size of the service area. Thus, for any Level III service, at least two technical options shall be explored; those of an inter-LGU service delivery organization involving amalgamation of service areas and of singled LGU management systems. The former option shall be explored and developed further only upon agreement with the LGU concerned.

In the conduct of the engineering work (i.e., feasibility studies and detailed design), the LGUs may tap the services of the private sector, using their internal resources or may request the DILG, DPWH and/or LWUA for financial and/or technical assistance.

Article 27. Financing and Management Options. A range of options is available to the LGUs on financing and management of Level III systems. They include, but are not limited to, the following options:

Option 1: The LGU may finance the system from its internal resources or may borrow from a financial institution. It may then create a **profit center within the LGU office** with a separate cost accounting system. Under this arrangement, the LGU may directly manage the system or may enter into a **management contract** with a private party or a **service contract** with a private party to handle billing and collection and/or repair and maintenance. In these types of management arrangements, the LGU retains the responsibility for providing the service and assumes the commercial risks. Institutions such as neighboring water districts, cooperatives and other private institutions may be tapped by the LGU for these types of contracts.

Option 2: The LGU may enter into a **lease contract** with private party to operate and manage the system. Under this arrangement, the LGU finances the capital expenditures from its internal resources or from borrowings. The LGU then leases the facility to a private party, which assumes the commercial risks and the responsibility for operation and maintenance. The private party is allowed to recover the costs from user fees, and may also collect, on behalf of the LGU, any other charges contributing to the repayment of a loan which the LGU may have taken on behalf of the users.

Option 3: The LGU may enter into **concession contract** with a private party. Under this arrangement, the private party assumes the operations and management of the assets of the LGU, and undertakes to expand and finance the services according to the terms and conditions of the contract. The private party is then allowed to operate the system, and recover its costs and earn a reasonable return on its investment from user fees. The private party also assumes the commercial risk. After the concession contract expires, the system reverts to the LGU, or may be contracted out again by the LGU.

Option 4: The LGU may create a **local water district**, in accordance with Presidential Decree No. 198, as amended.

Option 5: The LGU may **form a water company** to handle the provision of the service.

The LGU appoints the Board of Directors to be tapped from the private sector who would manage the company along commercial principles.

Options 6: The LGU may enter into contract with a private party under the **Build-Operate-Transfer scheme or any of its variants**, per Republic Act No. 6970, as amended, for the whole water system or a component of it (i.e., source development or distribution).

Option 7: The LGU may enter into a **joint venture agreement** with a private party in providing the service. Under this arrangement, both parties share in the risks of the project, as well as operate the water supply system through a shared management and organization structure.

In the contracts of LGUs with private parties, performance standards shall be stipulated including remedies for non-performance that are consistent with national regulatory laws.

The DILG, in its role of raising awareness of LGUs on opportunities in the sector, shall be responsible for informing the LGUs of these schemes, and in facilitating the implementation of the preferred option. Annex D provides a matrix of these various schemes.

RULE 8

COORDINATION AND COLLABORATION MECHANISMS

Article 28. Inter-LGU Collaboration. Provinces, cities, municipalities and barangays may assist, coordinate and collaborate with each other, as far as practicable, in the effort of improving the delivery of services to the Filipino people. The DILG shall take the lead in coordinating among the LGUs.

Article 29. Coordination between Local and National Governments. LGUs may avail of the technical, financial and institutional expertise of national agencies like LWUA, DPWH, DILG, NWRB, DOH and DENR. DILG, as appropriate, shall coordinate with other national agencies on behalf of the LGUs.

RULE 9

TRANSITION ARRANGEMENTS

Article 30. Ongoing Projects. The DPWH, DOH and DILG shall continue to implement ongoing foreign-assisted Level I projects until the completion of such projects.

Article 31. Pipeline Projects. Projects in the pipeline shall conform to the provisions of this IRR to the extent possible.

RULE 10

MISCELLANEOUS PROVISIONS

Article 32. Applicability Clause. The application of this IRR shall be without prejudice to existing and future laws, rules, regulations, and/or international agreements entered into by the Philippine Government.

Article 33. Effectivity of the IRR. These Implementing Rules and Regulations shall take effect upon its approval by the NEDA Board, on recommendation by the Infrastructure Committee. It shall then be published in at least two national newspapers of general circulation.

Annex A

NEDA Board Resolution No. 5 (series of 1998)

**APPROVING THE IRR ON THE DELINEATION OF
RESPONSIBILITIES IN THE DEVELOPMENT AND
IMPLEMENTATION OF WATER
SUPPLY PROJECTS**

On motion duly seconded,

BE IT RESOLVED, as it is hereby resolved, to approve as it is hereby approved, the Implementing Rules and Regulations (IRR) on the Delineation of Responsibilities in the Development and Implementation of Water Supply Projects.

UNANIMOUSLY APPROVED, 17 March 1998.

NEDA Board Resolution No. 4 (series of 1994)

**APPROVING THE RECOMMENDATION OF THE
INFRASTRUCTURE
COMMITTEE (INFRACOM) ON THE REFORMS IN THE WATER
SUPPLY SECTOR**

On motion duly seconded,

BE ITS RESOLVED, as it is hereby resolved, to approve and confirm, as the same is hereby approved and confirmed the following recommendations of the INFRACOM:

- a. Registration with the National Water Resources board (NWRB) of all drilling and the extraction of water therefrom, irrespective of the use of extracted water and ownership of the land where the well is to be drilled. Amendment to Article 6 of the Water Code (PD No. 1067) shall be initiated by NWRB to this effect. Subsequently, NWRB shall formulate rules and regulations for the effective enforcement of this requirement within sixty (60) days after approval of the proposed amendment.
- b. Strengthening of the NWRB staff in order to effectively cope with the planning, monitoring and implementation activities of the water resources sector. NWRB shall submit an action plan to this effect to INFRACOM for review and endorsement to the President of the NEDA Board.
- c. Reorientation of the Local Water Utilities Administration (LWUA) to its original corporate mission as a "specialized lending institution" financing only viable water supply projects with tariff levels formulated towards full cost recovery. LWUA shall therefore upgrade its banking and finance expertise and immediately complete its financial restructuring. Further, it should radically improve its collection efficiency as well as its database and accounting systems.
- d. Privatization of all existing Water Districts (WDs) should be vigorously pursued whenever feasible and large commercially viable water services areas like Metro Manila, Cebu, Zamboanga, Davao should be formed or converted into SEC-style private water corporations, independent of LWUA and other government funding institutions but subject to regulation by NWRB.

- e. Procurement needs of WDs should be provided based on a competitive basis and not centrally imposed.
- f. LWUA shall submit an action plan to INFRACOM to effect the recommended reforms for review and endorsement.
- g. With respect to the delineation of responsibilities in the sector, NEDA Board Resolution No. 5 (series of 1998) is proposed to be amended to allow local government units (LGUs) to implement all levels of water supply projects consistent with government's decentralization and devolution process, mandating LWUA to implement only financially viable projects and further defining the roles of the agencies in the sector. The proposed amendment is as follows:

"Level I (point source system), Level II (communal faucet) and Level III (house connections) water supply projects may be implemented by the concerned LGUs within their jurisdiction. LWUA shall implement only financially viable Level III water supply projects in areas outside the MWSS jurisdiction. DILG's participation will consist of general administration and institution building, such as assistance to the LGUs in the formation of Rural and/or Barangay Waterworks and Sanitation Associations (RWSAs/BWSAs) as well as in the identification of water supply systems. MWSS will be responsible for Level III water systems in Metro Manila and adjacent areas. DPWH, together with DILG and DOH, will provide technical assistance (within a period of about 2 years) to LGUs in the planning, implementation and operation and maintenance of water supply facilities".

UNANIMOUSLY APPROVED, 15 March 1994.

NEDA Board Resolution No. 6 (series of 1996)

**APPROVING THE RECOMMENDATIONS OF THE
INFRASTRUCTURE COMMITTEE (INFRACOM) ON THE
EXECUTING AGENCY ARRANGEMENT FOR THE DEVOLVED
INFRASTRUCTURE ACTIVITIES/FACILITIES**

On motion duly seconded,

BE IT RESOLVED as it is hereby resolved, to approve and confirm as the same is hereby approved and confirmed, the following recommendations of INFRACOM on national government (NG) assistance to Local Government Units (LGUs) in the implementation of devolved infrastructure activities/facilities under the Local Government Code in support of national priority programs in order to ensure efficiency, effectivity and more focused implementation consistent with the Government's decentralization and devolution objectives:

- a. DILG, which has administrative supervision over LGUs, shall be the lead national government agency (NGA) to oversee/administer NG assistance to LGUs in the implementation of devolved infrastructure programs/projects with the collaboration/participation of other concerned agencies. The identification and formulation of infrastructure programs/projects devolved to LGUs proposed for NG assistance shall therefore be coordinated with DILG to rationalize their development;
- b. The implementation of identified devolved infrastructure programs/projects shall be undertaken by the LGUs with DILG providing assistance in institution, capacity and capability building of the LGUs and with DPWH and other technical agencies providing and transferring technical expertise to the LGUs as necessary. The levels of capacities and capabilities of LGUs shall be determined by the DILG in coordination and collaboration with DPWH and other concerned agencies to determine, among others, the extent of support and assistance that these national agencies should provide in order to effect the successful implementation of devolved NG-assisted infrastructure programs/projects;
- c. DILG, as the lead agency, shall include in its annual budget the financial requirements necessary for the implementation of the identified and approved devolved infrastructure programs/projects.

This shall be without prejudice to any future funds arrangement that the national government may adopt with regard to NG assistance to LGUs for devolved projects particularly funds source from foreign loans and grants;

- d. For on-going and already committed devolved infrastructure programs/projects with NG assistance, the same shall be implemented with the previously identified NGA as lead in order not to disrupt its prosecution. However, there shall be phasing in at DILG and LGUs in the implementation arrangements for these devolved infrastructure projects in accordance with the provisions of this Resolution for purposes of policy and operational consistency and thus, effect a smooth transition;
- e. To efficiently and effectively implement the provisions of this Resolution, the INFRACOM shall formulate and periodically review the guidelines, rules and regulations that will clearly define the specific roles of the various concerned agencies in the implementation of NG assistance to LGUs for devolved infrastructure activities/utilities as well as the appropriate implementing mechanisms. In addition, INFRACOM shall likewise formulate the criteria and program for phasing out NG assistance to LGUs for devolved infrastructure activities/facilities;
- f. To carry out its tasks, the INFRACOM may request for financial and technical assistance from participating government agencies as well as from multilateral and bilateral sources; and
- g. The provisions of this Resolution shall apply to all NG assistance for devolved infrastructure activities/utilities unless otherwise explicitly provided for under the existing and future laws, such as the General Appropriations Act (GAA).

UNANIMOUSLY APPROVED, 12 March 1996.

MATRIX OF FINANCING AND MANAGEMENT OPTIONS

<u>O P T I O N</u>	<u>D E S C R I P T I O N</u>
LGU-Financed and Managed	The LGU finances the investment from its income and other resources available to it (e.g., URA, locally-generated taxes, grants) or borrows from a financial institution. It then establishes a profit center within the LGU office with a separate cost accounting system. Under this arrangement, the LGU directly manages the operations of the system. The LGU assumes the commercial risk.
Service Contract	The LGU finances the investment and directly operates and manages the system. It enters into contract with a private party to undertake billing and collection and/or repair and maintenance activities for a fee. The LGU maintains a profit center within the LGU office and assumes the commercial risk.
Management Contract	The LGU finances the investment and enters into contract with a private party to manage the system. The private party collects the water tariffs set by the LGU, operates and manages the system and in turn, is paid a management fee by the LGU. The LGU maintains a profit center within the LGU office and assumes the commercial risk.
Lease Contract	The LGU finances the capital expenditures and leases the facility to the private sector. The private sector assumes the commercial risks and the responsibility for operation and maintenance. To recover its costs, the private party is allowed to collect user fees as well as any other charges on behalf of the LGU.
Concession Contract	The LGU enters into contract with a private party to

undertake the investment. The private party assumes the assets of the LGU and undertakes to expand the services according to the terms and conditions of the contract. The private party is allowed to operate the system and to collect user fees to recover its costs and earn a reasonable return on its investment. After the contract expires, the system reverts to the LGU or may be contracted out again by the LGU.

Creation of a Local Water District

The LGU may create a local water district. The local water district finances the investment from a loan from the Local Water Utilities Administration (LWUA) and operates and manages the system. The local water district is then supervised by LWUA.

LGU Company

The LGU may form a water company to handle the provision of the service. The water company shall be duly registered with the Securities and Exchange Commission (SEC) and shall have share holdings which can be sold to the private sector in the future. The LGU appoints the board members to be selected from the private sector who would then manage the company along commercial principles.

Build-Operate-Transfer or any of its variants (per RA 6970 as amended)

Under the BOT scheme, the private sector finances the investment, operates it for a certain period of time after which the asset is transferred to the LGU. The private party is allowed to collect user fees to recover its costs and earn a reasonable rate of return on its investment. The LGU and the BOT proponent negotiate on the risk sharing.

Joint Venture Agreement

Under a joint venture agreement, the LGU and the private party share in the risks of the project and operate the system through a shared management and organizational structure.

**NEDA BOARD RESOLUTION
No. 5 (s. 1994)**

**APPROVING THE RECOMMENDATION
OF THE INFRASTRUCTURE COMMITTEE
(INFRACOM) ON THE NATIONAL POLICY,
STRATEGY AND ACTION PLAN FOR
URBAN SEWERAGE (LIQUID WASTE)
AND SANITATION**

On motion duly seconded,

BE IT RESOLVED, as it hereby resolved to approve as the same is hereby approved and confirmed the following recommendations of the INFRACOM:

A. NATIONAL POLICY

1. Provision of improved sewerage/sanitation services in urban areas shall be considered a high priority.
2. On-site sanitation facilities for all urban households / establishments readily adaptable to further sewerage systems shall be required.
3. All new subdivisions/housing developments shall provide simplified or conventional sewerage system/sanitation facilities.
4. Conventional or low-cost sewerage for central business districts and for potentially high-income residential areas where economically and financially viable shall be provided.
5. Treatment of industrial as well as collected city/municipality wastewater to established standards set forth by the DENR prior to disposal into the drainage system shall be required.
6. Provision of services shall be based on consumer demand and willingness to pay.

B. NATIONAL STRATEGY

1. A sanitation/sewerage program and a Central Sanitation/Sewerage program Support Office (CPSO) to coordinate subsector activities at the national level and to assist LGUs to plan and manage sanitation/sewerage programs at the community level shall be established.

2. External sources of assistance shall be explored provided as may be appropriate to enable Municipal Development Fund (MDF) facility or other financing sources to extend loans to LGUs for sanitation and sewerage projects.
3. LGUs shall primarily be the implementors of the sanitation/sewerage programs with the national government providing assistance to develop their capacities in the following areas: community participation, sub-sector planning, program management, regulation of development, selection of technologies, financial management, construction supervision, O&M, monitoring and reporting.

C. ACTION PLAN

1. A CPSO shall be created and housed at LWUA with the LWUA Board exercising over-all jurisdiction over its operations. An Inter-departmental Advisory Committee (IAC) composed of representatives from DPWH, DOH, DILG, DOF, DBM, LWUA, DENR, MWSS and NEDA shall likewise be created and act as the coordination body in the implementation and monitoring of urban sewerage and sanitation programs particularly the five (5) pilot areas (Davao City, Calamba, Dagupan City, Roxas City and Cotabato City). The representatives to the IAC shall preferably be Asst. Sec. or Dir. level. The Chairman of the IAC and the Dir. of the CPSO shall be appointed by the LWUA Board.
2. LWUA shall fully staff the CPSO from within its existing manpower as soon as possible. An international institutional development consultant shall be engaged to assist the CPSO to design and implement the activities. The CPSO shall exist for a period of about 3 to 5 years or until after its functions have been fully devolved to the LGUs.

UNANIMOUSLY APPROVED, 15 March 1994.

Certified true copy:

FORTUNATO R. ABRENILLA
Acting Board Secretary
and Director, Legal Staff



7. WATER SOURCE DEVELOPMENT

7.1 General

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PWASP)			Page: 1 of 23		
Content: Water Source - General Information			Date:		
Data Collection Level: Provincial		Province No.: 0630	Filename: Water Source.xls		
Region Number: VI		Province Name: Iloilo		Form Number: P.4.1	
	Type of Water Source		Shallow Well	Deep Well	Spring
	Total number of water sources	Number	34,853	8,989	913
Imple- mentor	Government Agency	Number	11,891	2,875	906
	Private	Number	22,962	6,114	7
Level	Level I	Number	34,838	8,971	766
	Level II	Number	15	7	140
	Level III	Number		11	7
Ownership	Water District	Number		5	
	MEO/CEO	Number			
	RWSA	Number			
	BWSA	Number	12	8	106
	Institution	Number			1
	Commercial Establishment	Number			
	Industrial/Agricultural Undertaking	Number			
	Public (Domestic)	Number	12,806	2,862	799
	Private (Domestic)	Number	22,035	6,114	7
Abstraction	Submersible/Turbine	Number			
	Centrifugal	Number			
	Handpump	Number			
	Bucket & Rope	Number			
	Free Flowing	Number			
Usage	Drinking	Number			
	Washing/Bathing	Number			
	Gardening/Irrigation	Number			
	Big-Scale Irrigation	Number			
	Production	Number			
Water Quality	No Quality Problem	Number			
	High Iron/Mag. Content	Number			
	High Chloride Content	Number			
	Turbidity/Colored/Smell	Number			
	Polluted/Contaminated	Number			
	Chlorinated	Number			
	Treated	Number			
Production	Seasonal Production	Number			
	Average Capacity < 240 m ³ /day	Number	3	5	17
	Average Capacity >= 240 m ³ /day	Number	34,850	8,984	896
	Number of Household < 5	Number			
	Number of Household >= 5	Number			

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 2 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Ajuy			Alimodian		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	522	1	8	611	4	42
Imple- mentor	Government Agency	Number	123	1	8	282	4	42
	Private	Number	399			329		
Level	Level I	Number	521		1	607	3	30
	Level II	Number	1	1	7	4	1	12
	Level III	Number						
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number	1			4	1	
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	122	1	8	607	3	42
	Private (Domestic)	Number	399					
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						9
	Average Capacity >= 240 m ³ /day	Number	522	1	8	611	4	33
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 3 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Anilao			Badiangan		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	500	1		162	610	1
Imple- mentor	Government Agency	Number	459	1		114	449	1
	Private	Number	41			48	161	
Level	Level I	Number	500			162	609	
	Level II	Number					1	
	Level III	Number		1				1
Ownership	Water District	Number		1				
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number					1	
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	459			114	448	1
Private (Domestic)	Number	41			48	161		
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						
	Average Capacity >= 240 m ³ /day	Number	500	1		162	610	1
	Number of Household < 5	Number						
Number of Household >= 5	Number							

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 4 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Balasan			Banate		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	381			550	33	1
Implementor	Government Agency	Number	373			85	28	1
	Private	Number	8			465	5	
Level	Level I	Number	381			550	33	1
	Level II	Number						
	Level III	Number						
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number						
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	373			85	28	1
Private (Domestic)	Number	8			465	5		
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
Treated	Number							
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						
	Average Capacity >= 240 m ³ /day	Number	381			550	33	1
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 5 of 23		
Content: Water Source - General Information							Date:		
Data Collection Level: Provincial				Province No.: 0630			Filename: Water Source.xls		
Region Number: VI				Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Barotac Nuevo			Barotac Viejo			
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring	
	Total number of water sources	Number	11	2,436		635		5	
Implementor	Government Agency	Number	11	666		282		5	
	Private	Number		1,770		353			
Level	Level I	Number	11	2,435		635			
	Level II	Number						5	
	Level III	Number		1					
Ownership	Water District	Number							
	MEO/CEO	Number							
	RWSA	Number							
	BWSA	Number							
	Institution	Number							
	Commercial Establishment	Number							
	Industrial/Agricultural Undertaking	Number							
	Public (Domestic)	Number	11	666		282		5	
	Private (Domestic)	Number		1,770		353			
Abstraction	Submersible/Turbine	Number							
	Centrifugal	Number							
	Handpump	Number							
	Bucket & Rope	Number							
	Free Flowing	Number							
Usage	Drinking	Number							
	Washing/Bathing	Number							
	Gardening/Irrigation	Number							
	Big-Scale Irrigation	Number							
	Production	Number							
Water Quality	No Quality Problem	Number							
	High Iron/Manganese Content	Number							
	High Chloride Content	Number							
	Turbidity/Colored/Smell	Number							
	Polluted Contaminated	Number							
	Chlorinated	Number							
	Treated	Number							
Production	Seasonal Production	Number							
	Average Capacity < 240 m ³ /day	Number		1					
	Average Capacity >= 240 m ³ /day	Number	11	2,435		635		5	
	Number of Household < 5	Number							
Number of Household >= 5	Number								

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 6 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Batad			Bingawan		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	235	1	4	82		2
Imple- mentor	Government Agency	Number	105	1	4	76		2
	Private	Number	130			6		
Level	Level I	Number	235		1	82		2
	Level II	Number			3			
	Level III	Number		1				
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number						
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	105	1	4	76		2
	Private (Domestic)	Number	130			6		
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						
	Average Capacity >= 240 m ³ /day	Number	235	1	4	82		2
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 7 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities		Cabatuan			Calinog		
	Type of Water Source	Character	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	1,410	125	1	606		
Imple- mentor	Government Agency	Number	264	59	1	333		
	Private	Number	1,146	66		273		
Level	Level I	Number	1,410	124		606		
	Level II	Number		1	1			
	Level III	Number						
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number		1	1			
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	264	58		333		
	Private (Domestic)	Number	1,146	66		273		
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
Production	Treated	Number						
	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						
	Average Capacity >= 240 m ³ /day	Number	1,410	125	1	606		
	Number of Household < 5	Number						
Number of Household >= 5	Number							

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 8 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities		Character	Carles			Concepcion	
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	117	2	9	359		7
Imple- mentor	Government Agency	Number	84	2	9	90		7
	Private	Number	33			269		
Level	Level I	Number	115	1		359		
	Level II	Number	2	1	9			7
	Level III	Number						
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number	2	1	9			7
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	82	1		90		
Private (Domestic)	Number	33			269			
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						
	Average Capacity >= 240 m ³ /day	Number	117	2	9	359		7
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 9 of 23	
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Dingle			Duenas		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	20	2,128	2	1,097	314	1
Imple- mentor	Government Agency	Number		584	2	506	86	1
	Private	Number	20	1,544		591	228	
Level	Level I	Number	20	2,128		1,097	313	1
	Level II	Number			2			
	Level III	Number					1	
Ownership	Water District	Number					1	
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number			2			
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number		584		506	85	1
Private (Domestic)	Number	20	1,544		591	228		
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						
	Average Capacity >= 240 m ³ /day	Number	20	2,128	2	1,097	314	1
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 10 of 23	
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Dunsangas			Estancia		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	372	5		116	2	
Imple- menter	Government Agency	Number	309	4		70	2	
	Private	Number	63	1		46		
Level	Level I	Number	372	5		116	1	
	Level II	Number						
	Level III	Number					1	
Ownership	Water District	Number					1	
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number						
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	309	4		70	1	
	Private (Domestic)	Number	63	1		46		
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted&Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						
	Average Capacity >= 240 m ³ /day	Number	372	5		116	2	
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 11 of 23	
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Guimbal			Igbaras		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	1,223	2	2	755		181
Imple- mentor	Government Agency	Number	477	2	2	287		174
	Private	Number	746			468		7
Level	Level I	Number	1,222		1	755		174
	Level II	Number	1		1			7
	Level III	Number		2				
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number	1		1			
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	476	2	1	287		174
Private (Domestic)	Number	746			468		7	
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						6
	Average Capacity >= 240 m ³ /day	Number	1,223	2	2	755		175
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 12 of 23	
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Janiuay			Lambunao		
			Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well
	Total number of water sources	Number	2,368	1	1	1,458		
Imple- mentor	Government Agency	Number	419	1	1	810		
	Private	Number	1,949			648		
Level	Level I	Number	2,368		1	1,458		
	Level II	Number						
	Level III	Number		1				
Ownership	Water District	Number		1				
	MEO/CFO	Number						
	RWSA	Number						
	BWSA	Number						
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	419		1	810		
	Private (Domestic)	Number	1,949			648		
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number		1				
	Average Capacity >= 240 m ³ /day	Number	2,368		1	1,458		
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 13 of 23		
Content: Water Source - General Information							Date:		
Data Collection Level: Provincial				Province No.: 0630		Filename: Water Source.xls			
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1			
	Name of Municipalities	Character	Leganes			Lemery			
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring	
Imple- mentor	Total number of water sources	Number	584	2		2,476		1	
	Government Agency	Number	145	2		33		1	
	Private	Number	439			2,443			
Level	Level I	Number	583			2,476			
	Level II	Number	1	2				1	
	Level III	Number							
Ownership	Water District	Number							
	MEO/CEO	Number							
	RWSA	Number							
	BWSA	Number		2				1	
	Institution	Number							
	Commercial Establishment	Number							
	Industrial/Agricultural Undertaking	Number							
	Public (Domestic)	Number	145			33			
	Private (Domestic)	Number	439			2,443			
Abstraction	Submersible/Turbine	Number							
	Centrifugal	Number							
	Handpump	Number							
	Bucket & Rope	Number							
	Free Flowing	Number							
Usage	Drinking	Number							
	Washing/Bathing	Number							
	Gardening/Irrigation	Number							
	Big-Scale Irrigation	Number							
	Production	Number							
Water Quality	No Quality Problem	Number							
	High Iron/Manganese Content	Number							
	High Chloride Content	Number							
	Turbidity/Colored/Smell	Number							
	Polluted/Contaminated	Number							
	Chlorinated	Number							
	Treated	Number							
Production	Seasonal Production	Number							
	Average Capacity < 240 m ³ /day	Number		1					
	Average Capacity >= 240 m ³ /day	Number	584	1		2,476		1	
	Number of Household < 5	Number							
	Number of Household >= 5	Number							

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 14 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Leon			Maasin		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	964	7	99	556	3	
Imple- mentor	Government Agency	Number	311	2	99	127	3	
	Private	Number	653	5		429		
Level	Level I	Number	964	5	87	556	3	
	Level II	Number			12			
	Level III	Number		2				
Ownership	Water District	Number		1				
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number		1	12			
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	311		87	127	3	
Private (Domestic)	Number	653	5		429			
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number		1				
	Average Capacity >= 240 m ³ /day	Number	964	6	99	556	3	
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 15 of 23	
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Miagao			Mina		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	1,938	2	107	993	4	
Imple- mentor	Government Agency	Number	807	2	107	186	3	
	Private	Number	1,131			807	1	
Level	Level I	Number	1,938	2	103	993	4	
	Level II	Number			4			
	Level III	Number						
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number			4			
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	807	2	103	186	3	
	Private (Domestic)	Number	1,131			807	1	
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Inigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						
	Average Capacity >= 240 m ³ /day	Number	1,938	2	107	993	4	
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 16 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	New Lucena			Oton		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	292	115	7	1,752		
Imple- mentor	Government Agency	Number	171	111	7	292		
	Private	Number	121	4		1,460		
Level	Level I	Number	292	114	7	1,752		
	Level II	Number						
	Level III	Number		1				
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number		1				
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	171	110	7	292		
Private (Domestic)	Number	121	4		1,460			
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
Production	Treated	Number						
	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number		1				
	Average Capacity >= 240 m ³ /day	Number	292	114	7	1,752		
	Number of Household < 5	Number						
Number of Household >= 5	Number							

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 17 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Passi			Pavia		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	1,123	11	305	991	3	1
Imple- mentor	Government Agency	Number	524	11	305	236	3	1
	Private	Number	599			755		
Level	Level I	Number	1,123	11	302	991	3	
	Level II	Number			1			1
	Level III	Number			2			
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number						
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	524	11	305	236	3	1
	Private (Domestic)	Number	599			755		
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored&Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						
	Average Capacity >= 240 m ³ /day	Number	1,123	11	305	991	3	1
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 18 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Pototan			San Dionisio		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	2,304		1	706		14
Imple- mentor	Government Agency	Number	774		1	655		14
	Private	Number	1,530			51		
Level	Level I	Number	2,304			706		
	Level II	Number			1			12
	Level III	Number						2
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number			1			14
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	774			655		
Private (Domestic)	Number	1,530			51			
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						1
	Average Capacity ≥ 240 m ³ /day	Number	2,304		1	706		13
	Number of Household < 5	Number						
	Number of Household ≥ 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 19 of 23	
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	San Enrique			San Joaquin		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	1,321	17		1,276		43
Imple- mentor	Government Agency	Number	324	17		380		43
	Private	Number	997			896		
Level	Level I	Number	1,321	17		1,276		
	Level II	Number						42
	Level III	Number						1
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number						42
	Institution	Number						1
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	324	17		380		
Private (Domestic)	Number	997			896			
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						1
	Average Capacity >= 240 m ³ /day	Number	1,321	17		1,276		42
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)						Page: 20 of 23		
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	San Miguel			San Rafael		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	456			1	539	20
Imple- mentor	Government Agency	Number	118			1	148	20
	Private	Number	338				391	
Level	Level I	Number	454			1	539	20
	Level II	Number	2					
	Level III	Number						
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number	2					
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	454			1	148	20
Private (Domestic)	Number					391		
Abstraction	Submersible/turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number	1					
	Average Capacity >= 240 m ³ /day	Number	455			1	539	20
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 21 of 23	
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Santa Barbara			Sara		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	254	74	1	260	2,500	4
Imple- mentor	Government Agency	Number	254	74	1		569	4
	Private	Number				260	1,931	
Level	Level I	Number	254	74	1	260	2,500	
	Level II	Number						3
	Level III	Number						1
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number						4
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	254	74	1	260	569	
Private (Domestic)	Number					1,931		
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number						
	Average Capacity >= 240 m ³ /day	Number	254	74	1	260	2,500	4
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 22 of 23	
Content: Water Source - General Information						Date:		
Data Collection Level: Provincial			Province No.: 0630			Filename: Water Source.xls		
Region Number: VI			Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Tigbauan			Tubungan		
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
	Total number of water sources	Number	2,178	4	3	43	43	40
Imple- mentor	Government Agency	Number	617	4	3	30	36	40
	Private	Number	1,561			13	7	
Level	Level I	Number	2,175	4	3	42	43	31
	Level II	Number	3			1		9
	Level III	Number						
Ownership	Water District	Number						
	MEO/CEO	Number						
	RWSA	Number						
	BWSA	Number	1			1		8
	Institution	Number						
	Commercial Establishment	Number						
	Industrial/Agricultural Undertaking	Number						
	Public (Domestic)	Number	616	4	3	29	36	32
Private (Domestic)	Number	1,561			13	7		
Abstraction	Submersible/Turbine	Number						
	Centrifugal	Number						
	Handpump	Number						
	Bucket & Rope	Number						
	Free Flowing	Number						
Usage	Drinking	Number						
	Washing/Bathing	Number						
	Gardening/Irrigation	Number						
	Big-Scale Irrigation	Number						
	Production	Number						
Water Quality	No Quality Problem	Number						
	High Iron/Manganese Content	Number						
	High Chloride Content	Number						
	Turbidity/Colored/Smell	Number						
	Polluted/Contaminated	Number						
	Chlorinated	Number						
	Treated	Number						
Production	Seasonal Production	Number						
	Average Capacity < 240 m ³ /day	Number	2					
	Average Capacity >= 240 m ³ /day	Number	2,176	4	3	43	43	40
	Number of Household < 5	Number						
	Number of Household >= 5	Number						

Table 7.1.1 Water Sources Information

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)							Page: 23 of 23		
Content: Water Source - General Information						Date:			
Data Collection Level: Provincial				Province No.: 0630		Filename: Water Source.xls			
Region Number: VI				Province Name: Iloilo			Form Number: P.4.1		
	Name of Municipalities	Character	Zarraga						
	Type of Water Source	Number	Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring	
	Total number of water sources	Number	795						
Imple- mentor	Government Agency	Number	347						
	Private	Number	448						
Level	Level I	Number	795						
	Level II	Number							
	Level III	Number							
Ownership	Water District	Number							
	MEO/CEO	Number							
	RWSA	Number							
	BWSA	Number							
	Institution	Number							
	Commercial Establishment	Number							
	Industrial/Agricultural Undertaking	Number							
	Public (Domestic)	Number	347						
	Private (Domestic)	Number	448						
Abstraction	Submersible/Turbine	Number							
	Centrifugal	Number							
	Handpump	Number							
	Bucket & Rope	Number							
	Free Flowing	Number							
Usage	Drinking	Number							
	Washing/Bathing	Number							
	Gardening/Irrigation	Number							
	Big-Scale Irrigation	Number							
	Production	Number							
Water Quality	No Quality Problem	Number							
	High Iron/Manganese Content	Number							
	High Chloride Content	Number							
	Turbidity/Colored/Smell	Number							
	Polluted/Contaminated	Number							
	Chlorinated	Number							
	Treated	Number							
Production	Seasonal Production	Number							
	Average Capacity < 240 m ³ /day	Number							
	Average Capacity >= 240 m ³ /day	Number	795						
	Number of Household < 5	Number							
	Number of Household >= 5	Number							

Table 7.1.2 Major References

Report/Information	Agency/Author	Contents	Reference Data/Description	Output
1. Topographic Map (1:250,000)	NAMRIA	political boundary, topographic major river basins & road contour, river, road, etc.		Location Map (Base Map of the Province)
2. Rapid Assessment of Water Supply Sources	NWRB	groundwater availability, well inventory	well depth, static water level, specific capacity, etc.	Groundwater Availability Map
3. Individual Well Information Database	NWRB	location & well inventory	location with well depths & water levels	Individual Well Location Map
4. Groundwater Resources Investigation	NWRB	groundwater potential	high yielding and water quality problem areas	Groundwater Availability Map
5. Geological Map of the Philippines	BMGS	lithologic distribution and structures	aquifers distribution	Groundwater Availability Map
6. Philippine Water Resources Summary Data	NWRB	location map & runoff records	runoff record & statistical data	River Flow Duration Curve & Probability of Surface Water
7. Road Network Map of the Province	PPDC	major road & municipality boundaries	municipal boundaries	Distribution Map of Urban & Rural Areas
8. Feasibility Study Reports of the Water Districts	LWUA	well field information	groundwater potential & quality	Groundwater Availability Map
9. Water Quality Analysis Result	Water Districts	water quality results	water sources quality	Groundwater Availability Map & Groundwater Quality
10. Water Quality Analysis Result	PHO, PSPT	water quality results	water sources quality	Groundwater Availability Map & Water Sources Quality
11. Assessment of the Mineral Production	DENR	location, activity of the mining sites	location & activity of the mining sites	River Network Map
12. General Information of Groundwater	DEO, PSPT	groundwater availability	low yielding and water quality problem area	Groundwater Availability Map
13. Well Inventory	DEO, PSPT	location and well information	well depth, static water level, specific capacity, etc.	Existing Well Inventory
14. Spring Inventory	DEO, PSPT	location and spring information	discharge, distance & elevation	Water Sources Information
15. Pumping Test Data	DEO	pumping test results	well capacity	Groundwater Availability Map