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

8.6.1 Water Supply

(1) Required water supply facilities

Urban water supply:

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

As reference, the following requirements were also estimated:

- daily average water demand at 100 lpcd consumption rate, and
- number of deep wells to meet the daily maximum water demand based on the groundwater productivity.
  (daily maximum water demand = 1.3 x daily average water demand)

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

Rural water supply:

Rural water supply facilities required by target year shown in Tables 8.6.3 (a) and (b) were estimated as the number of Level II systems with number of communal faucets and the number of Level I wells broken-down to deep and shallow wells. However, Level II systems shall be excluded from medium-term plan due to no Level II projects under ADB-assisted project.

(2) Required well drilling and rehabilitation equipment

Presently, the DPWH-DEO (Maasin) has one unit of percussion type drilling rig (not operational) applicable for 8" of bore hole diameter and 300 ft well depth, but it is not operational.

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

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

Table 8.6.1 Urban Water Supply Facilities Required by Target Year

Name of Municipality	Reference on Expansion of Existing Level III System						Phase I (2004) Requirements				Phase II (2010) Requirements			
	Name of Operating Body	Area	Coverage in 1998		Type of Water Source	Plan for Expansion	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m^3/day)	Number of Spring Dev't./ Deep Well	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m^3/day)	Number of Spring Dev't./ Deep Well
			No. of Barangay Served	Served Population										
Anahawan	Anahawan WWS	Urban	3	1,483	SP	No	539	115	54	1	579	145	58	1
		Rural	4	955										
		Total	7	2,438										
Bontoc	Bontoc WWS	Urban	5	1,068	DW/SP	No	694	139	69	1	1,749	437	175	1
		Rural	1	22										
		Total	6	1,090										
	Mahayahay WS	Urban			SP	No								
		Rural	1	240										
		Total	1	240										
	PAWASA	Urban			SP	No								
		Rural	1	706										
		Total	1	706										
	Brgy. San Vicente	Urban			SP	No								
		Rural	1	192										
		Total	1	192										
	Municipal Total	Urban	5	1,068										
		Rural	4	1,160										
		Total	9	2,228										
Hinunangan	Hinunangan	Urban	2	1,226	SP	No	364	78	36	1	275	69	28	1
		Rural	19	5,638										
		Total	21	6,864										
	Manlico	Urban			SP	No								
		Rural	1	459										
		Total	1	459										
	Municipal Total	Urban	2	1,226										
		Rural	20	6,097										
		Total	22	7,323										
Hinundayan	Hinundayan	Urban	4	1,270	SP	No	992	210	99	1	3,066	767	307	1
		Rural	8	2,328										
		Total	12	3,598										
Libagon	Libagon WS	Urban	2	409	SP	No					925	231	93	1
		Rural	2	859										
		Total	4	1,268										
Liloan	Liloan	Urban	1	1,075		No					3,184	796	318	1
		Rural	1	349										
		Total	2	1,424										
Limasawa	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.	244	50	24	1	1,081	270	108	1
		Rural	N.A.	N.A.										
		Total												
Maasin (Capital)	Maasin WD	Urban		10,815	SP	No	7,772	1,606	777	2	21,202	5,301	2,120	3
		Rural	14	5,210										
		Total	14	16,025										
Macrohon	Amparo WS	Urban				No					4,179	1,045	418	1
		Rural	1	269										
		Total	1	269										
	Ichon	Urban			SP	No								
		Rural	1	243										
		Total	1	243										

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

Name of Municipality	Reference on Expansion of Existing Level III System						Phase I (2004) Requirements				Phase II (2010) Requirements			
	Name of Operating Body	Area	Coverage in 1998		Type of Water Source	Plan for Expansion	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m^3/day)	Number of Spring Dev't./ Deep Well	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m^3/day)	Number of Spring Dev't./ Deep Well
			No. of Barangay Served	Served Population										
Macrohon	San Roque WWS	Urban	1	340	SP	No								
		Rural	3	285										
		Total	4	625										
	San Vicente	Urban	4	1,775	SP	No								
		Rural	3											
		Total	7	1,775										
	Municipal Total	Urban	5	2,115										
		Rural	8	797										
		Total	13	2,912										
Malitbog	Malitbog WW	Urban	4	1,240	DW	No	673	131	67	1	1,805	451	181	1
		Rural												
		Total	4	1,240										
Padre Burgos	Padres Burgos	Urban	2	2,065		No					858	215	86	1
		Rural	2	1,123										
		Total	4	3,188										
Pintuyan	Pintuyan WWS	Urban	3	285	SP	No	207	41	21	1	601	150	60	1
		Rural	18	889										
		Total	21	1,172										
Saint Bernard	Mun. WWS	Urban	3	3,400	SP	No	837	174	84	1	174	44	17	1
		Rural	5	4,976										
		Total	8	8,376										
San Francisco	San Francisco WW	Urban	3	1,844	SP	No					121	30	12	1
		Rural												
		Total	3	1,844										
San Juan (Cabalian)	Not Applicable	Urban	N.A.	N.A.	N.A.	N.A.	698	153	70	1	2,845	711	285	1
		Rural	N.A.	N.A.										
		Total												
San Ricardo	San Ricardo	Urban	1	487	SP	No	128	28	13	1				
		Rural	2	1,120										
		Total	3	1,607										
Silago	Balagawan	Urban			SP	No					1,350	338	135	1
		Rural	1	364										
		Total	1	364										
	Catmon	Urban			SP	No								
		Rural	1	68										
		Total	1	68										
	Hingatungan	Urban			SP	No								
		Rural	1	961										
		Total	1	961										
	Imelda	Urban			SP	No								
		Rural	1	84										
		Total	1	84										
	Katipunan	Urban			SP	No								
		Rural	1	201										
		Total	1	201										
	Laguna	Urban			SP	No								
		Rural	1	350										
		Total	1	350										

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

Name of Municipality	Reference on Expansion of Existing Level III System						Phase I (2004) Requirements				Phase II (2010) Requirements			
	Name of Operating Body	Area	Coverage in 1998		Type of Water Source	Plan for Expansion	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m^3/day)	Number of Spring Dev't./ Deep Well	Additional Population to be Served	Number of House Connections	Daily Average Water Demand (m^3/day)	Number of Spring Dev't./ Deep Well
			No. of Barangay Served	Served Population										
Silago	Mercedes	Urban			SP	No								
		Rural	1	309										
		Total	1	309										
	Puntana WWS	Urban	1	824	SP	No								
		Rural												
		Total	1	824										
	Salvacion	Urban			SP	No								
		Rural	1	237										
		Total	1	237										
	Sap-ang	Urban			SP	No								
		Rural	1	139										
		Total	1	139										
	Sudmon	Urban			SP	No								
		Rural	1	191										
		Total	1	191										
	Tuba-on	Urban			SP	No								
		Rural	1	148										
		Total	1	148										
	Tubod	Urban			SP	No								
		Rural	1	338										
		Total	1	338										
	Municipal Total	Urban	1	824										
		Rural	12	3,390										
		Total	13	4,214										
Sogod	Sogod WD	Urban	5	5,583	SP	No	2,183	445	218	1	3,454	864	345	1
		Rural	8	9,584										
		Total	13	15,167										
Tomas Oppus	Tomas Oppus	Urban	2	771	SP	No					1,005	251	101	1
		Rural												
		Total	2	771										
Provincial Total		Urban	46	35,958			15,331	3,170	1,532	13	48,455	12,115	4,847	20
		Rural	108	38,837										
		Total	154	74,795										

Table 8.6.2 Plan for Expansion of Existing Level III Systems

Name of Municipality	Name of Operating Body	Additional Areas Barangay to be Covered	Additional Population to be Served	Additional Water Sources	
				Type	Capacity (m^3/day)
Anahawan	Anahawan WWS				
Bontoc	Bontoc WWS				
	Mahayahay WS				
	PAWASA				
	Brgy. San Vicente				
	Municipal Total				
Hinunangan	Hinunangan				
	Manlico				
	Municipal Total				
Hinundayan	Hinundayan				
Libagon	Libagon WS				
Liloan	Liloan				
Maasin (Capital)	Maasin WD				
Macrohon	Amparo WS				
	Ichon				
	San Roque WWS				
	San Vicente				
	Municipal Total				
Malitbog	Malitbog WW				
Padre Burgos	Padres Burgos				
Pintuyan	Pintuyan WWS				
Saint Bernard	Mun. WWS				
San Francisco	San Francisco WW				
San Ricardo	San Ricardo				
Silago	Balagawan				
	Catmon				
	Hingatungan				
	Imelda				
	Katipunan				
	Laguma				
	Mercedes				
	Puntana WWS				
	Salvacion				
	Sap-ang				
	Sudmon				
	Tuba-on				
	Tubod				
	Municipal Total				
Sogod	Sogod WD				
Tomas Oppus	Tomas Oppus				

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

Name of Municipality	Phase I (2004) Requirements								Phase II (2010) Requirements					
	Level II		Level I						Level I					
	Number of System	No. of Communal Faucets	Number of Deep Wells				No. of Shallow Wells	Total	Number of Deep Wells				No. of Shallow Wells	Total
			40 m	80 m	120 m	Sub-total			40 m	80 m	120 m	Sub-total		
Anahawan							17	17						
Bontoc				22		22	2	24		56		56	6	62
Hinunangan				1		1	1	2		6		6	22	28
Hinundayan			1			1	2	3						
Libagon				2		2		2		6		6		6
Liloan				1		1		1						
Limasawa							24	24					8	8
Maasin (Capital)					50	50	5	55			22	22	2	24
Macrohon				16		16	1	17		3		3		3
Malitbog				19		19	8	27		59		59	25	84
Padre Burgos				39		39	4	43						
Pintuyan							3	3					63	63
Saint Bernard				1		1		1		17		17	25	42
San Francisco			1			1	1	2	11			11	25	36
San Juan (Cabalian)							1	1					24	24
San Ricardo														
Silago			2			2	10	12						
Sogod					14	14	8	22			35	35	22	57
Tomas Oppus				12		12	2	14						
Provincial Total			4	113	64	181	89	270	11	147	57	215	222	437

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

Name of Municipality	Phase I (2004) Requirements								Phase II (2010) Requirements							
	Percenatge Allocated to Public Facility (100%)								Percenatge Allocated to Public Facility (50%)							
	Percentage Allocated for Public Wells (80%) and Percentage Allocated for Public Spring Development (20%)								Percentage Allocated for Public Wells (80%) and Percentage Allocated for Public Spring Development (20%)							
	Number of Deep Wells				No. of Shallow Wells	Total	No. of Spring Dev.	Grand Total	Number of Deep Wells				No. of Shallow Wells	Total	No. of Spring Dev.	Grand Total
	40 m	80 m	120 m	Sub-total					40 m	80 m	120 m	Sub-total				
Anahawan		10		10		10	7	17								
Bontoc		16		16	1	17	7	24		23		23	2	25	6	31
Hinunangan							2	2		3		3	8	11	3	14
Hinundayan		1		1		1	2	3								
Libagon							2	2		2		2		2	1	3
Liloan		1		1		1		1								
Limasawa		2		2	21	23	1	24					3	3	1	4
Maasin (Capital)		37		37	4	41	14	55			9	9	1	10	2	12
Macrohon		4		4	6	10	7	17		2		2		2		2
Malitbog		1		1	20	21	6	27		24		24	10	34	8	42
Padre Burgos		8		8	30	38	5	43								
Pintuyan							3	3					26	26	6	32
Saint Bernard							1	1		7		7	10	17	4	21
San Francisco		1		1		1	1	2	5			5	9	14	4	18
San Juan (Cabalian)					1	1		1					10	10	2	12
San Ricardo																
Silago		4		4	7	11	1	12								
Sogod		3		3	16	19	3	22			14	14	9	23	6	29
Tomas Oppus		7		7	3	10	4	14								
Provincial Total		95		95	109	204	66	270	5	61	23	89	88	177	43	220

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

Average performance

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

Annual accomplishment

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

Required number

- 2 sets for the total 95 deep wells under the ADB-assisted project

Well rehabilitation equipment:

Average performance

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

Annual accomplishment

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

Required number

- 1 set for 10% of 95 Level I deep wells

Support vehicle:

Type - pick-up truck with winch, double cab

Required number

- 1 unit for well rehabilitation

Considering the non-operational existing percussion drilling rig, it is necessary for the province to mobilize at least two (2) units of medium size percussion rig for implementation of the ADB-assisted project. In addition, two (2) units of service truck equipped with crane are required for a percussion rig for hauling drilling tools and water. However, the following equipment shall be considered for medium-term development plan to the physical targets:

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

Table 8.6.4 Urban Household Toilets Required by Target Year

Name of Municipality	Phase I (2004) Requirements								Phase II (2010) Requirements							
	Additional HHs to be Served				No. of HHs to be Served				Additional HHs to be Served				No. of HHs to be Served			
	Flush	Pour Flush	VIP/ Dry	Total	Flush	Pour Flush	VIP/ Dry	Total	Flush	Pour Flush	VIP/ Dry	Total	Flush	Pour Flush	VIP/ Dry	Total
Anahawan									316			316	316			316
Bontoc									339			339	339			339
Hinunangan	8	86		94	8	86		94	195			195	195			195
Hinundayan	58	169		227	58	169		227	563			563	563			563
Libagon									163			163	163			163
Liloan	64			64	64			64	446			446	446			446
Limasawa	25			25	25			25	141			141	141			141
Maasin (Capital)	647	3,034		3,681	647	3,034		3,681	4,187			4,187	4,187			4,187
Macrohon	127	12		139	127	12		139	660			660	660			660
Malitbog	24	102		126	24	102		126	401			401	401			401
Padre Burgos	34	302		336	34	302		336	314			314	314			314
Pintuyan	20	38		58	20	38		58	117			117	117			117
Saint Bernard	16	221		237	16	221		237	467			467	467			467
San Francisco	18	35		53	18	35		53	202			202	202			202
San Juan (Cabalian)	25	227		252	25	227		252	368			368	368			368
San Ricardo	14	6		20	14	6		20								
Silago	44			44	44			44	228			228	228			228
Sogod	173	599		772	173	599		772	1,185			1,185	1,185			1,185
Tomas Oppus									211			211	211			211
Provincial Total	1,297	4,831		6,128	1,297	4,831		6,128	10,503			10,503	10,503			10,503

Table 8.6.5 Rural Household Toilets Required by Target Year

Name of Municipality	Phase I (2004) Requirements								Phase II (2010) Requirements							
	Additional HHs to be Served				No. of HHs to be Served				Additional HHs to be Served				No. of HHs to be Served			
	Flush	Pour Flush	VIP/ Dry	Total	Flush	Pour Flush	VIP/ Dry	Total	Flush	Pour Flush	VIP/ Dry	Total	Flush	Pour Flush	VIP/ Dry	Total
Anahawan									852	209		1,061	852	209		1,061
Bontoc		430		430		430		430	898			898	898			898
Hinunangan									267			267	267			267
Hinundayan									395			395	395			395
Libagon									341			341	341			341
Liloan										271		271		271		271
Limasawa		3		3		3		3								
Maasin (Capital)									577	48		625	577	48		625
Macrohon	24	40		64	24	40		64		1,351		1,351		1,351		1,351
Malitbog		222		222		222		222	223			223	223			223
Padre Burgos									353	66		419	353	66		419
Pintuyan									794	233		1,027	794	233		1,027
Saint Bernard		271		271		271		271		30		30		30		30
San Francisco										262		262		262		262
San Juan (Cabalian)		372		372		372		372								
San Ricardo									353			353	353			353
Silago									839	154		993	839	154		993
Sogod	15	591		606	15	591		606		238		238		238		238
Tomas Oppus									5,892	2,862		8,754	5,892	2,862		8,754
Provincial Total	39	1,929		1,968	39	1,929		1,968								

Table 8.6.6 Public School Toilets Required by Target Year

Name of Municipality	Phase I (2004) Requirements			Phase II (2010) Requirements		
	Additional Public School Students to be Served	No. of Toilet Unit	No. of Toilet Facilities	Additional Public School Students to be Served	No. of Toilet Unit	No. of Toilet Facilities
Anahawan						
Bontoc	900	23	5	1,634	41	9
Hinunangan	105	3	1	96	3	1
Hinundayan	340	9	2	321	9	2
Libagon	51	2	1			
Liloan						
Limasawa	159	4	1	14	1	1
Maasin (Capital)	2,325	59	12	1,604	41	9
Macrohon	296	8	2	100	3	1
Malitbog	550	14	3	523	14	3
Padre Burgos	456	12	3	242	7	2
Pintuyan	38	1	1	176	5	1
Saint Bernard	100	3	1			
San Francisco	200	5	1			
San Juan (Cabalian)	369	10	2	376	10	2
San Ricardo						
Silago	47	2	1	138	4	1
Sogod	1,041	27	6			
Tomas Oppus	400	10	2			
Provincial Total	7,377	192	44	5,224	138	32

Table 8.6.7 Public Toilets Required by Target Year

Name of Municipality	Phase I (2004) Requirements				Phase II (2010) Requirements			
	Number of Public Toilets				Number of Public Toilets			
	Public Market	Bus/Jeepney Terminal	Parks/ Playground	Total	Public Market	Bus/Jeepney Terminal	Parks/ Playground	Total
Anahawan								
Bontoc	1			1				
Hinunangan		1		1				
Hinundayan								
Libagon								
Liloan	1			1				
Limasawa								
Maasin (Capital)		1		1				
Macrohon								
Malitbog	1			1				
Padre Burgos								
Pintuyan					1			1
Saint Bernard		1		1				
San Francisco								
San Juan								
San Ricardo					1			1
Silago								
Sogod	1			1				
Tomas Oppus								
Provincial Total	4	3		7	2			2

SECTOR IMPLEMENTATION ARRANGEMENTS

C

9. SECTOR MANAGEMENT FOR MEDIUM-TERM DEVELOPMENT

9.2 Sector Management

Accessing ODA Funds for Level III Systems

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

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

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

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

(1) Project Initiation Stage

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

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

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

(2) Project Implementation Stage

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

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

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

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

9.4 Project Management Arrangements

9.4.1 Project Approach/Strategy

Integration of Waterworks

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

The advantages of an IWW facility are as follows:

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

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

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

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

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

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

9.4.2 Project Implementation Arrangements

Project Implementation Arrangement and Procedure

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

(1) National Government Level

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

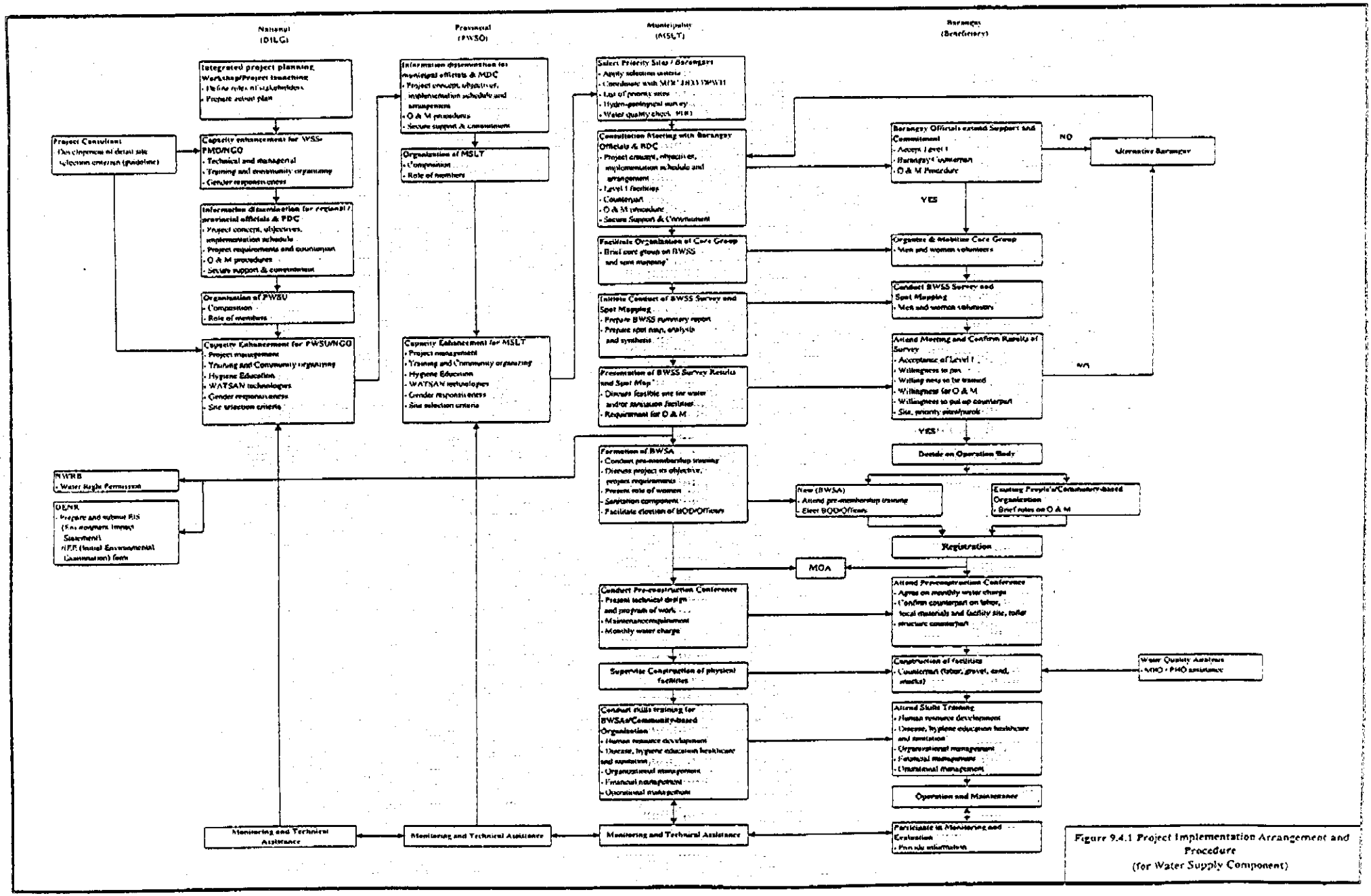
(2) Local Government Level

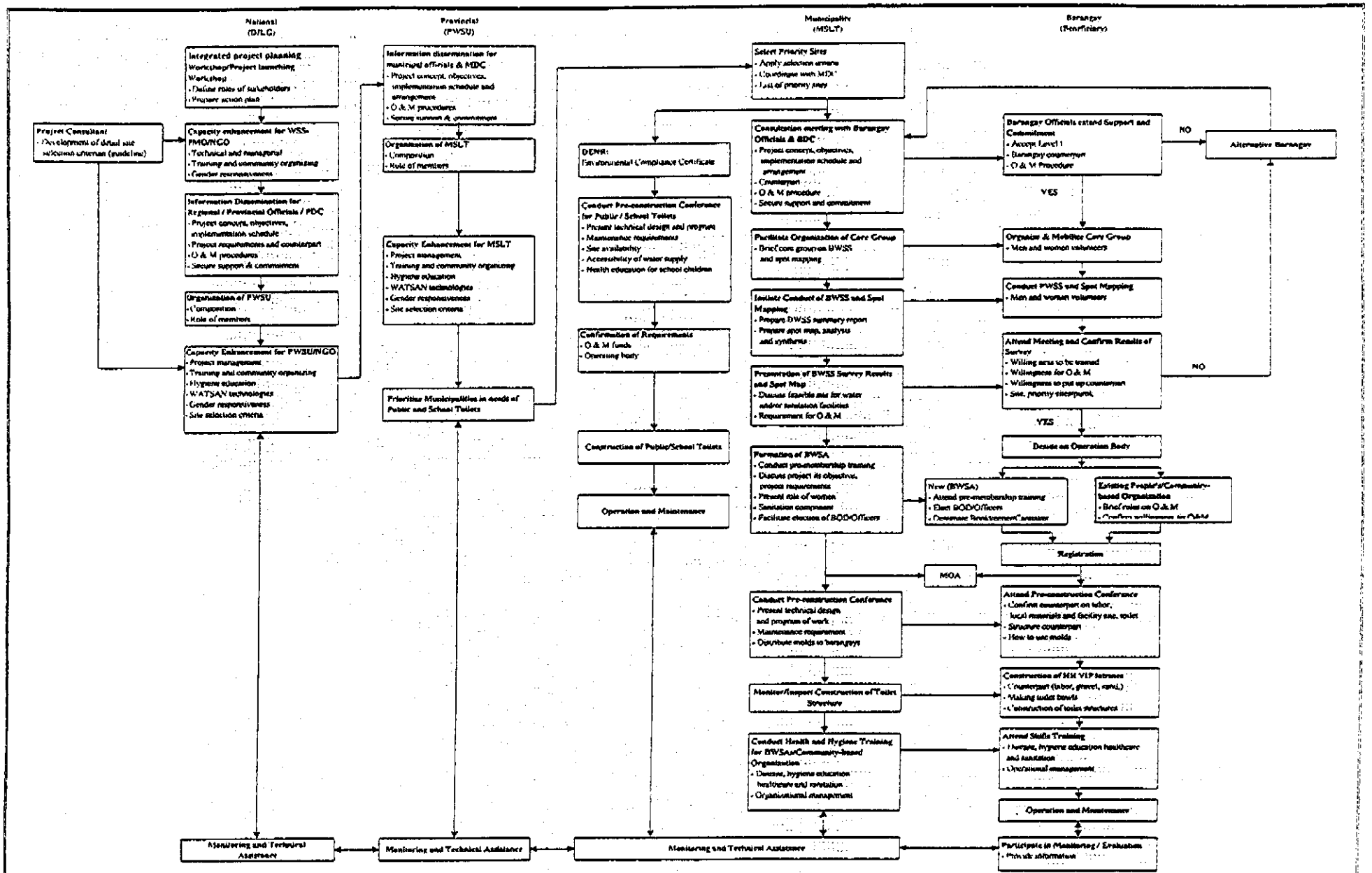
The PWSU shall assist the MSLT in each municipality and conduct information dissemination for the municipal officials to orient them on the project and obtain their support and commitment. With the PWSU assistance, the trained MSLT members shall select priority barangays, in coordination with the municipal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

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

(3) Barangay Level

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


National (DILG)
Provincial (PWSO)
Municipality (MSLT)
Barangay (Beneficiary)
Integrated project planning Workshop/Project Inception
Project Consultant
Capacity enhancement for WSS PMO/NGO
Information dissemination for regional / provincial officials & PDC
Organization of PWSU
Capacity Enhancement for PWSU/NGO
Information dissemination for municipal officials & MDC
Organization of MSLT
Capacity Enhancement for MSLT
Select Priority Sitio / Barangays
Consultation Meeting with Barangay Officials & BDC
Facilitate Organization of Core Group
Initiate Conduct of BWSS Survey and Spot Mapping
Presentation of BWSS Survey Results and Spot Map
Formation of BWSA
Conduct Pre-construction Conference
Supervise Construction of physical facilities
Conduct skills training for BWSA/Community-based Organization
Monitoring and Technical Assistance
Barangay Officials extend Support and Commitment
NO
Alternative Barangay
YES
Organize & Mobilize Core Group
Conduct BWSS Survey and Spot Mapping
Attend Meeting and Confirm Results of Survey
NO
YES
Decide on Operation Body
New (BWSA)
Existing People's/Community-based Organization
Registration
MOA
Attend Preconstruction Conference
Construction of facilities
Water Quality Analysis
Attend Skills Training
Operation and Maintenance
Participate in Monitoring and Evaluation
NWRB
DENR
Figure 9.4.1 Project Implementation Arrangement and Procedure
(for Water Supply Component)



Note: Procurement of toilet molds shall be conducted by DILG and shall distribute to beneficiaries through provincial and municipal office.

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

PROPOSED SITE SELECTION CRITERIA

Barangay: _____ Municipality: _____ Province: _____

(1). Required Items

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

(2) Technical & Socio Economical Requirements 60%

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

(3) Community Interest and Involvement 40%

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

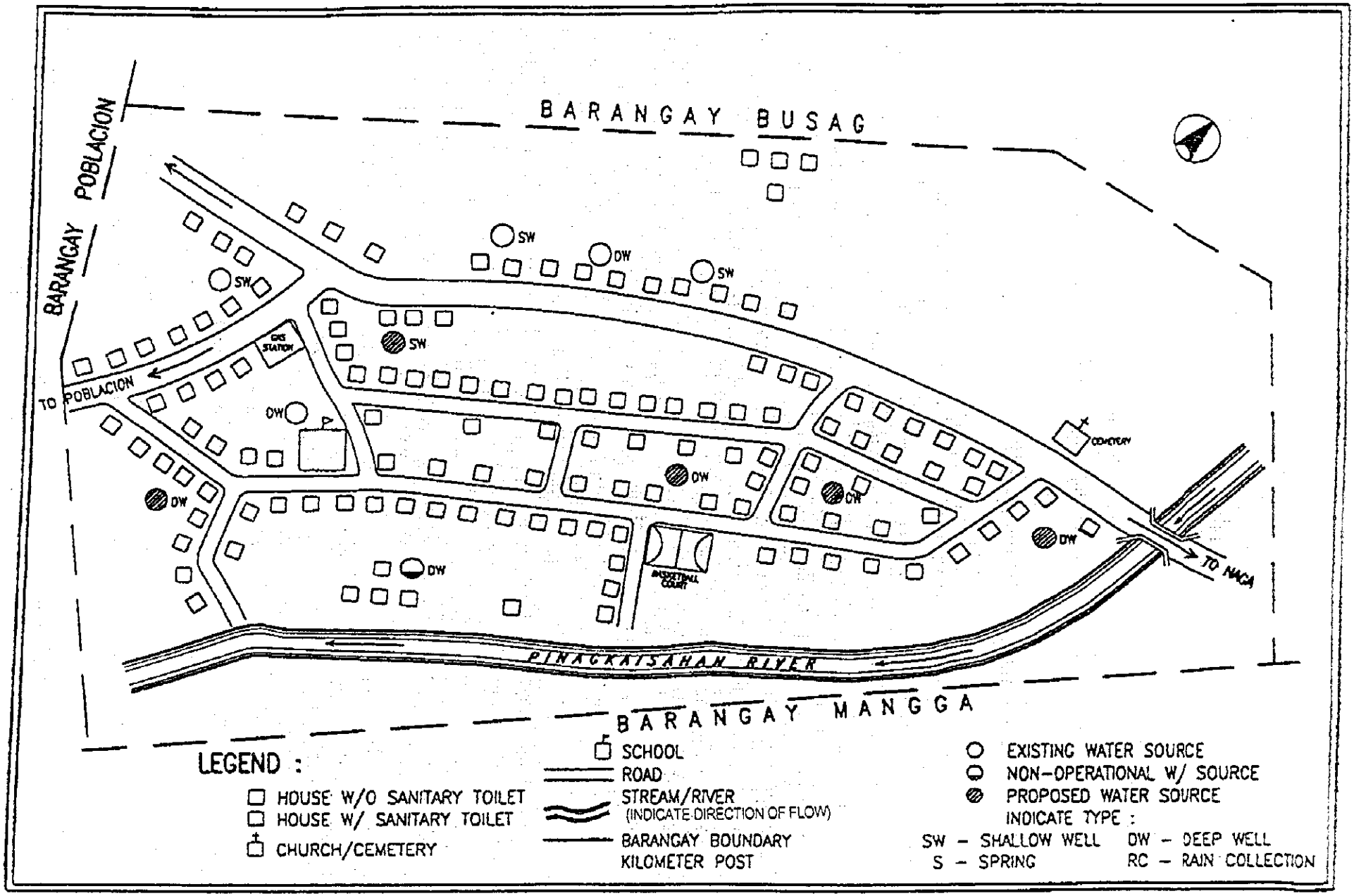
(4) Total Score

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

Proposed Capacity Enhancement Program

Activity/Participation	Course Content
1. Project Planning/Launching Workshop DILG (WSS-PMO) DPWH, DOH, NWRB NEDA, DOF, OECF	1. Project Concept, Objective, Project Requirements, Implementation schedule and arrangements 2. Role and responsibility of national government agencies, LGUs (provide and municipalities and project beneficiaries) 3. Action Plan by province
2. Capacity Enhancement for WSS-PMO, NGOs, DOH and DPWH	1. Project Concept (objectives, components, requirements, implementation arrangement, O&M systems and procedure, etc.) 2. Sector Development and existing Policies 3. Project Planning, Management and Control 4. Team Building Exercise 5. Presentation and Facilitating Skills 6. Methods of Instruction 7. Community Organization/Community Development 8. Barangay Surveys and Spot Mapping 9. Formulation of BWSA 10. Health and Hygiene Education 11. Technical Training - Designing and Construction - Water Source Investigation 12. Skills Training for Operating Body - Organizational Management - Financial Management - Operational Management 13. Gender Responsiveness 14. Monitoring
3. Capacity Enhancement for LGUs (PWSU, MSLT, CO/NGOs)	1. Project Concept (objectives, components, requirements, implementation arrangement, O&M systems and procedure, etc.) 2. Sector Development and existing Policies 3. Project Planning, Management and Control 4. Team Building Exercise 5. Methods of Instruction 6. Presentation and Facilitating Skills 7. Community Organization/Community Development 8. Barangay Surveys and Spot Mapping 9. Formulation of BWSA 10. Health and Hygiene Education 11. Technical Training - Designing and Construction of WATSAN facilities - Water Source Investigation 12. Skills Training for Operating Body - Organizational Management - Financial Management - Operational Management 13. Gender Responsiveness 14. Monitoring
4. Capacity Enhancement for Operating body (BOD/Officers, Bookkeeper, Caretakers)	1. Project concept (objectives, components, requirements, implementation arrangements, O&M systems and procedures, etc.) 2. Human Resources Development (Team Building, Leadership and Value Formation) 3. Disease, Hygiene, Education, Health Care and Sanitation (Excreta, Liquid and Solid Waste Disposal) 4. Organizational Management (BWSA Management Skills) 5. Operational Management (Operation, repair and maintenance skills) 6. Financial Management (Simplified Bookkeeping Procedures) 7. Greater Participation of Women 8. Monitoring and Evaluation

SPOT MAP


BARANGAY BUSAG
BARANGAY POBLACION
TO POBLACION
GAS STATION
SW
DW
CR
P
CEMETERY
BASKETBALL COURT
TO NAGA
PINAGKAISAHAN RIVER
BARANGAY MANGGA
LEGEND :
HOUSE W/O SANITARY TOILET
HOUSE W/ SANITARY TOILET
CHURCH/CEMETERY
SCHOOL
ROAD
STREAM/RIVER
(INDICATE DIRECTION OF FLOW)
BARANGAY BOUNDARY
KILOMETER POST
EXISTING WATER SOURCE
NON-OPERATIONAL W/ SOURCE
PROPOSED WATER SOURCE
INDICATE TYPE :
SW - SHALLOW WELL
DW - DEEP WELL
S - SPRING
RC - RAIN COLLECTION

Instructions for Completing Barangay Map

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

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

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

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

BWSA Formation

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

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

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

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

Proposed Community Management Program

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

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

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

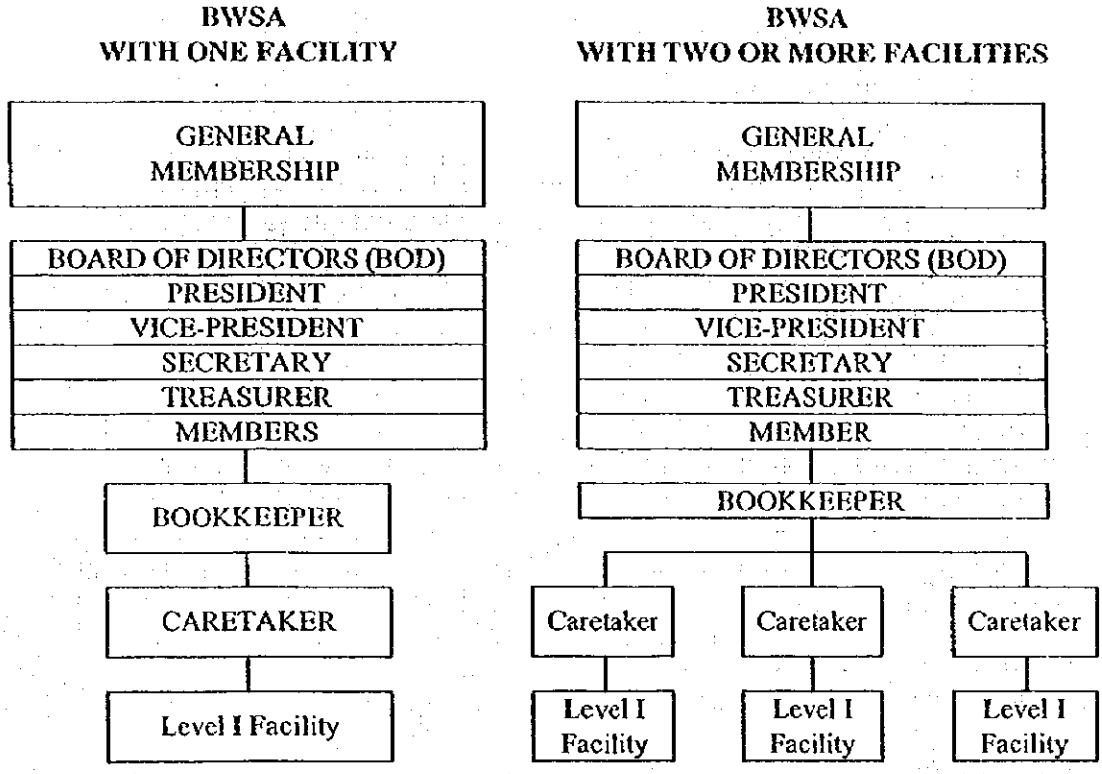


Figure 9.4.3 Organization Structure of BWSA

Sample Manifesto

MANIFESTO RESOLUTION

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

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

1. That the name of the association shall be _____ Barangay Waterworks and Sanitation Association;

2. That the association is formed primarily to own, operate and maintain the water facilities and provide members with adequate supply of water for domestic use;

3. That the association shall maintain office of Barangay _____;

4. That the following shall maintain office at Barangay _____;

   President _____
   Vice-President _____
   Secretary _____
   Treasurer _____
   Board Member _____

5. That membership shall be open to household heads (men or women) who shall use the water facilities; and

6. That this Resolution may be amended or repealed by majority vote of all members of the association.

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

1. That we will provide a suitable site for the project;

2. That we will collect monthly contributions for water fees to raise funds for the repair, maintenance and cost recovery of the system;

3. That we will attend meetings and seminars conducted by PWSU/MSLT for the association;

4. That we will provide counterpart needed for the water facilities;

5. That we will exercise the following rights:

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

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

NOW, THEREFORE, we hereunto set our hands this _____ day of _____, 19___.

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

_____
(Name of BWSA)

_____
(Barangay, Municipality)

_____
(Province)

The Board of Directors Date _____
_____Barangay Waterworks
and Sanitation Association
_____

Gentlemen:

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

I hereby further pledge to:

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

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

_____

Signature of Applicant
Over Name in Print

Right Thumbmark

BWSA Member Information Sheet

Name of Prospective Member: _____

Age: _____ Civil Status: _____ Sex: _____

Place of Birth: _____ Date of Birth: _____

Household Members (include household help):

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

Present Water Source used by Household (Please Check):

Handpump _____ Artesian Well

_____

Dug Well _____ Spring

_____

Others _____

Present Expenses for Water per Month _____

Distance of Water Source to the House _____ meters

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

_____ _____

Signature Date

Duties and Responsibilities of BOD/Officers and Members

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

(1) Duties and responsibilities of the Board of Directors

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

(2) Duties and responsibilities of the President

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

(3) Duties and responsibilities of the Vice-President

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

(4) Duties and responsibilities of the Secretary

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

(5) Duties and responsibilities of the Treasurer

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

(6) Duties and responsibilities of Bookkeeper

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

(7) Duties and responsibilities of Caretaker

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

(8) Duties and responsibilities of Members

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

Procedures for BWSA Financial Operations

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

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

(1) BWSA Business Operation

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

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

(2) Maintenance and Custody of Documents and Records

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

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

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

(3) General Accounting Plan (GAP)

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

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

(4) Transaction Defined

The BWSA financial transactions are classified as:

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

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

1) Documents for Cash Transactions

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

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

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

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

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

2) Document for Non-Cash Transactions

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

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

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

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

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

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

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

(5) Book of Accounts

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

1) Cash Record Book

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

2) Receivable Book

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

3) Payable Book

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

(6) Financial Reports

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

1) Statement of Operations

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

2) Cash Position Statement

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

3) Financial Summary Report (Annual Report)

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

(7) Bookkeeping Procedures

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

GENERAL ACCOUNTING PLAN (GAP)
FOR BWSA TRANSACTIONS

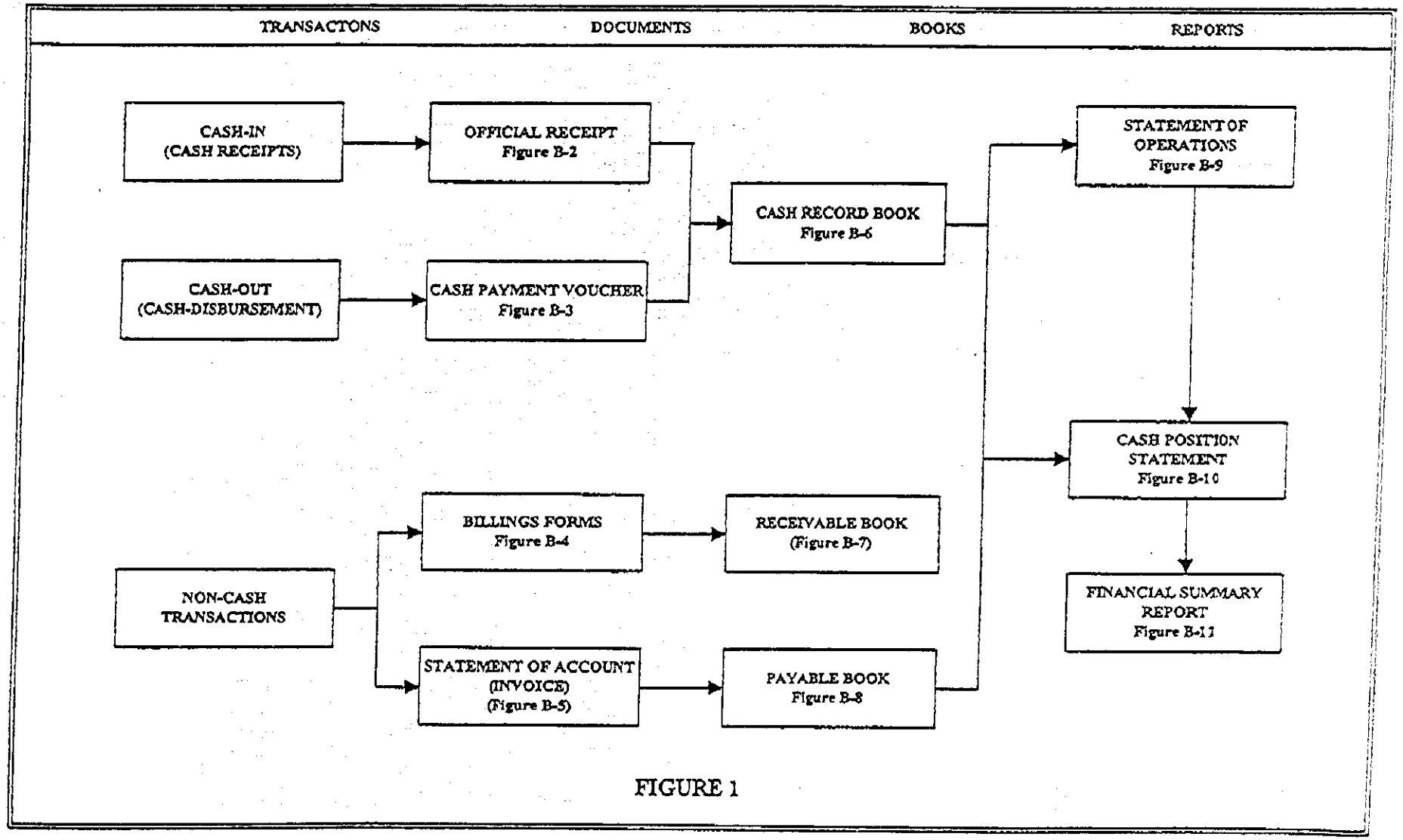


FIGURE 1

OFFICIAL RECEIPT
BWSA _____

OR. NO. _____
Date: _____

Received from _____

the sum of _____ (₱ _____)

in payment of _____

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

_____
Treasurer/Collector
(Bookkeeper)

Note: Print Name Below Signature

(IN TRIPLICATE)

Complete Official Receipt in Triplicate

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

FIGURE 2

CASH PAYMENT
VOUCHER _____

CPV No. _____
Date: _____

Paid to : _____

Address : _____

In the sum of : _____ (₱ _____)

PARTICULARS	AMOUNT

Approved By:

_____

Received from _____

The amount of _____

As payment for the above described.

Received By

Date Received _____

Note: Print Name Below Signature

VOUCHER
(IN TRIPLICATE)

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

FIGURE 3

Name of BWSA

Barangay, Municipality

Province

BILLING FORM

for

WATER CONSUMPTION

Name of Member _____

Address: _____

No. _____

PERIOD COVERED					AMOUNT
FROM		TO			
MONTH	DAY	MONTH	DAY	YEAR	

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

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

_____
BWSA Treasurer

Note: Print Name Below Signature

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

FIGURE 4

Date: _____

Invoice # _____

INVOICE

_____

Sold to: _____

ITEM	NO.	UNIT PRICE	PRICE
TOTAL			₱

Received By: _____
(Print Name below Signature)

FIGURE 5

BWSA _____

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

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

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

FIGURE 6

Name of BWSA

Barangay, Municipality

Province

RECEIVABLE BOOK

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

This form records all accounts due to the Association

FIGURE 7

BWSA _____

_____

Barangay, Municipality

_____

Province

PAYABLE BOOK

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

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

FIGURE 8

Name of BWSA

Barangay, Municipality

Province

STATEMENT OF OPERATIONS
For the Month _____, _____

Revenues:

Water Fees		₱
Others (Specify)		
Total Revenues		₱

Operating Expenses:

Salaries		₱
Supplies		
Repair and Maintenance		
Others (Specify)		
Total Operating Expenses		₱

Net Income/Loss ₱

Prepared By:

Date Prepared:

Certified true and correct:

Date Certified:

BWSA Treasurer

Note: Print Name below signature

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

FIGURE 9

Name of BWSA

Barangay, Municipality

Province

CASH POSITION STATEMENT
For the Month _____, _____

Revenues:

Water Fees		₱	
Contribution			
Others (Specify)			
Total Revenues		₱	

Less: Operating Expenses:

Salaries		₱	
Supplies			
Repair and Maintenance			
Others (Specify)			
Total Operating Expenses		₱	
Cash Balance, During the Period		₱	
Add: Cash Balance, Beginning		₱	
Cash Balance, Ending		₱	

Prepared By:

Date Prepared:

_____
BWSA Bookkeeper

Note: Print Name below signature

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

FIGURE 10

_____

Name of BWSA

_____

Barangay, Municipality

_____

Province

FINANCIAL SUMMARY REPORT
Year End _____

I. Financial Results

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

II. Findings/Recommendations:

_____

_____

_____

_____

_____

_____

Prepared By: Date Prepared:

_____ _____

BWSA Bookkeeper

Note: Print Name below signature

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

FIGURE 11

Table 9.4.1 Format for Level I Project Data

Form _____

PROPOSED LEVEL I PROJECT DATA

Notice : This form shall be accomplished upon instruction of PST/PWSD

LOCATION

1.1 Barangay/Sitio

1.3 Province

1.2 Municipality

1.4 Region

POP. DATA

2.1 Total Community/Barangay Population

2.3 Proposed Population to be Served

2.2 Total Number of Households

2.4 Proposed Number of Households to be Served

INFORMATION ON THE WELL SITE

3.1 Ownership :

☐ Public ☐ Private

3.2 Description :

3.3 Location:

3.4 Donor (If Private Lot):

(Use separate sheets if necessary)

4.1 Type of Point Source:

☐ Deep Well

☐ Shallow Well

☐ Spring

☐ Others (dug well pond)

4.2 Ownership :

☐ Public

☐ Private

4.3 For wells :

Casing diameter _____ in. or _____ m.

Casing depth _____ ft. or _____ m.

Water level Well _____ ft. or _____ m.

Well capacity/yield _____ gpm. or _____ lps

4.4 For Springs : Capacity/yield _____ gpm. or _____ lps.

Approx. elevation above or below

Service Area _____ ft. or _____ m

Location

☐ Inside of service area

☐ Outside of service area

Approximate distance from center

of service area _____ km.

Prepared by :

_____ _____

Municipal Liason Staff Date

Table 9.4.2 Format for Level II Feasibility Study

Form

FEASIBILITY STUDY (Level II) Notice : This form shall be accomplished upon instruction of the PST/PWSO.	Barangay	Municipality
	Province	Region

PROJECT SUMMARY

POPULATION DATA

1. Present Population	2. Design Population	3. Number of Households
		6. Number of Faucets

TECHNICAL DATA

4. Type of Source ☐ Spring ☐ Well ☐ Surface Water	5. Type of System ☐ Gravity ☐ Pumped	
	7. Pump Horsepower _____ HP	8. Pumping Time _____ Hours per Day
9. Total Average Daily Demand _____ Liters	10. Storage Tank Capacity _____ Liters	11. Pump Discharge Capacity _____ LPS

FINANCIAL DATA

12. Total System Cost P _____	13. Maximum Loan Amount P _____	14. Interest Rate _____
15. Local Equity P _____	16. Funding Cost per Household P _____	17. Repayment Period (months) _____

18. Type of Local Equity ☐ Cash ☐ Labor ☐ Materials ☐ Others, _____

19. Total Monthly Expenses P _____	20. Monthly Fee Per Household P _____

ANNEXES

☐ 1 Survey Form	☐ 5 Design of Pipe Lines	☐ 9A Fittings Schedule (G.I. Pipes)	☐ 12 Financial Analysis
☐ 2 Map of the Project Area	☐ 6 Design of Reservoir and Pump	☐ 9B Fittings Schedule	☐ 13 Availability of Local Equity
☐ 3 Design Criteria and Basic Design Data	☐ 7 Detailed Design Plan	☐ 10 Bill of Materials	
☐ 4 Schematic Diagram of the System	☐ 8 Pipes Schedule	☐ 11 Cost Summary	

Prepared by :	Endorsed by :
_____ Municipal Liason Staff	_____ PST/PWSO Coordinator
_____ Date	_____ Date

Annex 1

SURVEY FORM
_____ Rural Water Supply Project

A. LOCATION

Barangay : _____ Province : _____
Municipality : _____ Region Number : _____

B. GENERAL INFORMATION

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

C. TECHNICAL INFORMATION

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

a) For Wells

Well capacity : _____ lps
Casing diameter : _____
Casing depth : _____
Water level from top of well : _____
Location : ☐ Within service area
☐ Outside _____M. from service area

b) For Springs

Average dry season flow : _____ ☐ GPM ☐ LPS
Relative elevation of spring
a. _____ ☐ ft. ☐ m. above service area
b. _____ ☐ ft. ☐ m. below service area
Location : ☐ Within service area
☐ Outside _____ m. from service area

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

☐ Yes ☐ No

For pumps : Type : _____ Power : _____ HP

For pipes : ☐ Galvanized Iron ☐ PVC
☐ Others, specify _____

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

Type : ☐ Steel ☐ Reinforced Concrete

Capacity : _____ ☐ Gallons ☐ Cubic Meters

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

Relative elevation with respect to service area ____ ☐ ft. ____ ☐ m.

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

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

Relative elevation with respect to service area ____ ☐ ft. ____ ☐ m.

5. Does the barangay have skilled personnel? ☐ Yes ☐ No

If yes, how many? Estimated Number

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

If no, are there competent contractors near the area?

Plumbing contractor : ☐ Yes ☐ No
Tank fabricator : ☐ Yes ☐ No

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

☐ Yes ☐ No

D. FINANCIAL INFORMATION

1. What can the barangay provide as local equity?

Cash : ₱ _____

Labor : _____ man-days

Materials : Sand : _____ cu. m.

Gravel : _____ cu. m.

Cement : _____ bags

Others, specify : _____

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

☐ Yes ☐ No

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

Below ₱ 6.00 ☐ ₱ 10.00 - 15.00 ☐ Others ☐

₱ 6.00 - 10.00 ☐ 15.00 - 20.00 ☐ Specify : _____

4. Average income per household ₱ _____ per month

E. INSTITUTIONAL INFORMATION

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

☐ Yes ☐ No

If yes, please specify. _____

2. Are people willing to join a water association to operate and manage a water supply system? ☐ Yes ☐ No

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

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

Name	Address
_____	_____
_____	_____
_____	_____
_____	_____

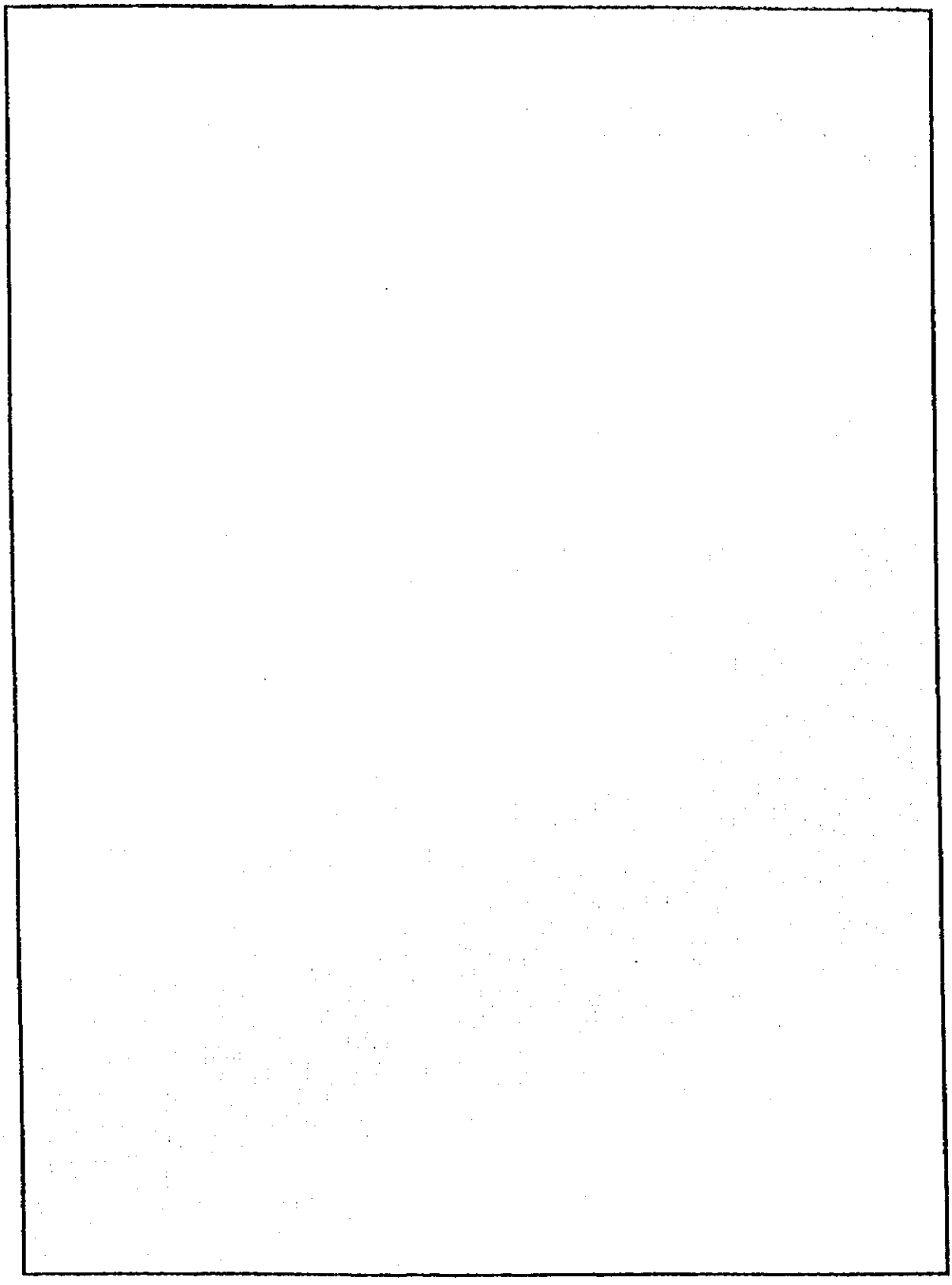
F. MAP OF THE AREA

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

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

G. REMARKS :

Annex 2
MAP OF THE PROJECT AREA
_____ Rural Water Supply Project



Annex 3

DESIGN CRITERIA AND BASIC DESIGN DATA

_____ Rural Water Supply Project

I. Design Criteria

1. Design Period : 5 years
2. Population
   - Annual Growth : 3%
   - Average Household Size : 6 persons/HH
   - Design Population : Present Population x 1.16
3. Per Capita Water Consumption
   - Level II : 60 lpcd
   - Level II with garden : 75 lpcd
   - Level III : 100 lpcd
4. Water Demand
   - Average Day Demand : Design Population X Per Capita Consumption
   - Maximum Day Demand : 1.3 X Average Day Demand
   - Maximum Hour Demand : 2.5 X Average Day Demand
5. Pump Operation
   - Pumping Hours : 8 -15 hours
   - Pumping Rate : Maximum Day Demand/PumpingHrs. = _____
6. Storage Capacity : 1/4 of Average Day Demand
7. System Pressure : 5 - 10 psi at faucet
8. Households Served Per Faucet : 4 - 6 HH

II. Basic Design Data

1. Present Population : _____
2. Design Population (Present Population X 1.16) : _____
3. Average Day Demand: _____ X _____ : _____
   (Per Capita Consumption) (Design Pop.)
4. Maximum Day Demand: 1.3 X _____ : _____
   (Average Day Demand)

DESIGN OF PIPE LINES

________________ Rural Water Supply Project

SECTION	NODES		SECTION LENGTH(M)	HOUSEHOLD SERVED	PEAKFLOW (LPS)	PIPE DIA (MM)	HEAD LOSS PER 100M	ACTUAL HEADLOSS	REMARK
	From	To							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

Annex 6

DESIGN OF RESERVOIR AND PUMP

_____ Rural Water Supply Project

A. DESIGN

1. Determine Capacity of Reservoir, (C_r)

   C_r = 1/4 x Average Day Demand

   C_r = 1/4 x D_d (LPD)

   C_r = _____ liters

2. Determine Minimum Water Elevation, (WL_m)

   WL_m = total head loss + Minimum Pressure in Main (Meters)

   For Barangay System, Min. Pressure = 5 psi (use 3M.)

   For Poblacion System, Min. Pressure = 10 psi (use 7M.)

   WL_m = _____ M.

   Note : The bottom of the storage tank should be higher than this elevation.

B. DESIGN OF PUMP

1. Determine Pump Capacity, Q_p (LPS)

   Q_p = Max. Day Demand (LPD)/ Operating Time (Sec.)

   Q_p = $78\ P_d/T$ where: P_d = Design Population

   T = Operating Time in Seconds

   Q_p = _____ LPS

2. Calculate Total Dynamic Head, TDH (Meters)

   TDH = Depth of Pumping Level + by Maximum Reservoir Elevation + friction loss

   TDH = _____ m

3. Calculate Brake Horsepower Requirement :

$$\text{Brake Horsepower} = \frac{Q_p \times TDH}{75 \times \text{Efficiency}}$$

Brake Horsepower = _____ Hp

Where :

Efficiency for Centrifugal Pump, 30-60 %

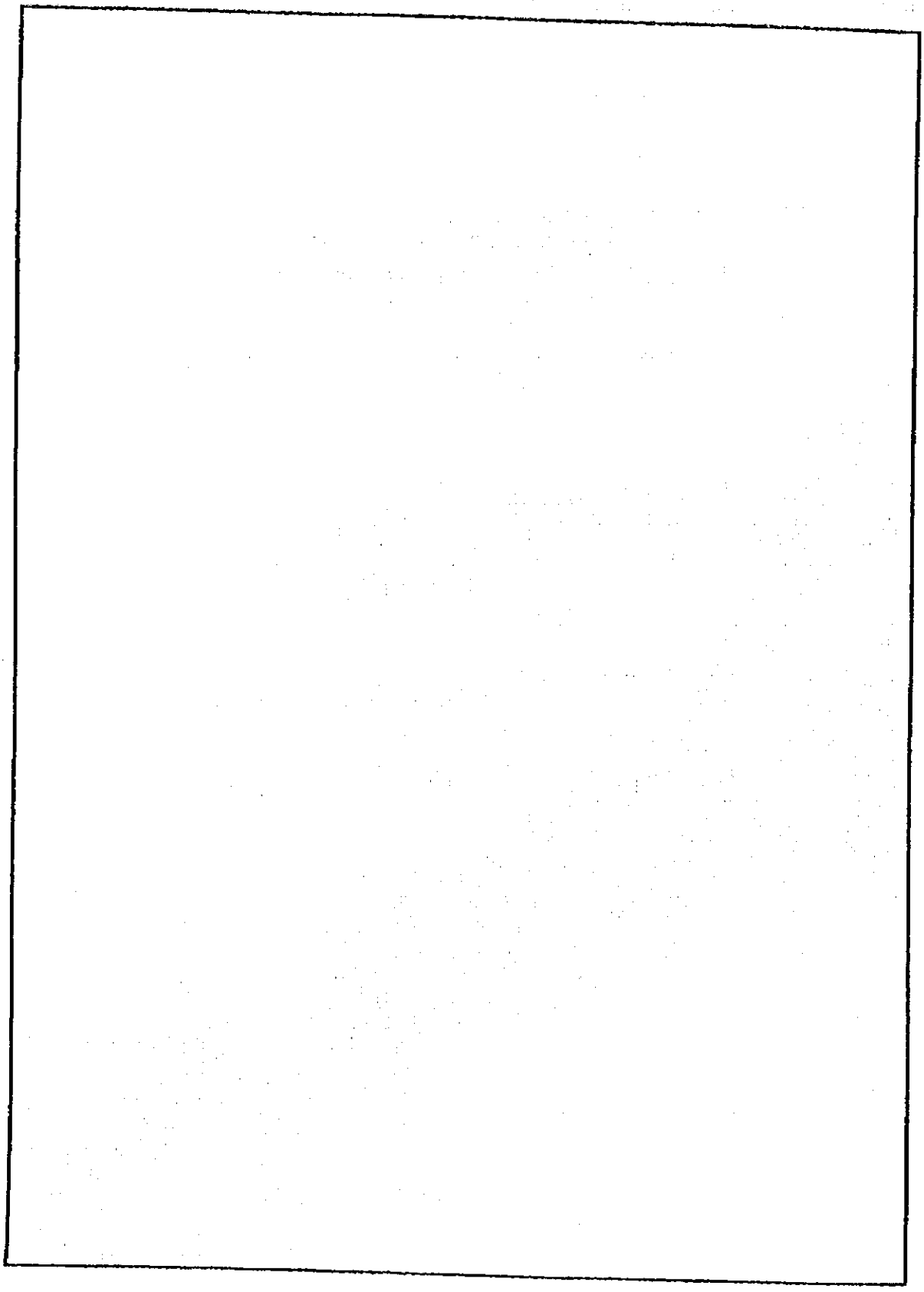
Efficiency for Submersible Pump, 50-60 %

Efficiency for Jetmatic Pump, 20-30 %

Annex 7

DETAILED DESIGN PLAN

_____ Rural Water Supply Project



Annex 8

PIPES SCHEDULE

__________________ Rural Water Supply Project

PIPE (1)	DIAMETER mm	SECTION (2)	LENGTH m	REQUIRED PIPES (3)	ACTUAL NO OF PIPES (4)	ADDITIONAL PIPES (5)

Annex 9A

FITTINGS SCHEDULE (G.I. PIPES)

_____ Rural Water Supply Project

NODES / SECT LENGTH	COUPLING		UNION PATENTE	TEE STD.	TEE REDUCER	BUSHING REDUCER	ELBOW STD / ELBOW REDUCER	COUPLING REDUCER	FAUCET	NIPPLE	VALVES
	Qty.	Size	Qty.								

Annex 9B

FITTINGS SCHEDULE (PVC PIPES)

_____ Rural Water Supply Project

NODES / SECT LENOTH	SOCKET		STD. / ELBOW REDUCER	STD. / TEE REDUCER	SOCKET ADAPTOR	SOCKET REDUCER	G. I. FITTINGS			OTHERS
	Qty.	Size					VALVES	FAUCET	ELBOW	

Annex 10

BILL OF MATERIALS

_____ Rural Water Supply Project

QUANTITY	UNIT	DESCRIPTION	UNIT COST	TOTAL COST

Annex 11

COST SUMMARY

_____ Rural Water Supply Project

I. ESTIMATED COST OF THE SYSTEM

1. a) Cost of Pipes	₱ _____	
b) Cost of Fittings	_____	
Total Cost of Pipes and Fittings		₱ _____
2. Cost of Reservoir		_____
3. Cost of Pump		_____
4. Labor Cost		_____
a) 10% of Pipes & Fittings (For G.I. Pipes)		
b) 25% of Pipes & Fittings (For PVC Pipes)		
5. Cost of Freight and Handling		_____
6. Contingencies 5% (Pipes & Fittings - Labor)		_____
Total Cost of the System		₱ _____

For gravity system, omit cost of pump.

II. FINANCIAL DATA

1. Total Cost of the System	₱ _____
2. Local Equity	_____
3. Amount of Loan	_____

Annex 12

FINANCIAL ANALYSIS

_____ Rural Water Supply Project

A. RELEVANT DATA

1. Pumping Hours : _____ hrs.
2. Pump Horsepower : _____ HP
3. Cost/KWH : ₱_____
4. Pump Cost : ₱_____
5. Amount of Loan : ₱_____
6. Loan Terms : _____ % (interest per annum)
   : _____ years (Repayment Period)
7. Number of Households : _____

B. COMPUTATION OF MONTHLY EXPENSES (Omit non-applicable items)

1. Operations
   a. Salaries _____ x _____ = P _____
   b. Office Supplies _____ x _____ = P _____
   c. Power _____ x _____ = P _____
   d. Chemical _____ x _____ = P _____
   e. Miscellaneous _____ x _____ = P _____

2. Asset Replacement
   a. Pump _____ / _____ (Life (mos.)) = P _____
   b. Pipelines _____ / _____ (Life (mos.)) = P _____
   c. Tank _____ / _____ (Life (mos.)) = P _____
   d. Others _____ / _____ (Life (mos.)) = P _____

3. Amortization _____ (CRF) x _____ (Loan Amt.) = P _____

4. Maintenance (2% of Capital Equipt.costs annually)
   .02 X _____ /12 = P _____

6. Total Monthly Expenses = P _____

C. COMPUTATION OF WATER FEE

Monthly Water Fee Per Household :

_____ (Total Monthly Expenses) / _____ (No. of HH) = P _____

Annex 13

AVAILABILITY OF LOCAL EQUITY

Item	Amount
I. Cash	P _____

II. Labor

Type of Labor	No. of Workers	No. of Days	Rate Per Day	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	_____

III. Materials

Type of Materials	Quantity	Unit Cost	
_____	_____	_____	
_____	_____	_____	
_____	_____	_____	
_____	_____	_____	
_____	_____	_____	_____

TOTAL P _____

I certify that the items listed above represent the local share of the project cost. _____ _____ Association President Date	Noted by : _____ _____ Municipal Sector Liason Date

9.5 Community Development

9.5.2 CD Structure and Linkages

Responsibilities and Qualifications of a CO/CD Worker

1. Tasks of a CD/CO Worker

(a) As Facilitator

- Enhances individual and group strengths and helps minimize weaknesses and conflicts;
- Heightens community unity; and,
- Assists individuals and groups to respond to common interests.

(b) As Trainor and Educator

- Discerns educational needs of people;
- Helps in consciousness-raising to enable group or individual capability development;
- Assists leaders in developing new leaders;
- Continually dialogues with people; and,
- Helps develop self-determination among leaders and members.

(c) As Advocate

- Helps analyze and articulate critical issues;
- Assists others to understand and reflect upon these issues; and
- Evokes and provokes relevant discussion and actions.

(d) As Researcher

- Conducts social analysis
- Engages in participatory research with the people as partners;
- Helps create research designs for people's use and interest; and
- Integrates with the people to understand social phenomenon from the people's viewpoint.

(e) As Planner

- Conducts initial analysis of area resources and potentials;
- Assists local group's planning, strategizing and creative action; and
- Helps systematize people's actions to attain desired goals.

(f) As Catalyst

- Initiates discussions and actions regarding critical issues; and
- Monitors and nurtures growth of individuals and groups to facilitate long-term social change for people's welfare.

2. Personal characteristics of a CD/CO Worker

a) Must possess an innate and genuine love for people, which enables them to share with the people in their desire for change;

b) Must have a commitment to help people in the desire to participate in changing society. The commitment sustains them and enables them to persevere.

c) Must have a basic trust in the people, be willing to learn from them, and have faith with them.

d) Must be adaptable, flexible, able to adjust to people and circumstances and able to move with people when and where they decide to move.

e) Must be ready to learn and unlearn, be open to self-assessment and accept criticism; be able to drop pre-determined notions and stereotypes; and swallow their pride while remaining resourceful in the process.

f) Must have patience with people but not with situations so that they can keep the people moving. The people must not be pushed. A CO must keep pace with them.

g) Must be able to analyze problems, communicate with the people in their own language and work at the people's level. Only then can they start a process of critical awareness.

h) Must be able to follow the growth of critical awareness by generating with the people appropriate action towards change and transformation of the community.

3. Lifestyle and Method of Work of CD/CO Worker

(a) In Method of Work

- People-oriented, i.e. serving the interest of the people by not insisting on own project proposals.
- Able to work informally among people, and not be overburdened with committee structures.
- Able to protect the community from outside intervention such as inappropriate projects.

(b) In Lifestyle

- Humble, simple and immerse oneself in the life of the community;
- Free of self-interest and committed, and expects no reward;
- Able to identify with the people, see themselves as different, and be aware of the limitations of such;
- Open to be transformed by identification with, and involvement in the community;
- Able to develop the internal strength to accept frustrations and loneliness at times.

4. The CD/CO Worker: A Catalyst, Missionary and Visionary

a) He/she works with people, not for them.
b) He/she considers people as intelligent and with numerous experiences.
c) He/she lets the people grow.
d) He/she builds up the people's cohesiveness.
e) He/she builds up the people's organization.
f) He/she believes that people can change and can bring about change in society.

5. Desired Characteristics of a CD/CO Worker

a) Should have respect for and faith in the people they are working with; believe in the potential power and age-old wisdom of the masses.
b) Should go to the people as learners, not as teachers; listen more than talk; facilitate more than lead. Should not have the messianic or redeemed complex - but instead believe that it is the masses who will be their own redeemer.
c) Should try to know the people, their socio-economic, political and cultural situation and problems before starting any program or action.
d) Should be simple and austere in lifestyle.
e) Should have the capacity and humility to withdraw as soon as the people are ready to manage their own affairs; aims at becoming dispensable.
f) Capable of improving other's skills and knowledge.
g) Is needed in order to maintain the community's interest and participation, as well as, to maintain and accelerate the momentum needed.
h) Requires that the CO be at least several steps ahead of the community, but having in mind the direction of the community will be going and how to reach the desired goals.