FRAMEWORK FOR COMMUNITY DEVELOPMENT

Phase I: FORMATION OF ORGANIZATION

A. Pre-Entry/Preparatory

Activity	Objective	Strategy	Facilitator/Organizer
1. Hire /Appoint CD-CO worker/s	Identify and recommend a capable CD-CO worker/s from the area	Review of track records; Interview and screening of applicants	Provincial/Municipal CD Specialists
2. Orient the CD-CO worker/s on the project objectives and requirements	Familiarize the CD-CO worker/s on the project	Group discussion	Provincial/Municipal CD Specialist
3. Gather secondary data *(Barangay maps, socio-economic profile, list of leaders and development workers operating in the area, peace and order situation, list of organization, record of history of participation in previous project.)*	Make an initial assessment of the barangay's capability to implement and assume responsibility for the project.	Data gathering	CD-CO worker/s
4. Conduct ocular survey of barangay	Orientation to the physical features/structures of the barangay	Site visits	CD-CO worker/s

B. Community Entry and Integration

5. Deploy the CD-CO Worker/s	Install the CD-CO worker/s by provincial and municipal level implementors	Community meeting	Provincial/Municipal CD Specialist; Barangay Captain
6. Pay courtesy call on barangay officials	CD-CO worker/s to establish rapport with barangay councils and leaders	Group meeting	Municipal Gov't./ Barangay Captain

Activity	Objective	Strategy	Facilitator/Organizer
7. Conduct house-to-house visit and conduct informal interviews with the residents	Establish rapport with the barangay constituents	Home visits; Spending time in most frequented places and look and listen attentively	Barangay Leaders; CD-CO worker/s
8. Conduct project briefing	Orient the community on the project objective and requirements, strategy of implementation, MOA, selection criteria of beneficiaries and activities to be undertaken in order to get their commitment and participation	Community meeting	CD-CO worker/s and Technical Team
9. Project Acceptance and Signing of Memorandum of Agreement (MOA)	Delineate responsibilities of project beneficiaries and implementing agency	Community meeting	CD-CO worker/s

C. Community Assessment

10. Identify information to be gathered and possible source of information	List down relevant data that should be gathered	Group meeting	CD-CO worker/s
11. Selection of the method of data collection	Determine the best way of data collection, considering the information needed	Group discussion	CD-CO worker/s
12. Collection of data from informants	Establish socio-economic, political and technical information about community	Home visit; focus group discussion; group meeting	CD-CO worker/s
13. Processing /Validation of Community Profile and Spot Mapping	Confirm with the barangay officials and leaders data collected	Community and group meeting; spot checking	CD-CO worker/s
14. Presentation of Validated Profile to the Community	Further enrich and refine data in the profile	Community meeting	CD-CO worker/s

Activity	Objective	Strategy	Facilitator/Organizer
15. Finalization of the community profile	Update/finalize community profile	Group meeting	CD-CO worker/s
16. Analysis of the problems identified	Know the causes and implications of the problems identified.	Group discussion	CD-CO worker/s

Phase II: DEVELOPMENT OF ORGANIZATION (Levels I and II)

A. Community Mobilization

Activity	Objective	Strategy	Facilitator/Organizer
1. Formulate action plan for the community	Prepare a plan of action towards the development of a WATSAN Project	Group discussion	CD-CO worker/s
2. Development of Criteria for Selection of Core Group which will comprise the water association	Enlist people who are interested to work actively that will support CO activities	Community meeting	CD-CO worker/s; Barangay Officials
3. Core group orientation and presentation to the community	Familiarize the people comprising the core group of the water association	Barangay assembly	CD-CO worker/s; Barangay Officials
4A. Launching of water association formation	Community residents conduct initial meeting to formalize formation of water association	Community meeting	CD-CO worker/s; Barangay Officials
5A. Facilitation on legal works and documents and mobilize committee on documentation	Prepare necessary legal documents	Committee/group discussion	Committee Chairman

Activity	Objective	Strategy	Facilitator/Organizer
6A. Finalize Membership	Confirm final membership by tapstand and undertake information campaign on the importance of tapstand grouping and house rules formulation; select tapstand leader	Undertake meeting per tapstand	CD-CO worker/s
7A. Drafting and Ratification of Constitution and by-laws	Develop a set of policies and by-laws that will govern the operation of the association	Meeting of core group or tapstand leaders	CD-CO worker/s; LGU
8A. Registration and Accreditation of Water Association	Registration of water association to appropriate government agencies	Actual registration with concerned government entity	CD-CO worker/s; Association Officers

C. Project Preparation Activities

4B. Feasibility Study	Identify potential water source sites	Mobilize community through committee	Technical Team; CD-CO worker/s
5B. Presentation of Technical Findings	Inform the community of the results of the feasibility study conducted	Core group meeting	CD-CO worker/s
6B. Prepare Technical Design	Determine/design the most appropriate technology to be used for WATSAN system	Community meeting	Technical Team
7B. Presentation of Technical Design	Come up with recommendations on the technical study	Community meeting	Technical Team
8B. Finalize Technical Design	Generate community decision on the proposed WATSAN scheme	Technical Team Dicsussion	Technical Team

D. Project Implementation

Activity	Objective	Strategy	Facilitator/Organizer
9. Project Presentation	Present to the community the project to be implemented and the responsibilities required of the beneficiaries	Community meeting	Technical Team/CD-CO Worker/s
10. Action Planning/Pre-construction Seminar	Generate workplan and tasking for the construction activities; Spell out what to expect during the construction processes	Community meeting	Technical Team
11. Mobilization for Delivery of Materials	Ensure that materials delivered at the community are all accounted for	Specific committee to handle materials	Selected Committee
12. Construction	Construct/Complete WATSAN Facility	Actual Construction	Technical Team

PHASE III: CONSOLIDATION AND SUSTENANCE OF ORGANIZATION

Activity	Objective	Strategy	Facilitator/Organizer
1. Training on Hygiene, Sanitation and Health Care	Conduct of training on health and sanitation	Community meeting or meeting by tapstand grouping	CD-CO worker/s; Rural Sanitary Inspector
2. Organizational Management Training	Conduct of training on organizational management	Seminar-workshop	LGU/CD-CO worker/s
3. Financial Management Training	Conduct a financial management training	Seminar-workshop	LGU/CD-CO worker/s

Activity	Objective	Strategy	Facilitator/Organizer
4. Presentation, Comparison/Collation of Tapstand and House Rules	Collate similar house rules formulated in the previous activity	Meeting of tapstand leader	CD-CO worker/s
5. Facility/System Test Run	Solicit community participation in ocular operation and test run of facility installed	Actual Test Run; Community meeting	Technical Team
6. Water Quality Test	Ensure potability of water from facility	Collect water sample and submit to DOH for test	Technical Team
7. Operation, Maintenance and Repair Training	Conduct a training on O&M and repair	Seminar-workshop	Technical Team
8. Turn-over of Facility/System	To have a formal turn-over of facility/system to officers and members	Turn-over ceremony	CD-CO worker/LGU
9. Final Meeting	Conduct a final meeting with the water association officers and barangay council	Community meeting	CD-CO worker/s
10. EXIT			

10 COST ESTIMATES FOR FUTURE SECTOR DEVELOPMENT

10.2 Assumption for Cost Estimates

10.2.1 Unit Construction Cost

(1) Calculation method

The base information in previous PW4SP, such as bill of quantities and unit cost of respective component facilities was fully utilized, which was referred to the standards of relevant sector agencies. Escalation rates experienced between 1995 and 1997 in terms of major construction materials and equipment rental were studied using NSO statistics (wholesale price index). Market prices of these items were also canvassed to compare with calculated prices in 1997 from those in 1995 in application of the escalation rates.

In general, escalated prices meet canvassed prices in most of the materials. Escalation rates between 1995 and 1997 were employed in round figures. Some of them (water closet, etc.) were, however, replaced by current price due to considerable increase in the last two years.

The Table 10.2.1 shows the prices of the major materials by facility.

Table 10.2.1 Price of Major Materials by Facility

	Water Supply			Sanitation			Projection by major materials					Canvassed/collected price		Remarks
							NSO wholesale price index			Price				
	L-I	L-II	L-III	ST/PT	Flush type	VIP/ Pit	1995	1997	Escalation	1995	(1) 1997	(2) DPWH	(3) CIA	Compared with (2), (3)
1. Sand, stone, gravel	*	*	*	*	*	*	311.6	343.5	0.050					Almost same with (2),(3)
Sand										304	335	330	350	
Gravel										385	424	418	450	
2. Cement	*	*	*	*	*	*	197.4	200.1	0.007	117	119	126	105	- do -
3. Fuel and Lubricant	*		*				601.6	694.0	0.074	1,100	1,269	1,306		- do -
4. Metal pipe	*	*	*				208.7	211.5	0.007					Price of casing is almost same with (2), screen is 20% lower than (2)
100m/m x 3m, casing										2,625	2,660	2,763		
100m/m x 3m, screen										4,313	4,371	5,291		
5. PVC pipe	*	*	*	*			199.2	221.1	0.054					Price of PVC pipe is almost same with (2) and/or 25% higher than (3)
63m/m pipe w/socket										813	902	882	715	
1 1/2" elbow										13	14		32	
6. Reinforcing steel		*	*	*	*	*	201.4	207.4	0.015					Same with (3)
12m/m x 6m										68	70		70	
10m/m x 6m										49	50		49	
7. Lumber				*	*	*	268.5	277.4	0.016					
8. Paint				*			128.0	132.8	0.019					Same with (3)
Enamel, QDE										266	276		275	
9. Machinery and equipm	*		*				254.8	254.8	0.000					

L-I: Deep well/shallow well, L-II: Mjor materials are same as those of L-I spring development,
ST: School toilet, PT: Public toilet, Flush type: Flush water sealed w/septic tank and Pour flush w/ double latrine,
CIA: Construction Industry Authority of the Philippines

Table 10.2.2 (a) Unit Cost of Level I (Gravel Packed Deep Well - 40m Depth)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization/Site Preparation		L.S.		15,000
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	11	pcs.	2,894	31,834
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,997
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,510
(4) Casing Centralizer	2	set	1,925	3,850
2. Labor, Fuel, Lubricant and others				
Well Drilling for 40 m depth at 200mm borehole	40	m	2,460	98,400
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		5,301
Sub-Total of B				**156,892**
C. Well Development and Pumping Test				
Well Development	12	hr.	2,353	28,236
Pumping Test	6	hr.	1,472	8,832
Sub-Total of C				**37,068**
D. Gravel Packing, Installation of Handpump and Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type)	1	set	9,922	9,922
(2) 63mm x 6m Riser Pipe and Pump Rod	6	pcs.	1,880	11,280
(3) #10 Sieved Gravel	0.7	cu.m	959	671
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	4	bags	128	512
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	335
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	275
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pcs.	49	294
6) Nail	1	kg.	35	35
Sub-Total of D-1				25,019
2. Labor (40% of D-1.)				10,008
3. Freight Cost (11% of Materials)		L.S.		2,752
Sub-Total of D				**37,779**
E. Indirect Cost				
Profit (10% of A, B. C & D)				24,674
Overhead Expense (13% of A,B,C & D)				32,076
VAT (10% of Labor, Profit & Overhead Expense)				16,516
Sub-Total of E				**41,190**
Total of Construction Cost (A+B+C+D+E)				**259,693**
F. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		3,300
2. Construction Supervision		L.S.		2,200
3. Water Quality Analysis		L.S.		1,244
Sub-Total of F				**6,744**
GRAND TOTAL				266,437
SAY				266,400

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.2 (b) Unit Cost of Level I (Natural Gravel packed Deep Well - 40m Depth)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		**L.S.**		**15,000**
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	11	pcs.	2,894	31,834
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,997
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,510
(4) Casing Centralizer	0	set	1,925	0
2. Labor, Fuel, Lubricant and others				
Well Drilling for 40 m depth at 150mm borehole	40	m	1,534	61,360
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		4,878
Sub-Total of B				**115,579**
C. Well Development and Pumping Test				
Well Development	6	hr.	2,353	14,118
Pumping Test	6	hr.	1,472	8,832
Sub-Total of C				**22,950**
D. Gravel Packing, Installation of Handpump and Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type)	1	set	9,922	9,922
(2) 63mm x 6m Riser Pipeand Pump Rod	6	pcs.	1,880	11,280
(3) #10 Sieved Gravel	0	cu.m	959	0
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	3	bags	128	384
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	335
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	275
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pcs.	49	294
6) Nail	1	kg.	35	35
Sub-Total of D-1				24,220
2. Labor (40% of D-1.)				9,688
3. Freight Cost (11% of Materials)		L.S.		2,664
Sub-Total of D				**36,572**
E. Indirect Cost				
Profit (10% of A, B, C & D)				19,010
Overhead Expense (13% of A,B,C & D)				24,713
VAT (10% of Labor, Profit & Overhead Expense)				11,477
Sub-Total of E				**30,487**
Total of Construction Cost (A+B+C+D+E)				**206,470**
F. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		3,300
2. Construction Supervision		L.S.		2,200
3. Water Quality Analysis		L.S.		1,244
Sub-Total of F				**6,744**
GRAND TOTAL				**213,214**
SAY				**213,200**

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.3 (a) Unit Cost of Level I (Gravel Packed Deep Well - 80m Depth)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization/Site Preparation		**L.S.**		**15,000**
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	24	pcs.	2,894	69,456
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,997
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,510
(4) Casing Centralizer	2	set	1,925	3,850
2. Labor, Fuel, Lubricant and others				
Well Drilling for 40 m depth at 200mm borehole	80	m	2,460	196,800
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		9,439
Sub-Total of B				**297,052**
C. Well Development and Pumping Test				
Well Development	12	hr.	2,353	28,236
Pumping Test	6	hr.	1,472	8,832
Sub-Total of C				**37,068**
D. Gravel Packing, Installation of Handpump and Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type)	1	set	9,922	9,922
(2) 63mm x 6m Riser Pipe and Pump Rod	12	pcs.	1,880	22,560
(3) #10 Sieved Gravel	1.6	cu.m	959	1,534
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	4	bags	128	512
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	335
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	275
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pcs.	49	294
6) Nail	1	kg.	35	35
Sub-Total of D-1				37,162
2. Labor (40% of D-1.)				14,865
3. Freight Cost (11% of Materials)		L.S.		4,088
Sub-Total of D				**56,115**
E. Indirect Cost				
Profit (10% of A, B, C & D)				40,524
Overhead Expense (13% of A,B,C & D)				52,681
VAT (10% of Labor, Profit & Overhead Expense)				30,487
Sub-Total of E				**71,011**
Total of Construction Cost (A+B+C+D+E)				**448,010**
F. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		3,300
2. Construction Supervision		L.S.		2,200
3. Water Quality Analysis		L.S.		1,244
Sub-Total of F				**6,744**
GRAND TOTAL				**454,754**
SAY				**454,800**

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.3 (b) Unit Cost of Level I (Natural Gravel Packed Deep Well - 80m Depth)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization/Site Preparation		**L.S.**		**15,000**
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	24	pcs.	2,894	69,456
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,997
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,510
(4) Casing Centralizer	0	set	1,925	0
2. Labor, Fuel, Lubricant and others				
Well Drilling for 80 m depth at 150mm borehole	80	m	1,534	122,720
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		9,016
Sub-Total of B				**218,699**
C. Well Development and Pumping Test				
Well Development	6	hr.	2,353	14,118
Pumping Test	6	hr.	1,472	8,832
Sub-Total of C				**22,950**
D. Gravel Packing, Installation of Handpump and Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type)	1	set	9,922	9,922
(2) 63mm x 6m Riser Pipe and Pump Rod	8	pcs.	1,880	15,040
(3) #10 Sieved Gravel	0	cu.m	959	0
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	3	bags	128	384
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	335
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	275
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pcs.	49	294
6) Nail	1	kg.	35	35
Sub-Total of D-1				27,980
2. Labor (40% of D-1.)				11,192
3. Freight Cost (11% of Materials)		L.S.		3,078
Sub-Total of D				**42,250**
E. Indirect Cost				
Profit (10% of A, B, C & D)				29,890
Overhead Expense (13% of A,B,C & D)				38,857
VAT (10% of Labor, Profit & Overhead Expense)				20,266
Sub-Total of E				**50,156**
Total of Construction Cost (A+B+C+D+E)				**334,937**
F. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		3,300
2. Construction Supervision		L.S.		2,200
3. Water Quality Analysis		L.S.		1,244
Sub-Total of F				**6,744**
GRAND TOTAL				**341,681**
SAY				**341,700**

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.4 (a) Unit Cost of Level I (Gravel Packed Deep Well - 120m Depth)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization/Site Preparation		**L.S.**		**15,000**
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	37	pcs.	2,894	107,078
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,997
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,510
(4) Casing Centralizer	2	set	1,925	3,850
2. Labor, Fuel, Lubricant and others				
Well Drilling for 120 m depth at 200mm borehole	120	m	2,460	295,200
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		13,578
Sub-Total of B				**437,213**
C. Well Development and Pumping Test				
Well Development	12	hr.	2,353	28,236
Pumping Test	6	hr.	1,472	8,832
Sub-Total of C				**37,068**
D. Gravel Packing, Installation of Handpump and Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type)	1	set	9,922	9,922
(2) 63mm x 6m Riser Pipe and Pump Rod	15	pcs.	1,880	28,200
(3) #10 Sieved Gravel	2.5	cu.m	959	2,398
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	4	bags	128	512
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	335
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	275
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pcs.	49	294
6) Nail	1	kg.	35	35
Sub-Total of D-1				43,666
2. Labor (40% of D-1.)				17,466
3. Freight Cost (11% of Materials)		L.S.		4,803
Sub-Total of D				**65,935**
E. Indirect Cost				
Profit (10% of A, B, C & D)				55,522
Overhead Expense (13% of A,B,C & D)				72,178
VAT (10% of Labor, Profit & Overhead Expense)				44,037
Sub-Total of E				**99,559**
Total of Construction Cost (A+B+C+D+E)				**626,539**
F. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		3,300
2. Construction Supervision		L.S.		2,200
3. Water Quality Analysis		L.S.		1,244
Sub-Total of F				**6,744**
GRAND TOTAL				**633,283**
SAY				**633,300**

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.4 (b) Unit Cost of Level I (Natural Gravel Packed Deep Well - 120m Depth)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization/Site Preparation		**L.S.**		**15,000**
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	37	pcs.	2,894	107,078
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,997
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,510
(4) Casing Centralizer	0	set	1,925	0
2. Labor, Fuel, Lubricant and others				
Well Drilling for 120 m depth at 150mm borehole	120	m	1,534	184,080
3. Borehole Logging	1	no	5,000	5,000
4. Freight Cost (11% of Materials)		L.S.		13,154
Sub-Total of B				**321,819**
C. Well Development and Pumping Test				
Well Development	6	hr.	2,353	14,118
Pumping Test	6	hr.	1,472	8,832
Sub-Total of C				**22,950**
D. Gravel Packing, Installation of Handpump and Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type)	1	set	9,922	9,922
(2) 63mm x 6m Riser Pipe and Pump Rod	15	pcs.	1,880	28,200
(3) #10 Sieved Gravel	0	cu.m	959	0
(4) Coarse Sand	1	cu.m	335	335
(5) Cement for Sanitary Seal	3	bags	128	384
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	335
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	275
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pcs.	49	294
6) Nail	1	kg.	35	35
Sub-Total of D-1				41,140
2. Labor (40% of D-1.)				16,456
3. Freight Cost (11% of Materials)		L.S.		4,525
Sub-Total of D				**62,121**
E. Indirect Cost				
Profit (10% of A, B, C & D)				42,189
Overhead Expense (13% of A,B,C & D)				54,846
VAT (10% of Labor, Profit & Overhead Expense)				29,757
Sub-Total of E				**71,946**
Total of Construction Cost (A+B+C+D+E)				**479,718**
F. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		3,300
2. Construction Supervision		L.S.		2,200
3. Water Quality Analysis		L.S.		1,244
Sub-Total of F				**6,744**
GRAND TOTAL				**486,462**
SAY				**486,500**

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.5 Unit Cost of Level I (Deep Well Rehabilitation)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		**L.S.**		**5,000**
B. Well Rehabilitation				
1. Materials				
(1) Cylinder Pump Set	1	set	9,922	9,922
(2) Cement for Surface Sealing	4	bags	128	512
(3) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	2	cu.m	424	848
3) Sand	1	cu.m	335	335
4) Plywood (4' x 8' x 1/4")	1	pc.	275	275
5) Form Lumber (2" x 3" x 6")	6	pcs.	49	294
6) Nail	1	kg.	35	35
Sub-Total of B-1				12,733
2. Labor (40% of B-1)				5,093
3. Freight Cost (11% of Materials)				1,401
Sub-Total of B				**19,227**
C. Well Development		**L.S.**		**28,000**
D. Indirect Cost				
Profit (10% of A, B & C)				5,223
Overhead Expense (13% of A,B & C)				6,790
VAT (10% of Profit & Labor)				3,832
Sub-Total of D				**15,845**
Total of Construction Cost (A+B+C+D)				**68,072**
E. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		1,200
2. Supervision		L.S.		720
3. Water Quality Analysis		L.S.		1,244
Sub-Total of E				**3,164**
GRAND TOTAL				**71,236**
SAY				**71,200**

Note: L.S. - Lump Sum
Source: DPWH standard price in 1994
Unit Cost: Adjusted to 1997 Price Level

Table 10.2.6 Unit Cost of Level I (Shallow Well - 18m Depth)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		3,000
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 63mm x 6m PVC Pipe with socket	2	pcs.	896	1,792
(2) 63mm x 3m PVC Pipe with plug	1	pc.	452	452
(3) 63mm PVC Socket	1	pc.	99	99
(4) 63mm x 3m PVC Screen	1	pc.	1,433	1,433
(5) Casing Centralizer	2	set	725	1,450
2. Labor, Fuel, Lubricant and others				
Well Drilling for 18 m depth at 150mm borehole	18	m	1,534	27,612
3. Freight Cost (11% of Materials)		L.S.		415
Sub-Total of B				33,253
C. Well Development	4	hr.	1,482	5,928
D. Gravel Packing, Installation of Handpump and Construction of Platform				
1. Materials				
(1) 50mm Jetmatic Handpump	1	set	2,623	2,623
(2) 50mm Riser Pipe and Foot Valve	1	pc.	110	110
(3) #10 Sieved Gravel	0.1	cu.m	959	96
(4) Coarse Sand	0.07	cu.m	335	23
(5) Cement for Sanitary Seal	4	bag	128	512
(6) Pump Base and Platform				
1) Cement	4	bags	128	512
2) Gravel	1	cu.m	424	424
3) Sand	1	cu.m	335	335
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	275
5) Form Lumber (50mm x 75mm x 1,800 mm)	1	pc.	49	49
6) Nail	1	kg.	35	35
Sub-Total of D-1				4,994
2. Labor (40% of D-1.)				1,998
3. Freight Cost (11% of Materials)		L.S.		549
Sub-Total of D				7,541
E. Indirect Cost				
Profit (10% of A to D)				4,972
Overhead Expense (13% of A to D)				6,464
VAT (10% of Profit & Overhead Expense)				1,144
Sub-Total of E				6,116
Total of Construction Cost (A+B+C+D+E)				55,838
F. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		2,200
2. Construction Supervision		L.S.		1,650
3. Water Quality Analysis		L.S.		1,244
Sub-Total of F				5,094
GRAND TOTAL				60,932
SAY				60,900

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.7 Unit Cost of Level I (Spring Development)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		**L.S.**		**3,600**
B. Construction of Spring Box				
1. Materials		L.S.		39,900
2. Labor (35% of 1.)		L.S.		13,965
3. Freight Cost (11% of Materials)		L.S.		4,389
Sub-Total of B				**58,254**
C. Installation of Pipelines & Fittings				
1. Transmission Main				
(1) Materials				
1) 63mm dia. PVC Pipe (Class 12.5 with push type socket)	330	pcs.	896	295,680
2) 63mm dia. Tee	1	no.	97	97
3) Solvent Cement	26	cans	50	1,300
4) 63mm dia. Elbow (90 deg.)	3	nos.	83	249
5) 63mm dia. Elbow (45 deg.)	1	pc.	82	82
6) 50mm dia. Gate Valve	2	pcs.	841	1,682
7) 50mm dia. x 1m Stand Pipe	1	pc.	165	165
8) 63mm x 50mm GI Nipple	1	pc.	115	115
9) 50mm dia. Union Patente	3	pcs.	179	537
10) 63mm x 50mm dia. Reducing Socket	2	pcs.	106	212
11) 50mm dia. GI Elbow (90 deg.)	2	pcs.	74	148
12) 63mm x 50mm dia. Socket Adaptor	2	pcs.	156	312
13) 50mm dia. GI Gate Valve	2	pcs.	739	1,478
14) 13mm dia. Brass Faucet	2	pcs.	45	90
Sub-Total of Materials				302,057
(2) Labor (35% of Material Cost)		L.S.		105,720
(3) Freight Cost (11% of Materials)		L.S.		33,226
Sub-Total of C				**441,003**
D. Indirect Cost				
1. Transmission Main				
(1) Profit (10% of C)				44,100
(2) Overhead Expense (13% of C)				57,330
(3) VAT (10% of Profit, Overhead Expense and Labor)				20,715
2. Source Facilities				
(1) Profit (10% of A, B)				18,556
(2) Overhead Expense (13% ofA, B)				6,185
(3) VAT (10% of Profit, Overhead Expense and Labor)				3,871
Sub-Total of D				**150,757**
Total Construction Cost (A+B+C+D)				**653,614**
E. Estimated Government Expenses				
1. Preliminary & Detailed Engineering and RWSA Formation				2,200
2. Supervision				13,200
3. Water Quality Analysis				1,244
Sub-Total of E				**16,644**
GRAND TOTAL				**670,258**
SAY				**670,300**

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.8 Unit Cost of Level II (600 Service Population)

(Cost: Peso)

Sheet 1 of 2

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		5,000
B. Construction of Spring Box				
1. Materials		L.S.		39,900
2. Labor (35% of 1.)		L.S.		13,965
3. Freight Cost (11% of Materials)		L.S.		4,389
Sub-Total of B				**58,254**
C. Installation of Pipelines & Fittings				
1. Transmission Main				
(1) Materials				
1) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket)	500	pcs.	896	448,000
2) 63mm dia. Tee	1	no.	97	97
3) Solvent Cement	40	cans	50	2,000
4) 63mm dia. x 50mm Nipple	3	nos.	149	447
5) 63mm dia. Union Patente	1	pc.	190	190
6) 63mm dia. x 50mm dia. Reducing Socket	2	pcs.	115	230
7) 63mm dia. Elbow (90 deg.)	1	pc.	83	83
8) 63mm dia. Elbow (45 deg.)	1	pc.	82	82
9) 63mm dia. Gate Valve	3	pcs.	841	2,523
Sub-Total of Materials				453,652
(2) Labor (35% of Material Cost)		L.S.		158,778
(3) Freight Cost (11% of Materials)		L.S.		49,902
Sub-Total of Transmission Main				662,332
2. Distribution Pipeline				
(1) Materials				
1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)	20	pcs.	496	9,920
2) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket)	30	pcs.	330	9,900
3) 20mm dia. PVC Pipe (Class 40 with pusher type socket)	10	pcs.	110	1,100
4) 13mm dia. x 1 m Stand Pipe	10	pcs.	103	1,030
5) Solvent Cement	4	cans	50	200
6) Fittings				
a. 50mm dia. x 150mm PVC Nipple	3	pcs.	137	411
b. 32mm dia. x 150mm PVC Nipple	3	pcs.	83	249
c. 13mm dia. x 150mm GI Nipple	40	pcs.	27	1,080
d. 50mm dia. Union Patente	1	pcs.	179	179
e. 32mm dia. Union Patente	2	pcs.	78	156
f. 13mm dia. Union Patente	10	pcs.	27	270
g. 50mm dia. x 32mm dia. Reducing Socket	6	pcs.	99	594
h. 32mm dia. x 20mm dia. Reducing Socket	10	pcs.	77	770
i. 20mm dia. x 13mm dia. Reducing Socket	10	pcs.	60	600
j. 50mm dia. PVC Elbow (90 deg.)	2	pcs.	74	148
k. 13mm dia. GI Elbow (90 deg.)	20	pcs.	14	280
l. 20mm dia. x 13mm dia. Socket Adaptor	10	pcs.	45	450
m. 50mm dia. GI Gate Valve	2	pcs.	739	1,478
n. 32mm dia. GI Gate Valve	2	pcs.	418	836
o. 13mm dia. GI Gate Valve	24	pcs.	253	6,072
p. 13mm dia. Brass Faucet	24	pcs.	45	1,080
q. 50mm dia. Tee	4	pcs.	143	572
r. 32mm dia. Tee	6	pcs.	121	726
s. Water Meter	24	pcs.	826	19,824
t. Water Meter Box	24	pcs.	1,212	29,088
Sub-Total of Materials				87,013
(2) Labor (35% of Material Cost)				30,455
(3) Freight Cost (11% of Materials)		L.S.		9,571
Sub-Total of Distribution Pipeline				127,039
Sub-Total of C				**789,371**

Table 10.2.8 Unit Cost of Level II (600 Service Population) (Cont'd.)

Sheet 2 of 2 (Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
D. Indirect Cost				
1. Transmission Main				
(1) Profit (10% of C-1)				66,233
(2) Overhead Expense (13% of C-1)				86,103
(3) VAT (10% of Profit, Overhead Expense and Labor)				31,111
2. Source Facilities and Distribution Pipeline				
(1) Profit (10% of A, B, C-2)				19,029
(2) Overhead Expense (13% of A,B and C-2)				24,738
(3) VAT (10% of Profit, Overhead Expense and Labor)				8,819
Sub-Total of D				236,033
Total Construction Cost (A+B+C+D)				1,088,658
E. Estimated Government Expenses				
1. Preliminary & Detailed Engineering and RWSA Formation				2,200
2. Supervision				13,200
3. Water Quality Analysis				1,244
Sub-Total of E				16,644
Total Estimated Cost				1,105,302
Unit Cost per Person Served				1,842 1,800

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodlogy Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.9 Unit Cost of Level III (5,000 Service Population)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		**L.S.**		**330,000**
B. Source Development and Storage				
1. Deep Well	1	No.	1,770,000	1,770,000
2. Deep Well Pump	1	No.	632,000	632,000
3. Chlorinator House & Equipment	1	L.S.		480,000
4. Storage Tank (250 cu.m)	1	No.	1,200,000	1,200,000
Sub-Total of B				**4,082,000**
C. Transmission Main				
1. 160mm dia.	500	L.M.	1,234	617,000
Sub-Total of C				**617,000**
D. Distribution Main				
1. 160mm dia.	1,000	L.M.	1,234	1,234,000
2. 110mm dia.	3,000	L.M.	1,019	3,057,000
3. 90mm dia.	3,000	L.M.	639	1,917,000
4. 75mm dia.	5,000	L.M.	595	2,975,000
Sub-Total of D				**9,183,000**
E. Service Connections	**1,000**	**Nos.**	**2,138**	**2,138,000**
F. Miscellaneous				
1. Vehicle	1	No.	606,000	606,000
2. Office & Workshop Bldg.	1	No.	606,000	606,000
3. Office Equipment		L.S.		110,000
4. Tools and Spare Parts		L.S.		110,000
Sub-Total of F				**1,432,000**
Total Direct Cost (A+B+C+D+E+F)				**17,782,000**
G. Indirect Cost (25% of Direct Cost)				**4,445,500**
Total Estimated Cost				**22,227,500**
Unit Cost per Person Served				
For New Construction				4,446
				4,400
For Expansion of Existing System (Exclude F.)				4,088
				4,100

Note: L.S. - Lump Sum

Cost of spring development includes additional transmission main, but it shall be confirmed by survey in the implementation stage.

Source: LWUA standard price in 1994

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.10 Unit Cost of Level III (10,000 Service Population)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		**L.S.**		**330,000**
B. Source Development and Storage				
1. Deep Well	1	No.	1,770,000	1,770,000
2. Deep Well Pump	1	No.	632,000	632,000
3. Chlorinator House & Equipment	1	L.S.		480,000
4. Storage Tank (250 cu.m)	1	No.	1,200,000	1,200,000
Sub-Total of B				**4,082,000**
C. Transmission Main				
1. 160mm dia.	500	L.M.	1,234	617,000
Sub-Total of C				**617,000**
D. Distribution Main				
1. 160mm dia.	2,000	L.M.	1,234	2,468,000
2. 110mm dia.	5,000	L.M.	1,019	5,095,000
3. 90mm dia.	6,000	L.M.	639	3,834,000
4. 75mm dia.	8,000	L.M.	595	4,760,000
Sub-Total of D				**16,157,000**
E. Service Connections	**2,000**	**Nos.**		**3,880,000**
F. Miscellaneous				
1. Vehicle	1	No.	606,000	606,000
2. Office & Workshop Bldg.	1	No.	606,000	606,000
3. Office Equipment		L.S.		110,000
4. Tools and Spare Parts		L.S.		110,000
Sub-Total of F				**1,432,000**
Total Direct Cost (A+B+C+D+E+F)				**26,498,000**
G. Indirect Cost (25% of Direct Cost)				**6,624,500**
Total Estimated Cost				33,122,500
Unit Cost per Person Served				
For New Construction				3,312
				3,300
For Expansion of Existing System (Exclude F.)				3,133
				3,100

Note: L.S. - Lump Sum

Cost of spring development includes additional transmission main, but it shall be confirmed by survey in the implementation stage.

Source: LWUA standard price in 1994

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.11 Unit Cost of Level III (15,000 Service Population)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		**L.S.**		**330,000**
B. Source Development and Storage				
1. Deep Well	2	No.	1,770,000	3,540,000
2. Deep Well Pump	2	No.	632,000	1,264,000
3. Chlorinator House & Equipment	2	L.S.		480,000
4. Storage Tank (250 cu.m)	2	No.	1,200,000	1,200,000
Sub-Total of B				**6,484,000**
C. Transmission Main				
1. 160mm dia.	1,000	L.M.	1,234	1,234,000
Sub-Total of C				**1,234,000**
D. Distribution Main				
1. 160mm dia.	3,000	L.M.	1,234	3,702,000
2. 110mm dia.	7,000	L.M.	1,019	7,133,000
3. 90mm dia.	9,000	L.M.	639	5,751,000
4. 75mm dia.	11,000	L.M.	595	6,545,000
Sub-Total of D				**23,131,000**
E. Service Connections	**3,000**	**Nos.**		**5,820,000**
F. Miscellaneous				
1. Vehicle	1	No.	606,000	606,000
2. Office & Workshop Bldg.	1	No.	606,000	606,000
3. Office Equipment		L.S.		110,000
4. Tools and Spare Parts		L.S.		110,000
Sub-Total of F				**1,432,000**
Total Direct Cost (A+B+C+D+E+F)				**38,431,000**
G. Indirect Cost (25% of Direct Cost)				**9,607,750**
Total Estimated Cost				**48,038,750**
Unit Cost per Person Served				
For New Construction				3,203
				3,200
For Expansion of Existing System (Exclude F.)				3,083
				3,100

Note: L.S. - Lump Sum

Cost of spring development includes additional transmission main, but it shall be confirmed by survey in the implementation stage.

Source: LWUA standard price in 1994

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.12 Unit Cost of Flush Water Sealed with Septic Tank Toilet

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Demolition		L.S.		1,000
B. Earthwork				
1. Materials				
(1) Gravel Fill	1	cu.m.	424	424
Sub-Total of B-1				424
2. Labor				
(1) Excavation	6	cu.m.	131	786
(2) Backfill	2	cu.m.	119	238
(3) Gravel Fill	1	cu.m	155	155
Sub-Total of B-2				1,179
Sub-Total of B				1,603
C. Concrete Work				
1. Materials				
Slab on wood planks				
(1) 16 - 2" x 8" x 6' Coco Lumber	128	bd.ft	8	1,024
(2) 10mm dia x 6.0m Rebar	3	pcs.	54	162
(3) #16 Tie Wire	0.5	kg.	54	27
(4) Cement	10	bags	128	1,280
(5) Sand	1.5	cu.m.	335	503
(6) Gravel	2	cu.m.	424	848
(7) Stone Lining with Mortar		L.S.		1,115
Sub-Total of C-1				4,959
2. Labor (30% of C-1)				1,488
Sub-Total of C				6,447
D. Carpentry Work				
1. Materials				
(1) Nipa	60	pcs.	2	120
(2) 1.5m x 1.8m, amakan	3	pcs.	70	210
(3) 2x 3 x 10' Coco Lumber	20	bd.ft	10	200
(4) 2 x 2 x 10' Coco Lumber	33.3	bd.ft	10	333
(5) 3" dia. Bamboo	3	lights	20	60
(6) Assorted CWN	4	kgs.	40	160
(7) Rattan wire	20	pcs.	1	20
Sub-Total of C-1				1,103
2. Labor (30% of C-1)				331
Sub-Total of C				1,434
E. Plumbing				
1. Materials				
(1) Water Closet	1	set	4,500	4,500
(2) Water line and sanitary fixtures		L.S.		1,500
Sub-Total of E-1				6,000
2. Labor (30% of E-1)				1,800
Sub-Total of E				7,800
F. Transportation Cost (excluding indigenous materials)		L.S.		500
G. Indirect Cost				
Profit (10% of A - F)				1,878
VAT (10% of Profit & Labor)				668
Sub-Total of F				2,546
Total of Construction Cost (A+B+C+D+E+F+G)				21,330 21,300

Source: DOH standard price in1993
Cost adjusted to 1997 Price Level

Table 10.2.13 Unit Cost of Pour Flush with Double Pit Latrine

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Earthwork				
1. Materials				
(1) Gravel Fill	1	cu.m.	424	424
Sub-Total of A-1				424
2. Labor				
(1) Excavation	6	cu.m.	131	786
(2) Backfill	2	cu.m.	119	238
(3) Gravel Fill	1	cu.m.	155	155
Sub-Total of A-2				1,179
Sub-Total of A				**1,603**
B. Concrete Work				
1. Materials				
Slab on wood planks				
(1) 16 - 2" x 8" x 6' Coco Lumber	128	bd.ft	8	1,024
(2) 10mm dia x 6.0m Rebar	3	pcs.	54	162
(3) #16 Tie Wire	0.5	kg.	54	27
(4) Cement	10	bags	128	1,280
(5) Sand	1.5	cu.m.	335	503
(6) Gravel	2	cu.m.	424	848
(7) Stone Lining with Mortar		L.S.		1,115
Sub-Total of B-1				4,959
2. Labor (25% of B-1)				1,240
Sub-Total of B				**6,199**
C. Carpentry Work				
1. Materials				
(1) Nipa	60	pcs	2	120
(2) 1.5m x 1.8m, amakan	3	pcs	70	210
(3) 2x 3 x 10' Coco Lumber	20	bdft	10	200
(4) 2 x 2 x 10' Coco Lumber	33.3	bdft	10	333
(5) 3" dia. Bamboo	3	lights	20	60
(6) Assorted CWN	4	kgs.	40	160
(7) Rattan wire	20	pcs	1	20
(8) Pale (medium)	1	pc.	190	190
(9) 3" dia. PVC x 3m	1	pc.	180	180
(10) 3" dia. PVC Elbow	2	pcs	15	30
(11) PVC solvent	1	pint	50	50
(12) Ga. 31 x 8' plain Gi sht.	1	sht.	200	200
Sub-Total of C-1				1,753
2. Labor (25% of C-1)				438
Sub-Total of C				**2,191**
D. Plumbing				
1. Material				
(1) Toilet Bowl-Squat Type	1	pc.	603	603
(2) 75mm dia x 6.0m PVC Pipe	1	pc.	142	142
Sub-Total of D-1				745
2. Labor (25% of D-1)				186
Sub-Total of D				**931**
E. Transportation Cost (excluding indigenous materials)		L.S.		300
F. Indirect Cost				
Profit (10% of A - D)				1,311
VAT (10% of Profit & Labor)				435
Sub-Total of F				1,746
Total Construction Cost (A+B+C+D+E+F)			**Say**	12,970 13,000

Note: L.S. - Lump Sum

Source: DOH standard price in 1993

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.14 Unit Construction Cost of Ventilated Improved Pit Latrine

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Earthwork				
1. Materials				
(1) Gravel Fill	0.5	cu.m.	424	212
Sub-Total of A-1				212
2. Labor				
(1) Excavation	3	cu.m.	131	393
(2) Backfill	1	cu.m.	119	119
(3) Gravel Fill	0.5	cu.m.	155	78
Sub-Total of A-2				590
Sub-Total of A				**802**
B. Concrete Work				
1. Materials				
Slab on wood planks				
(1) 8 - 2" x 8" x 6' Coco Lumber	64	bd.ft	8	512
(2) 10mm dia x 6.0m Rebar	2	pcs.	54	108
(3) #16 Tie Wire	0.5	kg.	54	27
(4) Cement	4	bags	128	512
(5) Sand	0.5	cu.m	335	168
(6) Gravel	0.5	cu.m	424	212
(7) Stone Lining with Mortar		L.S.		1,075
Sub-total of B-1				2,614
2. Labor (25% of B-1)				653
Sub-Total of B				**3,267**
C. Carpentry Work				
1. Materials				
(1) Nipa	60	pcs	2	120
(2) 1.5m x 1.8m, amakan	3	pcs	70	210
(3) 2x 3 x 10' Coco Lumber	20	bdft	10	200
(4) 2 x 2 x 10' Coco Lumber	33.3	bdft	10	333
(5) 3" dia. Bamboo	3	lights	20	60
(6) Assorted CWN	4	kgs.	40	160
(7) Rattan wire	20	pcs	1	20
(8) 3 x 3" hinges	2	pc.	30	60
Sub-Total of C-1				1,163
2. Labor (25% of C-1)				291
Sub-Total of C				**1,454**
D. Plumbing				
1. Material				
(1) 50mm dia. PVC Pipe	1	pc.	71	71
(2) Fly Screen		LS.		55
Sub-Total of D-1				126
2. Labor (25% of D-1)				38
Sub-Total of D				**164**
E. Transportation Cost (excluding indigenous materials)		L.S.		150
F. Indirect Cost				
Profit (10% of A - E)				584
VAT (10% of Profit & Labor)				216
Sub-Total of F				**800**
Total Construction Cost (A+B+C+D+E+F)			Say	**6,636** **6,600**

Note: L.S. - Lump Sum
Source: DOH standard price in 1993
Unit Cost: Adjusted to 1997 Price Level

Table 10.2.15 Unit Construction Cost of Pit Latrine

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Earthwork				
1. Materials				
(1) Gravel Fill	0.3	cu.m.	424	127
Sub-Total of A-1				127
2. Labor				
(1) Excavation	2	cu.m.	131	262
(2) Backfill	0.6	cu.m.	119	71
(3) Gravel Fill	0.3	cu.m.	155	47
Sub-Total of A-2				380
Sub-Total of A				**507**
B. Concrete Work				
1. Materials				
Slab on wood planks				
(1) 8 - 2" x 8" x 6' Coco Lumber	38	bd.ft	8	304
(2) 10mm dia x 6.0m Rebar	1	pcs.	54	54
(3) #16 Tie Wire	0.5	kg.	54	27
(4) Cement	3	bags	128	384
(5) Sand	0.3	cu.m	335	101
(6) Gravel	0.3	cu.m	424	127
(7) Stone Lining with Mortar		L.S.		650
Sub-total of B-1				1,647
2. Labor (25% of B-1)				412
Sub-Total of B				**2,059**
C. Carpentry Work				
1. Materials				
(1) Nipa	30	pcs.	2	60
(2) 1.0m x 1.8m, amakan	3	pcs.	70	210
(3) 2x 3 x 10' Coco Lumber	14	bd.ft	10	140
(4) 2 x 2 x 10' Coco Lumber	24	bd.ft	10	240
(5) 3" dia. Bamboo	3	lights	20	60
(6) Assorted CWN	3	kgs.	40	120
(7) Rattan wire	14	pcs.	1	14
(8) 3 x 3" hinges	2	pcs.	30	60
Sub-Total of C-1				904
2. Labor (25% of C-1)				226
Sub-Total of C				**1,130**
D. Transportation Cost (excluding indigenous materials)		L.S.		**150**
E. Indirect Cost				
Profit (10% of A -D)				370
VAT (10% of Profit & Labor)				154
Sub-Total of E				**524**
Total Construction Cost (A+B+C+D+E)			Say	**4,370** **4,400**

Note: L.S. - Lump Sum

Source: DOH standard price in 1993

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.16 Unit Cost of School Toilet

Sheet 1 of 5 (Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization and Demobilization		L.S.		5,500
B. Earthwork				
1. Materials				
(1) Gravel Fill	3.00	cu.m	424	1,272
Sub-Total of B-1				1,272
2. Labor				
(1) Excavation	15.88	cu.m	131	2,080
(2) Backfill	4.97	cu.m	119	591
(3) Gravel Fill	3.00	cu.m	155	465
Sub-Total of B-2				3,137
Sub-Total of B				**4,409**
C. Concrete Work				
1. Materials				
(1) Cement	61.00	bags	128	7,808
(2) Sand	4.00	cu.m	335	1,340
(3) Gravel	8.00	cu.m	424	3,392
(4) Rebars: 12mm dia x 6m	38.00	pcs.	74	2,812
10mm dia x 6m	57.00	pcs.	54	3,078
(5) #16 Tie Wire	8.00	kgs.	54	432
(6) Formworks:				
1/4" Plywood	6.00	pcs.	446	2,676
2"x2"x10" (Coco Lumber)	200.00	bd.ft.	8	1,600
Sub-Total of C-1				23,138
2. Labor (30% of C-1)		L.S.		6,941
Sub-Total of C				**30,079**
D. Masonry Work				
1. Materials				
(1) 6" CHB	800.00	pcs.	6	4,800
(2) 4" CHB	260.00	pcs.	5	1,300
(3) Cement	97.00	bags	128	12,416
(5) Sand	10.00	cu.m	335	3,350
(6) Rebars: 12mm dia x 6m	30.00	pcs.	74	2,220
10mm dia x 6m	11.00	pcs.	54	594
(7) #16 Tie Wire	4.00	kgs.	54	216
(8) Scaffolding:				
2"x4"x8" = 10 pcs. (Coco Lumber)	53.33	bf.	8	427
Sub-Total of D-1				25,323
2. Labor (30% of D-1)		L.S.		7,597
Sub-Total of D				**32,920**
E. Roofing Work				
1. Materials				
(1) GA #26 Corr. GI (1 = 10')	20.00	pcs.	290	5,800
(2) GA #24 Pln. GI Flashing	3.00	pcs.	280	840
(3) GA #24 Pln. GI Gutter (Pre-Fab)	9.00	pcs.	280	2,520
(4) Umbrella Nails 2 - 1/2"	12.00	kgs.	46	552
(5) Rafter - 2"x5"x18' = 5 pcs.	75.00	bf.	33	2,475
(6) Purlins - 2"x2"x12' = 18 pcs.	72.00	bf.	33	2,376
(7) WD Cleats - 2"x2"x10" = 6 pcs.	20.00	bf.	33	660

Table 10.2.16 Unit Cost of School Toilet

Sheet 2 of 5 (Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
(8) Nailers - 2"x2"x1012' = 30 pcs.	120.00	bf.	33	3,960
- 2"x2"x10' = 36 pcs.	120.00	bf.	33	3,960
(9) Fascia Board				
1"x12"x12' = 4 pcs.	48.00	bf.	33	1,584
1"x12"x18' = 2 pcs.	36.00	bf.	33	1,188
(10) Wood Plate				
2"x4"x20' = 2 pcs.	26.66	bf.	33	880
(11) 1/4" Thk. Mar. Plywood 4'x8'	14.00	pcs.	30	420
(12) C.W.N. Assorted	15.00	kgs.	30	450
(13) 3" dia x 3m Downspout (PVC)	3.00	pcs.	85	255
(14) 3" dia Elbow (PVC)	2.00	pcs.	15	30
(15) 3"dia Coupling (PVC)	1.00	pcs.	14	14
(16) Ceiling Vent				
1"x1"x8' = 4 pcs.	2.67	bf.	27	72
(17) Screen (1/8"x1/8")	1.00	yd.	85	85
Sub-Total of E-1				28,121
2. Labor (30% of E-1)		L.S.		8,436
Sub-Total of E				**36,557**
F. Carpentry Work				
1. Materials				
(1) D - 1 Hollow Core Tanguile				
Flush Type Door w/ Louver (.80x2.20)	2.00	sets	1,514	3,028
(2) D - 2 Hollow Core Tanguile				
Flush Type Door (.60x2.10)	1.00	sets	1,136	1,136
(3) D - 3 Louver Door (.60x1.40)	5.00	sets	947	4,735
(4) Door Jambs (Apitong)				
2"x6"x14" = 1 pc.	14.00	bf.	33	462
2"x6"x10" = 2 pcs.	20.00	bf.	33	660
2"x6"x10" = 1 pc.	18.00	bf.	33	594
2"x4"x12" = 5 pcs.	40.00	bf.	33	1,320
(7) Wooden Jalousie Window				
With 5 Blades (.40x.50)	14.00	set	316	4,424
(8) Window Jambs (Apitong)				
2"x6"x16" = 5 pcs.	80.00	bf.	33	2,640
2"x6"x14" = 1 pc.	14.00	bf.	33	462
2"x6"x10" = 1 pc.	10.00	bf.	33	330
(9) Cabinet				
3/4"x4'x8' = 1 pc. (plyboard)	1.00	pc.	821	821
Sub-Total of F-1				20,612
2. Labor (30% of F-1)		L.S.		6,184
Sub-Total of F				**26,796**
G. Tile Work				
1. Materials				
(1) 4 - 1/4"x4 - 1/4" Glazed Tiles	1,950.00	pcs.	4	7,800
(2) 0.10x0.20m Floor Tiles	900.00	pcs.	7	6,300
(3) Cement	4.00	bags	128	512
(4) White Cement	1.00	bag	693	693
Sub-Total of G-1				15,305

Table 10.2.16 Unit Cost of School Toilet

Sheet 3 of 5 (Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
2. Labor (30% of G-1)		L.S.		4,592
Sub-Total of G				**19,897**
H. Plumbing Work				
1. Materials				
(1) Toilet Bowl - Squat Type	3.00	sets	657	1,971
(2) Toilet Bowl-Sit Type	2.00	sets	657	1,314
(3) Lavatory	2.00	sets	3,000	6,000
(4) 4" dia x 3m PVC San. Pipe	4.00	pcs.	164	656
(5) 3" dia x 3m PVC San. Pipe	7.00	pcs.	92	644
(6) 1 1/2" dia x 3m PVC San. Pipe	4.00	pcs.	58	232
(7) 2" dia. x 3m PVC San. Pipe	2.00	pcs.	55	110
(8) 6" x 4" Floor Drain	5.00	pcs.	92	460
(9) 2" dia. Elbow PVC	4.00	pcs.	7	28
(10) 4" dia WYB PVC	2.00	pcs.	27	54
(11) 4" dia. x 3" dia. WYB PVC	12.00	pcs.	33	396
(12) 4" dia. x 2" dia. TEE PVC	2.00	pcs.	34	68
(13) 4" dia. TEE PVC	3.00	pcs.	34	102
(14) 1 1/2" dia. WYB PVC	1.00	pcs.	13	13
(15) 4" dia. Clean Out PVC	3.00	pcs.	38	114
(16) 3" dia. Clean Out PVC	1.00	pcs.	30	30
(17) Faucet	3.00	pcs.	55	165
(18) 3" dia. x 2" dia. WYB PVC	2.00	pcs.	27	54
(19) 1 1/2" dia. Elbow PVC	6.00	pcs.	14	84
(20) PVC Cement	1.00	can	133	133
(21) 2" dia. PVC San. Pipe x 3m	2.00	pcs.	87	174
(22) 4" dia. x 2" dia. TEE	2.00	pcs.	23	46
(23) Check Valve 1 1/2"	1.00	pcs.	200	200
(24) 4" P-Trap	5.00	pcs.	72	360
Sub-Total of H-1				13,408
2. Labor (30% of H-1)		L.S.		4,022
Sub-Total of H				**17,430**
I. Painting				
1. Materials				
(1) Acrylic, Semi Gloss	8.00	gals.	276	2,208
(2) Concrete Sealer	4.00	gals.	218	872
(3) Acri Color: Wood	4.00	gals.	84	336
(4) Enamel, QDE	6.00	gals.	282	1,692
(5) Wood Putty	1.00	gals.	320	320
(6) Paint Thinner	1.00	gals.	63	63
(7) Tinting Color	4.00	pint	42	168
(8) Sand Paper (Assorted)	15.00	pcs.	7	105
(9) Misecellaneous		L.S.		1,060
(10) Roof Paint (green, ready-mix)	2.00	gals.	298	596
Sub-Total of I-1				7,420
2. Labor (30% of I-1)		L.S.		2,226
Sub-Total of I				**9,646**

Table 10.2.16 Unit Cost of School Toilet

Sheet 4 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
J. Electrical Work				
1. Materials				
(1) 40 Watts Flouresecent Lamp	2.00	sets	270	540
(2) Elect. Wire TW #12	24.00	M	7	168
(3) Elect. Conduit - 1/2" dia x 10"	4.00	pcs.	82	328
(4) Entrance Cap. 1/2" dia	1.00	pc.	30	30
(5) Switch Outlet, Flush Type	2.00	pcs.	41	82
(6) Utility Box 2"x3"	2.00	pcs.	7	14
(7) Porcelain Receptacle 2" dia	2.00	pcs.	7	14
(8) Safety Switch 60A, 250V	1.00	set	519	519
(9) Electrical Tape	1.00	roll	23	23
Sub-Total of J-1				1,718
2. Labor (30% of J-1)		L.S.		515
Sub-Total of J				**2,233**
K. Hardware				
1. Materials				
(1) 3"x3" Butt Hinges (Loose Pin)	10.00	pcs.	15	150
(2) 4"x4" Butt Hinges (Loose Pin)	12.00	pcs.	19	228
(3) Door Lockset (Schlage US)	3.00	pcs.	481	1,443
(4) Barrel Bolt (4")	5.00	pcs.	42	210
(5) Cabinet Pull (4")	5.00	pcs.	7	35
(6) Water Storage Cover				
Checkered Plate 1/4" thick				
1.44x0.645 w/ L bar & flat bar	1.00	set	1,043	1,043
0.645x0.633 w/ L bar & flat bar	2.00	set	588	1,176
(7) Padlock	1.00	pcs.	401	401
Sub-Total of K-1				4,686
2. Labor (30% of K-1)		L.S.		1,406
Sub-Total of K				**6,092**
L. Septic Tank and Sewage Basin				
1. Materials				
(1) 4" CHB	180.00	pcs.	5	900
(2) Cement	18.00	bags	128	2,304
(3) Sand	1.50	cu.m	335	503
(4) Gravel	1.00	cu.m	424	424
(5) Rebars: 10mm dia x 6m	29.00	pcs.	74	2,146
(6) #16 Tire Wire	2.00	kgs.	54	108
(7) Formworks: Coco Lumber				
2"x3"x10' = 12 pcs.	60.00	bf.	8	480
1/4" plywood ord. 4'x8'	2.00	pcs.	446	892
C.W.N. (Assorted)	2.00	kgs.	31	62
Sub-Total of L-1				7,819
2. Labor (30% of L-1)		L.S.		2,346
Sub-Total of L				**10,165**

Table 10.2.16 Unit Cost of School Toilet

Sheet 5 of 5 (Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
M. Shallow Well (18 depth)				
a. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 63mm x 6m PVC Pipe with socket	2.00	pcs.	896	1,792
(2) 63mm x 3m PVC Pipe with plug	1.00	pc.	452	452
(3) 63mm PVC Socket	1.00	pc.	99	99
(4) 63mm x 3m PVC Screen	1.00	pc.	1,433	1,433
Sub-Total of M-a-1				3,776
2. Labor, Fuel, Lubricant and others				
Well Drilling for 18m depth at 150mm borehole	18.00	m	573	10,314
Sub-Total of M-a				14,090
b. Well Development		L.S.		550
c. Gravel Packing, Installation of Hand-Pump and Construction of Platform				
1. Materials				
(1) 50mm Jetmatic Handpump	1.00	set	2,623	2,623
(2) 50mm x 1m GI Pipe (Sch. 40)	1.00	pc.	82	82
(3) #10 Sieved Gravel	0.10	cu.m	959	96
(4) Coarse Sand	0.07	cu.m	474	33
(5) Cement for Sanitary Seal	1.00	bag	128	128
(6) Pump Base and Platform				
1) Cement	4.00	bags	128	512
2) Gravel	1.00	cu.m	424	424
3) Sand	1.00	cu.m	335	335
4) Plywood (1,200mm x 2,400mm x 6mm)	1.00	pc.	446	446
5) Form Lumber (50mmx75mmx1,800mm)	1.00	pc.	49	49
6) Nail	1.00	kg.	31	31
Sub-Total of M-c-1				4,759
2. Labor (40% of M-c-1)		L.S.		1,904
Sub-Total of M-c				6,663
Sub-Total of M				**21,303**
N. Freight Cost (11% of Materials for A - M excluding sand and gravel)		**L.S.**		**16,081**
O. Indirect Cost				
Profit (10% of A - N)				23,911
VAT (10% of Profit & Labor)				7,322
Sub-Total of O				**31,233**
Total of Construction Cost (A to O)				**270,340**
P. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		2,200
2. Construction Supervision		L.S.		1,600
Sub-Total of P				**3,800**
GRAND TOTAL				274,140
			Say	274,100

Source: DOH standard price in 1993.
Unit Cost: Adjusted to 1997 Price Level

Table 10.2.17 Unit Cost of Public Toilet

Sheet 1 of 5 (Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization and Demobilization (2.4% of B - M)		**L.S.**		**6,800**
B. Earthwork				
1. Materials				
(1) Gravel Fill	3.00	cu.m	424	1,272
Sub-Total of B-1				1,272
2. Labor				
(1) Excavation	15.88	cu.m	131	2,080
(2) Backfill	4.97	cu.m	119	591
(3) Gravel Fill	3.00	cu.m	155	465
Sub-Total of B-2				3,137
Sub-Total of B				**4,409**
C. Concrete Work				
1. Materials				
(1) Cement	61.00	bags	128	7,808
(2) Sand	4.00	cu.m	335	1,340
(3) Gravel	8.00	cu.m	424	3,392
(4) Rebars: 12mm dia x 6m	38.00	pcs.	74	2,812
10mm dia x 6m	57.00	pcs.	52	2,964
(5) #16 Tie Wire	8.00	kgs.	52	416
(6) Formworks:				
1/4" Plywood	6.00	pcs.	446	2,676
2"x2"x10" (Coco Lumber)	200.00	bd.ft.	8	1,600
Sub-Total of C-1				23,008
2. Labor (30% of C-1)				6,902
Sub-Total of C				**29,910**
D. Masonry Work				
1. Materials				
(1) 6" CHB	800.00	pcs.	6	4,800
(2) 4" CHB	260.00	pcs.	5	1,300
(3) Cement	97.00	bags	128	12,416
(5) Sand	10.00	cu.m	335	3,350
(6) Rebars: 12mm dia x 6m	30.00	pcs.	74	2,220
10mm dia x 6m	11.00	pcs.	54	594
(7) #16 Tie Wire	4.00	kgs.	54	216
(8) Scaffolding:				
2"x4"x8" = 10 pcs. (Coco Lumber)	53.33	bf.	8	427
Sub-Total of D-1				25,323
2. Labor (30% of D-1)				7,597
Sub-Total of D				**32,920**
E. Roofing Work				
1. Materials				
(1) GA #26 Corr. GI (1 = 10')	20.00	pcs.	290	5,800
(2) GA #24 Pln. GI Flashing	3.00	pcs.	280	840
(3) GA #24 Pln. GI Gutter (Pre-Fab)	9.00	pcs.	280	2,520
(4) Umbrella Nails 2 - 1/2"	12.00	kgs.	46	552
(5) Rafter - 2"x5"x18' = 5 pcs.	75.00	bf.	33	2,475

Table 10.2.17 Unit Cost of Public Toilet

Sheet 2 of 5 (Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
(6) Purlins - 2"x2"x12' = 18 pcs.	72.00	bf.	33	2,376
(7) WD Cleats - 2"x2"x10" = 6 pcs.	20.00	bf.	33	660
(8) Nailers - 2"x2"x1012' = 30 pcs.	120.00	bf.	33	3,960
- 2"x2"x10' = 36 pcs.	120.00	bf.	33	3,960
(9) Fascia Board				
1"x12"x12' = 4 pcs.	48.00	bf.	33	1,584
1"x12"x18' = 2 pcs.	36.00	bf.	33	1,188
(10) Wood Plate				
2"x4"x20' = 2 pcs.	26.66	bf.	33	880
(11) 1/4" Thk. Mar. Plywood 4'x8'	14.00	pcs.	479	6,706
(12) C.W.N. Assorted	15.00	kgs.	30	450
(13) 3" dia x 3m Downspout (PVC)	3.00	pcs.	85	255
(14) 3" dia Elbow (PVC)	2.00	pcs.	15	30
(15) 3"dia Coupling (PVC)	1.00	pcs.	14	14
(16) Ceiling Vent, 1"x1"x8', 4 pcs.	2.67	bf.	27	72
(17) Screen (1/8"x1/8")	1.00	yd.	85	85
Sub-Total of E-1				34,407
2. Labor (30% of E-1)				10,322
Sub-Total of E				**44,729**
F. Carpentry Work				
1. Materials				
(1) D - 1 Hollow Core Tanguile				
Flush Type Door w/ Louver (.80x2.20)	2.00	sets	1,514	3,028
(2) D - 2 Hollow Core Tanguile				
Flush Type Door (.60x2.10)	1.00	sets	1,136	1,136
(3) D - 3 Louver Door (.60x1.40)	5.00	sets	947	4,735
(4) Door Jambs (Apitong)				
2"x6"x14" = 1 pc.	14.00	bf.	33	462
2"x6"x10" = 2 pcs.	20.00	bf.	33	660
2"x6"x10" = 1 pc.	18.00	bf.	33	594
2"x4"x12" = 5 pcs.	40.00	bf.	33	1,320
(7) Wooden Jalousie Window				
With 5 Blades (.40x.50)	14.00	set		4,172
(8) Window Jambs (Apitong)				
2"x6"x16" = 5 pcs.	80.00	bf.	33	2,640
2"x6"x14" = 1 pc.	14.00	bf.	33	462
2"x6"x10" = 1 pc.	10.00	bf.	33	330
(9) Cabinet				
3/4"x4'x8' = 1 pc. (plyboard)	1.00	pc.	821	821
Sub-Total of F-1				20,360
2. Labor (30% of F-1)				6,108
Sub-Total of F				**26,468**
G. Tile Work				
1. Materials				
(1) 4 - 1/4"x4 - 1/4" Glazed Tiles	1,950	pcs.	4	7,800
(2) 0.10x0.20m Floor Tiles	900.00	pcs.	7	6,300
(3) Cement	4.00	bags	128	512

Table 10.2.17 Unit Cost of Public Toilet

Sheet 3 of 5 (Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
(4) White Cement	1.00	bag	693	693
(5) Tiles Fittings		L.S.		5,280
Sub-Total of G-1				20,585
2. Labor (30% of G-1)				6,176
Sub-Total of G				**26,761**
H. Plumbing Work				
1. Materials				
(1) Urinal	3.00	sets	1,171	3,513
(2) Toilet Bowl - Squat Type	6.00	sets	657	3,942
(3) 4" dia x 3m PVC San. Pipe	6.00	pcs.	164	984
(4) 3" dia x 3m PVC San. Pipe	4.00	pcs.	92	368
(5) 2" dia x 3m PVC San. Pipe	3.00	pcs.	55	165
(6) 3/4" dia x 6m G.I. Pipe Sch. 40	5.00	pcs.	269	1,345
(7) 1/2" dia x 6m G.I. Pipe Sch. 40	1.00	pcs.	197	197
(8) 4"x4" WYE PVC	1.00	pcs.	27	27
(9) 3" dia Elbow PVC	10.00	pcs.	33	330
(10) 3" dia 45 degrees Bend PVC	2.00	pcs.	27	54
(11) 2" dia Elbow PVC	6.00	pcs.	7	42
(12) 2" dia 45 degrees Bend PVC	2.00	pcs.	22	44
(13) 1/2" dia Elbow G.I.	5.00	pcs.	11	55
(14) 4" dia 3" dia WYE PVC	8.00	pcs.	44	352
(15) 3/4" dia TEE G.I.	7.00	pcs.	44	308
(16) 1/2" dia TEE G.I.	5.00	pcs.	22	110
(17) 4" dia x 2" dia TEE PVC	6.00	pcs.	44	264
(18) 4" dia Clean Out PVC	3.00	pcs.	38	114
(19) 2" dia Clean Out PVC	1.00	pcs.	27	27
(20) Faucet	10.00	pcs.	55	550
(21) 3" dia x 2" dia Elbow Reducer PVC	1.00	pcs.	30	30
(22) 3" dia x 2" dia WYE PVC	3.00	pcs.	27	81
(23) 2" dia x 2" dia WYE PVC	3.00	pcs.	16	48
(24) PVC Cement	1.00	can	133	133
(25) 4" dia x 2" dia WYE PVC	2.00	pcs.	44	88
(26) Gate Valve 3/4" dia	1.00	pcs.	133	133
(27) Gate Valve 1/2" dia	1.00	pcs.	105	105
(28) Water Meter 3/4" dia	1.00	pcs.	1,390	1,390
(29) 3/4"dia x1/2"dia Elbow Reducer G.I.	1.00	pcs.	15	15
Sub-Total of H-1				14,814
2. Labor (30% of H-1)				4,444
Sub-Total of H				**19,258**
I. Painting				
1. Materials				
(1) Acrylic, Semi Gloss	8.00	gals.	276	2,208
(2) Concrete Sealer	4.00	gals.	218	872
(3) Acri Color: Wood	4.00	gals.	84	336
(4) Enamel, QDE	6.00	gals.	282	1,692
(5) Wood Putty	1.00	gals.	320	320
(6) Paint Thinner	1.00	gals.	63	63

Table 10.2.17 Unit Cost of Public Toilet

Sheet 4 of 5 (Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
(7) Tinting Color	4.00	pint	42	168
(8) Sand Paper (Assorted)	15.00	pcs.	7	105
(9) Misecellaneous		L.S.		1,066
(10) Roof Paint (green, ready-mix)	2.00	gals.	298	596
Sub-Total of I-1				7,426
2. Labor (30% of I-1)				2,228
Sub-Total of I				9,654
J. Electrical Work				
1. Materials				
(1) 40 Watts Flourescent Lamp	2.00	sets	270	540
(2) Elect. Wire TW #12	24.00	M	7	168
(3) Elect. Conduit - 1/2" dia x 10"	4.00	pcs.	82	328
(4) Entrance Cap. 1/2" dia	1.00	pc.	30	30
(5) Switch Outlet, Flush Type	2.00	pcs.	41	82
(6) Utility Box 2"x3"	2.00	pcs.	7	14
(7) Porcelain Receptacle 2" dia	2.00	pcs.	7	14
(8) Safety Switch 60A, 250V	1.00	set	519	519
(9) Electrical Tape	1.00	roll	23	23
Sub-Total of J-1				1,718
2. Labor (30% of J-1)				515
Sub-Total of J				2,233
K. Hardware				
1. Materials				
(1) 3"x3" Butt Hinges (Loose Pin)	10.00	pcs.	15	150
(2) 4"x4" Butt Hinges (Loose Pin)	12.00	pcs.	19	228
(3) Door Lockset (Schlage US)	3.00	pcs.	481	1,443
(4) Barrel Bolt (4")	5.00	pcs.	42	210
(5) Cabinet Pull (4")	5.00	pcs.	7	35
(6) Water Storage Cover Checkered Plate 1/4" thick 1.44x0.633 w/ L bar & flat bar	1.00	set	1,043	1,043
(7) 0.645x0.633 w/ L bar & flat bar	2.00	set	588	1,176
(8) Padlock	1.00	pcs.	401	401
Sub-Total of K-1				4,686
2. Labor (30% of K-1)				1,406
Sub-Total of K				6,092
L. Septic Tank and Sewage Basin				
1. Materials				
(1) 4" CHB	180.00	pcs.	5	900
(2) Cement	18.00	bags	128	2,304
(3) Sand	1.50	cu.m	335	503
(4) Gravel	1.00	cu.m	424	424
(5) Rebars: 10mm dia x 6m	29.00	pcs.	74	2,146
(6) #16 Tire Wire	2.00	kgs.	54	108

Table 10.2.17 Unit Cost of Public Toilet

Sheet 5 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
(7) Formworks: Coco Lumber				
2"x3"x10' = 12 pcs.	60.00	bf.	8	480
1/4" plywood ord. 4'x8'	2.00	pcs.	446	892
C.W.N. (Assorted)	2.00	kgs.	31	62
Sub-Total of L-1				7,819
2. Labor (30% of L-1)				2,346
Sub-Total of L				**10,165**
M. Concrete Water Tank (Elevated)				
1. Earth Work				
(1) Materials				
1) Gravel Fill	1.00	cu.m	424	424
Sub-Total of M-1 (1)				424
(2) Labor				
1) Excavation	14.70	cu.m	131	1,926
2) Backfill	13.08	cu.m	119	1,557
3) Gravel Fill	1.00	cu.m	155	155
Sub-Total of M-1 (2)				3,637
Sub-Total of M-1				4,061
2. Materials				
(1) Cement	62.00	bags	128	7,936
(2) Sand	4.50	cu.m	335	1,508
(3) Gravel	8.00	cu.m	424	3,392
(4) Rebars: 12mm dia x 6m	160.00	pcs.	54	8,640
(5) #16 Tie Wire	4.00	kgs.	54	216
(6) Formworks:				
1/4" plywood	12.00	pcs.	446	5,352
2"x3"x16' = 60 pcs.	480.00	bf.	8	3,840
(7) C.W.N. (Assorted)	5.00	kgs.	31	155
Sub-Total of M-2				43,222
3. Labor (30% of M-2)				12,967
Sub-Total of M				**60,250**
N. Freight Cost (11% of Materials for A - M excluding sand and gravel)				**20,841**
O. Indirect Cost				
Profit (10% of A - M)				30,049
VAT (10% of Profit & Labor)				9,783
Sub-Total of O				**39,832**
Total of Construction Cost (A to O)				**340,321**
P. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		2,200
2. Construction Supervision		L.S.		1,600
Sub-Total of P				**3,800**
GRAND TOTAL				**344,121**
			Say	**344,100**

Source: DOH standard price in 1993.
Unit Cost: Adjusted to 1997 Price Level

10.2.2 Unit Cost of Equipment

Unit cost (CIF Manila) of equipment was referred to the market price in 1997 as follows.

(1) Medium size rotary drilling rig

Type: Truck-mounted top head drive mud circulation type

Rated drilling capacity: 150 m depth for ϕ250 mm bore hole

Equipment composition:

One unit of truck-mounted drilling rig

Each one set of operating accessories, drilling tools, casing tools and fishing tools

One set of spare parts (equivalent to 10% of above equipment/tool cost)

Unit cost: Peso 32,314,000 per set

(2) Medium size percussion drilling equipment

Type: Truck-mounted cable percussion type

Rated drilling capacity: 150 m depth for ϕ250 mm bore hole

Equipment composition:

One unit of truck-mounted drilling rig

Each one set of operating accessories, drilling tools, pipe handling tools and fishing tools

One set of spare parts (equivalent to 10% of above equipment/tool cost)

Unit cost: Peso 25,582,000 per set

(3) Well rehabilitation equipment

Equipment composition:

One unit of diesel engine driven air compressor (7.5 kg/sq.cm, 500 liter/min.)

One set of air hose and hose fittings

Unit cost: Peso 280,000 per set

(4) Service truck

Type: Diesel engine driven 4 tons truck equipped with crane

Unit cost: Peso 1,200,000 per unit

(5) Support vehicle

Type: Diesel engine driven pick-up truck with electric winch

Unit cost: Peso 590,000 per unit

(6) Refuse collection truck

Type: Closed type compactor truck with 5 cu.m of payload capacity

Unit cost: Peso 2,057,000 per unit including spare parts

(7) Maintenance tools

One set of maintenance tools for O&M of Level I facility shall be provided to respective municipality.

Unit cost: Peso 10,000 per unit

(8) Water quality testing kits

One set of water quality testing kits for O&M of Level I facility shall be provided to respective municipality.

Type: Ammonia-nitrogen/Iron testing kit

Unit cost: Peso 15,300 per unit

10.2.3 Cost of Laboratory and Equipment

Required cost for new laboratory including building/facility and instruments/chemicals and additional cost for upgrading of existing laboratory are shown in Table 10.2.18 and Table 10.2.19, respectively.

Table 10.2.18 Cost for New Laboratory

Item	Unit	Unit Cost (Pesos)	Qty.	Amount (Pesos)
1.Building				
New Building	m^2	15,000	57	855,000
2.Instruments				
Turbidity meter	set	35,000	1	35,000
Color meter	set	9,800	1	9,800
pH/Residual chlorine cheker	set	15,000	1	15,000
Incubator	set	100,000	1	100,000
Refrigerator	set	25,000	2	50,000
Sterilizer	set	50,000	1	50,000
Water quality testing kits	set	300,000	1	300,000
Electric stove	set	1,000	1	1,000
Range hood	set	10,000	1	10,000
Sub-total				570,800
3.Accessories				
Sink	L.S.			
Working table	L.S.			
Shelf	L.S.			
Office desk	L.S.			
Chair	L.S.			
Sub-total				60,000
4.Glassware/Chemicals				
Glassware/Chemicals	L.S.			100,000
Total				1,585,800

Table 10.2.19 Cost for Upgrading Laboratory

Item	Unit	Unit Cost (Pesos)	Qty.	Amount (Pesos)
1.Instruments				
Turbidity meter	set	35,000	1	35,000
Color meter	set	9,800	1	9,800
pH/Residual chlorine cheker	set	15,000	1	15,000
Incubator	set	100,000	0	0
Refrigerator	set	25,000	1	25,000
Sterilizer	set	50,000	0	0
Water quality testing kits	set	300,000	1	300,000
Electric stove	set	1,000	1	1,000
Range hood	set	10,000	1	10,000
Sub-total				395,800
2.Glassware/Chemicals				
Glassware/Chemicals	L.S.			50,000
Total				445,800

10.3 Cost of required Facilities and Equipment

10.3.1 Cost of Required Facilities

Table 10.3.1 Construction Cost of Water Supply Facilities Required for Phase I (2003)

Unit: P 1,000

Name of Municipality	Urban Water Supply Level III	Rural Water Supply									Grand Total
		New System							Level I Rehabilitation	Total	
		Level II	Level I								
			Deep Well			Shallow Well	Spring Dev.	Subtotal			
			40 m	80 m	120 m						
Alabel (Capital)	1,968										1,968
Glan	6,490	8,725								8,725	15,215
Kiamba	3,749										3,749
Maasim	2,755										2,755
Maitum											
Malapatan	7,282	2,842								2,842	10,123
Malungon	35,805	4,893		34,581		1,157	3,352	39,089	548	44,531	80,336
Provincial Total	58,049	16,459		34,581		1,157	3,352	39,089	548	56,097	114,146

Table 10.3.2 Construction Cost of Water Supply Facilities Required for Phase II (2010)

Unit: P 1,000

Name of Municipality	Urban Water Supply Level III	Rural Water Supply								Grand Total
		New System						Level I Rehabilitation	Total	
		Level I								
		Deep Well			Shallow Well	Spring Dev.	Sub-total			
		40 m	80 m	120 m						
Alabel (Capital)	69,149	12,921			731		13,652	349	14,001	83,150
Glan	72,918	13,976			1,340		15,316	377	15,693	88,611
Kiamba	41,416	2,373			2,071		4,444	64	4,508	45,924
Maasim	27,677	4,747			426		5,173	128	5,301	32,978
Maitum	36,762		2,695		1,279		3,974	43	4,016	40,778
Malapatan	78,625	7,911			426		8,337	214	8,551	87,176
Malungon	95,285		64,670		2,192	3,352	70,214	1,025	71,240	166,524
Provincial Total	421,832	41,928	67,365		8,465	3,352	121,110	2,200	123,310	545,142

Table 10.3.3 Cost of Sanitation Facilities Required for Phase I (2003)

Unit: P 1,000

Name of Municipality	Urban Sanitation									Rural Sanitation							
	Household Toilets					Public School Toilets	Public Toilets	Total Construction Cost	Total Public Investment Cost	Household Toilets					Public School Toilets	Total Construction Cost	Total Public Investment Cost
	Flush	Pour Flush	VIP/ Dry	Sub-total of Construction Cost	Sub-total of Public Investment Cost					Flush	Pour Flush	VIP/ Dry	Sub-total of Construction Cost	Sub-total of Public Investment Cost			
Alabel (Capital)			1,683	1,683		1,919	1,376	4,978	3,295			8,230	8,230		4,934	13,164	4,934
Glan	12,120	3,393	1,954	17,466	170	1,645	2,409	21,520	4,223		31,915	10,138	42,053	1,596	5,208	47,261	6,804
Kiamba	9,244	3,224	1,492	13,960	161		2,753	16,713	2,914			5,188	5,188			5,188	
Maasim	6,347		1,016	7,364		1,096	1,721	10,181	2,817		6,344	3,901	10,245	317	2,741	12,986	3,058
Maitum		5,226	1,129	6,355	261		1,721	8,075	1,982		1,495	4,323	5,818	75		5,818	75
Malapatan	18,467	3,224	2,864	24,556	161	3,015	1,376	28,947	4,553		15,639	4,158	19,797	782	2,741	22,538	3,523
Malungon	21,257	13,910	3,241	38,408	696	3,289	3,441	45,138	7,426		62,556	14,005	76,561	3,128	9,319	85,881	12,447
Provincial Total	67,436	28,977	13,378	109,791	1,449	10,964	14,796	135,551	27,209		117,949	49,942	167,891	5,897	24,943	192,834	30,841

Table 10.3.4 Cost of Sanitation Facilities Required for Phase II (2010)

Unit: P 1,000

Municipality	Urban Sanitation										Rural Sanitation							
	Household Toilets					Public School Toilets	Public Toilets	Total Construction Cost	Total Public Investment Cost	Urban Sewerage	Household Toilets					Public School Toilets	Total Construction Cost	Total Public Investment Cost
	Flush	Pour Flush	VIP/ Dry	Sub-total of Construction Cost	Sub-total of Public Investment Cost						Flush	Pour Flush	VIP/ Dry	Sub-total of Construction Cost	Sub-total of Public Investment Cost			
Alabel (Capital)	66,286	7,332		73,618	367	4,660	2,409	80,686	7,435	97,681	7,455	39,728		47,183	1,986	15,350	62,533	17,336
Glan	63,517	15,704		79,221	785	4,386	3,441	87,047	8,612	112,20	7,008	64,870		71,878	3,244	20,558	92,435	23,801
Kiamba	27,371			27,371		1,919	3,097	32,386	5,016	54,531		42,055		42,055	2,103	10,142	52,197	12,244
Maasim	20,001	182		20,183	9	1,371	2,065	23,618	3,444	39,157		30,160		30,160	1,508	7,949	38,109	9,457
Maitum	29,053			29,053		1,096	1,721	31,870	2,817	42,800		32,097		32,097	1,605	7,675	39,772	9,280
Malapatan	56,424	585		57,009	29	3,563	1,721	62,293	5,313	110,38		33,332		33,332	1,667	8,497	41,829	10,164
Malungon	87,138	14,287		101,42	714	6,030	3,785	111,24	10,530	159,78		165,165		165,165	8,258	32,070	197,235	40,328
Provincial Total	349,78	38,090		387,87	1,905	23,024	18,237	429.14	43,166	616,54	14,463	407,407		421,870	20,370	102.23	524,109	122,610

10.4 Costs of Sector Management

10.4.1 Breakdown of Community Development and Training Cost

Cost of community development and training was estimated at 12% of the total construction cost of Level I & II water supply facilities and public toilets and at 3% of the total construction cost of Level III water supply systems. This was formulated based on the following:

(1) The 12% was derived on the basis of DILG's past experience in BWSA formation; and
(2) The 3% was derived on the basis of LWUA's past experience in the institutional strengthening needs of W.Ds.

These ratios adopted for estimating community development and training cost will allow the province to meet with its needs for community development in the sector management. The following breakdown provides a view of the components under this category.

Table 10.4.1 Breakdown of Community Development and Training Cost

Component	% Share of Cost
1. Preparation for Training Activities	10
1.1 Transportation	1
1.2 Technical Assistance	1
1.3 Food	1
1.4 Supplies and Materials including Production of Training Kits	6
1.5 Generation of Training Aids	1
2. Conduct of Training Activities	53
2.1 Transportation	5
2.2 Food	12
2.3 Accommodation	33
2.4 Training Room Rental	1
2.5 Miscellaneous	2
3. Field Visits to Support BWSA Formation	37
3.1 Transportation	5
3.2 Food	15
3.3 Accommodation	12
3.4 Field	4
Total	100

11. FINANCIAL ARRANGEMENTS FOR MEDIUM-TERM DEVELOPMENT PLAN

11.3 Additional Funding Requirements

Percentages for Annual Investment

Percentages of annual investment for different fields of implementation activities are assumed for each sub-sector as general indication and summarized in Table 11.3.1. Assumptions on investment timing shall be subject to change, especially for individual projects depending on fund availability and relevant conditions such as land acquisition and institutional set-up.

Table 11.3.1 Percentages for Annual Investment

Sub-Sector	Component	1996	1997	1998	1999	2000	Total
Urban Water Supply	Level III System						
	Feasibility Study and Detail Design	50	50	0	0	0	100
	Construction & Supervision	0	20	30	30	20	100
	Institutional Development	30	20	20	20	10	100
Rural Water Supply	Level I Facility						
	Detail Design	50	50	0	0	0	100
	Construction & Supervision	0	20	30	30	20	100
	Institutional Development	30	30	20	10	10	100
	Level II System						
	Detail Design	100	0	0	0	0	100
	Construction & Supervision	50	50	0	0	0	100
	Institutional Development	50	50	0	0	0	100
Sanitation	Urban Household Toilet	12	22	22	22	22	100
	Rural Household Toilet	12	22	22	22	22	100
	Public School Toilet	12	22	22	22	22	100
	Public Toilet	12	22	22	22	22	100
	Disinfection of Level I Wells	12	22	22	22	22	100
	Detail Design	100	0	0	0	0	100
	Construction & Supervision	0	20	30	30	20	100
	Institutional Development	30	30	20	10	10	100

Note: Institutional development includes:

1. Capacity enhancement program
2. Community management program,
3. Health and hygiene education
4. Water quality surveillance, and
5. Administrative support.

Urban water supply:

- Engineering services for feasibility study and detailed design will be undertaken in the first two years.

- Construction work accompanied by supervisory services will be commenced partially in 2nd year and in full operation from 3rd year to 4th year.
- Community development will take place from the first year.

Rural water supply (Level I):

- Engineering services for detailed design will be undertaken during the first two years for Level I and completed within the first year for Level II.
- Construction work accompanied by supervisory services will be partially commenced from the first year and in full operation from 2nd year for Level I, while Level II will be completed within first two years.
- Community development and training will take place from the first year for Level I, while Level II will be completed within the first two years.

Sanitation:

- Engineering services for detailed design will be completed within the first year.
- Construction work accompanied by supervisory services will be partially commenced in the first year and in full operation from 2nd year.
- Community development and training will be in full operation from the first year.

11.4 Medium-Term Implementation Arrangements

11.4.2 Alternative Countermeasures

Comprehensive Investment Need Ranking for the Municipalities

Table 11.4.1 presents the comprehensive investment need ranking for the municipalities.

11.5 National Government Assisted Level I Water Supply and Sanitation Project

Presented in Table 11.5.1 are the available IRA for GOP-Assisted Level I Water Supply and Rural Sanitation Project for Eligible Municipalities. Allotment of IRA for rural water supply and rural sanitation comprise of provincial available IRA and municipal available IRA.

Table 11.5.2 presents the urban sanitation project for eligible municipalities while Table 11.5.3 presents the summary of the total available IRA for GOP-assisted Level I Water Supply and Sanitation project.

Table 11.6.1 presents the investment program of GOP-assisted Level I Watersupply and Sanitation Project.

O and M for Rural Water Supply

Table 11.6.2 shows the O and M cost for Level I facilities which include the reconstruction cost, rehabilitation cost and recurrent cost per household per year for O and M. Table 11.6.3 presents the O and M cost per HH per month by facility and proportion to monthly family income while Table 11.6.4 shows the family income.

O and M for Sanitation

Table 11.6.5 presents the O and M cost for rural sanitation while Table 11.6.6 presents the O and M cost for urban sanitation.

S

Table 11.4.1 Comprehensive Investment Need Ranking of the Municipalities

Name of Municipality	Evaluation Factor (% of Underserved and Unserved Population or Households)				Score by Sub-Sector				Weighted Score by Sub-Sector					Synthetic Investment Need Ranking
	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation	Total Weighted Score	
Alabel (Capital)	N.A.	28	4	15	0.56	0.20	0.20	0.20	0.14	0.05	0.05	0.05	0.29	7
Glan	N.A.	40	44	67	0.63	0.40	1.00	1.00	0.16	0.10	0.25	0.25	0.76	3
Kiamba	N.A.	32	46	36	0.66	0.40	1.00	0.40	0.17	0.10	0.25	0.10	0.62	4
Maasim	N.A.	29	23	58	0.66	0.20	0.60	0.80	0.17	0.05	0.15	0.20	0.57	5
Maitum	N.A.	28	42	50	0.49	0.20	1.00	0.60	0.12	0.05	0.25	0.15	0.57	6
Malapatan	N.A.	39	42	72	0.66	0.40	1.00	1.00	0.17	0.10	0.25	0.25	0.77	2
Malungon	N.A.	88	50	73	0.93	1.00	1.00	1.00	0.23	0.25	0.25	0.25	0.98	1
Provincial Total	N.A.	48	39	56										

Note:

(1) Scoring to Underserved and Unserved Percentage.

Score	Range of Underserved and Unserved Percentage		
1.0	61 < %	41 < %	61 < %
0.8	51 < % < 60	31 < % < 40	51 < % < 60
0.6	41 < % < 50	21 < % < 30	41 < % < 50
0.4	31 < % < 40	11 < % < 20	31 < % < 40
0.2	% < 30	% < 10	% < 30

2) Assumed Weight by Sub-Sector for Synthetic Evaluation by Municipality.

0.25	0.25	0.25	0.25	Allocated Weight

Table 11.5.1 Available IRA for GOP-Assisted Level I Water and Rural Sanitation Project for Eligible Municipalities

(Unit:1,000 Pesos)

Name of City or Municipality	Ttl Nos. of Bgy. in Rural Area	Class	Rural Water Supply										Rural Sanitation										
			Nos. of Related Bgy.	R. Water Supply Allotment of IRA		Nos. of LEVEL I Facilities				Prov. Avail. IRA	Mun. Avail. IRA	Sub-total Avail. IRA	No.of Related Bgy.	Rural Sanitation Allotment of IRA		Number of Toilets				Prov. Avail. IRA	Mun. Avail. IRA	Sub-total Avail. IRA
				Prov.	Muni.	Deep Wells	Shallow Wells	Spring Dev't	Ttl Related					Prov.	Muni.	Public Mkt.	Bus Term.	School Toilet	Ttl.	Ttl Related			
Alabel (Capital)	11	3	0	0	0	0	0	0	0	0	0	0	11	1,345	3,609			18	18	18	1,345	3,609	4,954
Glan	28	2	0	2,372	3,676	0	0	0	0	0	0	0	0	1,854	2,867			19	19	0			0
Kiamba	17	3	0	0	0	0	0	0	0	0	0	0	17	0	0			0	0	0	0	0	0
Maasim	14	3	0	0	0	0	0	0	0	0	0	0	14	835	1,762			10	10	10	835	1,762	2,597
Maitum	16	3	0	0	0	0	0	0	0	0	0	0	16	0	110			0	0	0	0	110	110
Malapatan	9	2	0	772	1,350	0	0	0	0	0	0	0	0	962	1,673			10	10	0			0
Malungon	28	2	0	12,106	6,351	77	19	5	0	0	0	0	0	3,388	1,775			34	34	0			0
Total	123		0	15,250	11,377	77	19	5	0	0	0	0	58	8,384	11,796	0	0	91	91	28	2,181	5,480	7,661
Total Available IRA Fund			7,661																				

Table 11.5.2 Available IRA for GOP-Assisted Urban Sanitation Project for Eligible Municipalities

Name of City or Municipality	Ttl Nos. of Bgy. in Urban	Class	Nos. of Related Bgy.	Urban Sanitation Allotment of IRA		Number of Tiolets				Prov. Avail. IRA	Mun. Avail. IRA	Sub-total Avail. IRA
				Prov.	Muni.	Public Mkt.	Bus Ter	School	Ttl Related			
Alabel (Capital)	1	3	1	986	2,410	2	1	7	10	986	2,410	3,396
Glan	3	2	0	1,238	1,779	5	1	6	0			0
Kiamba	2	3	2	882	2,969	1	2	0	3	882	2,969	3,851
Maasim	2	3	2	856	1,623	2	1	4	7	856	1,623	2,478
Maitum	3	3	3	0	2,904	2	1	0	3	0	2,904	2,904
Malapatan	3	2	0	1,327	2,162	2	1	11	0			0
Malungon	3	2	0	2,108	1,059	5	2	12	0			0
Total	17		8	7,397	14,907	19	9	40	23	2,723	9,906	12,629
Total Available IRA Fund			12,629									

Table 11.5.3 Total Available IRA for GOP-Assisted Level I Water Supply and Sanitation Project

Name of City or Municipality	Water Supply	Sanitation		Total
	Rural	Urban	Rural	
Alabel (Capital)	0	3,396	4,954	8,349
Glan	0	0	0	0
Kiamba	0	3,851	0	3,851
Maasim	0	2,478	2,597	5,076
Maitum	0	2,904	110	3,014
Malapatan	0	0	0	0
Malungon	0	0	0	0
Total	0	12,629	7,661	20,290

Table 11.6.1 Investment Program of GOP-Assisted Level I Water Supply and Sanitation Project (Unit: Pesos)

Category	Total Amount	1st year	2nd year	3rd year	4th year	5th year
A. Const. & Civil Works						
1. Water Supply	0	0	0	0	0	0
2. Sanitation	15,334,300	0	3,066,860	4,600,290	4,600,290	3,066,860
3. Land Acquisition	0	0	0	0	0	0
B. Equip./Logistic Support	0	0	0	0	0	0
C. Consultancy Services						
1. Hydrogeological Survey	0	0	0	0	0	0
2. D/D and Const. Sv.	1,686,773	674,709	337,355	337,355	168,677	168,677
D. Instiutional Devt.						
1. Capacity Enhanc. Prog.	3,200,000	960,000	960,000	640,000	320,000	320,000
2. Commu. Manag. Prog.	710,820	213,246	213,246	142,164	71,082	71,082
3. Health & Hygiene Educ.	118,800	35,640	35,640	23,760	11,880	11,880
4. Water Quality Surveil.	0	0	0	0	0	0
5. NGO Assistance	79,200	23,760	23,760	15,840	7,920	7,920
6. Administrative Support	1,200,000	360,000	360,000	240,000	120,000	120,000
E. Physical Contingency (10% of sub-total A+B+C+D)	2,232,989	226,736	499,686	599,941	529,985	376,642
Total (A+B+C+D+E+F)	24,562,882	2,494,091	5,496,547	6,599,349	5,829,834	4,143,061
F. Others						
1. Price Contingency	9,234,287	937,640	2,066,398	2,480,991	2,191,696	1,557,562
2. Value Added Tax (VAT)	585,613	59,463	131,045	157,338	138,991	98,776
Grand Total	34,382,782	3,491,194	7,693,990	9,237,678	8,160,521	5,799,400

Note: Item A includes equity of users.

O&M Cost for GOP Assisted Level I Water Supply Project

Table 11.6.2 O&M Cost for Level I Facilities

	Deep Well	Shallow Well	Spring Dev't
Nos. of Facilities to be Constructed	N.A	N.A	N.A
Nos. of HHs to be Served	N.A	N.A	N.A
Reconstruction Cost (Peso)			
Unit Cost	N.A	N.A	N.A
Ttl. Reconst. Cost	N.A	N.A	
Ttl. Reconst. Cost/year	N.A	N.A	
Cost per HH/year	N.A	N.A	
Rehabilitation Cost (Peso)			
Unit Cost	N.A		
Ttl. Rehab. Cost	N.A		
Ttl. Rehab. Cost/year	N.A		
Cost per HH/year	N.A		
Recurrent Cost for O&M (Peso)			
Cost per HH/year	N.A	N.A	N.A
O&M Cost Total (Peso)			
Cost per HH/year	N.A	N.A	N.A

Note: 1) Reconstruction of deep and shallow wells shall be conducted every 20 and 10 years, respectively. Spring development is excluded due to more than 20 years facility life.

2) Rehabilitation is applicable to deep wells every 10 years.

Table 11.6.3 O&M Cost per HH/month by Facility and Proportion toMonthly Family Income

	Deep Well	Shallow Well	Spring Dev't
O&M Cost per HH/month	N.A	N.A	N.A
Proportion (Mean)	N.A	N.A	N.A
Proportion (Median)	N.A	N.A	N.A

Table 11.6.4 Family Income (Unit: Pesos)

Annual [1]			Monthly [2]		
Mean	Median	Low	Mean	Median	Low
61,435	48,823	42,579	9,412	7,480	6,523

Note: 1) 1994 NSO Family Income and Expenditure Survey

2) Estimated value in 2003 applying 7% inflation rate/year

O&M Cost for GOP Assisted Sanitation Project

Table 11.6.5 O&M Cost for Rural Sanitation (Unit: Pesos)

Nos. of Facilities to be Constructed		Unit Construction Cost		Yearly O&M Cost
Public Toilets	School Toilets	Public Toilets	School Toilets	
0	28	344,100	274,100	383,740

Note: O&M cost includes the salaries of maintenance staff, cost of pumpng sludge from septic tanks, and rehabilitation cost, which is assumed to be equivalent to 5% of construction cost.

Table 11.6.6 O&M Cost for Urban Sanitation (Unit: Pesos)

Nos. of Facilities to be Constructed		Unit Construction Cost		Yearly O&M Cost
Public Toilets	School Toilets	Public Toilets	School Toilets	
12	11	344,100	274,100	357,215

Table 12.4.1 Draft Formats for Annual Sector Performance Summary Report (Provincial and Municipal Levels)

Province of _____ Form P- 1

Provincial Water & Sanitation Monitoring System

Annual Sector Performance Summary Report

Period Covered : _____ to _____

I. Service Coverage

Municipality (1)	LAST YEAR				THIS YEAR			
	Population (2)	Persons with Safe Water & Sanitary Toilets (3)	Persons with Safe Water Only (4)	Persons with Sanitary Toilets Only (5)	Population (6)	Persons with Safe Water & Sanitary Toilets (7)	Persons with Safe Water Only (8)	Persons with Sanitary Toilets Only (9)
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
Total								
% Served								
Targets								

II. Sources & Uses of Capital Development Funds

Source of Fund (1)	Budget for Water Supply & Sanitation (2)	Actual Disbursement (3)	Uses of Funds						
			Water Source Development (4)	Water Supply Transmission (5)	Water Storage/ Treatment & Distribution (6)	Household Toilets (7)	School Toilets (8)	Public Toilets (9)	Others (10)
A. Local Funds. Provincial Funds Municipal Funds A. B. C. D. E. F. G. H. I. J.									
SUB-TOTAL									
B. National Funds DPWH DOH LWUA									
SUB-TOTAL									
C. External Funds NGO NGO NGO									
SUB-TOTAL									
TOTAL									

III. School Sanitation (Source, DECS)

School (Location) (1)	No. of Students Enrolled (2)	Water Supply Adequate ? (Y/N) (3)	No. of Functioning Toilet Units (4)	Facility: Student Ratio (5)

IV. Incidence of Diarrhea (Source IPHO)

Month (1)	Last Year (2)	This Year (3)
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

V. Water Resources: Report any major changes in the availability and quality of water in the province. Attach map.

VI. Unit Cost Summary : Based on projects actually implemented and paid for during the reporting period, indicate the following average unit costs

1. Shallow Well (w/o hand pump) = _____ / Meter Depth
2. Deep Well (w/o pump) = _____ / Meter Depth
3. Pipeline = _____ / meter
4. Storage Tanks =
5. Others,

Municipality of _____

Form M - 1

Provincial Water & Sanitation Monitoring System

Annual Sector Performance Summary Report

Period Covered : _____ to _____

I. Service Coverage

	LAST YEAR				THIS YEAR			
Name of Barangay (1)	Population (2)	Persons with Safe Water & Sanitary Toilets (3)	Persons with Safe Water Only (4)	Persons with Sanitary Toilets Only (5)	Population (6)	Persons with Safe Water & Sanitary Toilets (7)	Persons with Safe Water Only (8)	Persons with Sanitary Toilets Only (9)
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
Total								
% Served								

II. Sources & Uses of Capital Development Funds.

Source of Funds (1)	Budget (2)	Actual Disbursement (3)	Uses of Funds						
			Water Source Development (4)	Water Supply Transmission (5)	Water Storage/ Treatment & Distribution (6)	Household Toilets (7)	School Toilets (8)	Public Toilets (9)	Others (10)
Municipal Funds									
Barangay Funds									
A.									
B.									
C.									
D.									
E.									
F.									
G.									
H.									
I.									
J.									
K.									
L.									
M.									
N.									
O.									
P.									
Q.									
R.									
S.									
T.									
U.									
W.									
SUB-TOTAL									
NGO									
NGO									
NGO									
SUB-TOTAL									
TOTAL