#### 10 COST ESTIMATES FOR FUTURE SECTOR DEVELOPMENT

#### **10.2** Assumption for Cost Estimates

#### 10.2.1 Unit Construction Cost

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#### (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.

	M	Water Supply	vldv	s	Sanitation	E	P	rojection	Projection by major materials	materia		Canvassed/collect	d/collect	Remarks
					ې ت	1977	NSO whi	NSO wholesale price index	ce index	Pr	Price	ed price	rice	
	1	П-Л	III-7	ST/PT	type	Pit	1995	1997	Escalati on	1995 -	(1) 1997 DPWH (3) CIA	(2) DPWH	(3) CIA	Compared with (2), (3)
1. Sand, stone, gravel	*	*	*	*	*	Ŧ	311.6	343.5	0.050					A most same with
Sand										304	335	330		
Gravel										385	424	418	450	( -) ( ~)
2. Cement	¥	¥	*	*	*	*	197.4	200.1	0.007	117	611	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)
100m/m x 3m, casing 100m/m x 3m, screen										2,625 4,313	2,660 4,371	2,763		screen is 20% lower than (7)
5. PVC pipe	*	*	*	¥			199.2	221.1	0.054					Price of PVC pipe is
K3m/m nine w/cocket										813	902	\$82	715	almost same with (2) and/or 25% higher than
i 1/2" elbow										13	14			(3)
6. Reinforeing steel		*	*	*	*	*	201.4	207.4	0.015					
12m/m x 6m										68	5		70	70 Same with (3)
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 equipmen	*		*				254.8	254.8	0.000					
L-I: Deep weil/shallow weil. L-II: Mior materials	w well,	L-II: M	ior mater	ials are s	ame as th	lose of L	are same as those of L-I spring development,	levelopm	snt,					

Table 10.2.1 Price of Major Materials by Facility

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

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Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization	·	L.S.	Cost	3,6
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	7	pes.	2,894	20,2
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,9
(3) 100mm x 3m Low Carbon Steel Screen	2	pes.	4,755	9,5
2. Labor, Fuel, Lubricant and others				
Well Drilling for 30 m depth at 200mm borchole	30	m	1,212	36,3
3. Freight Cost (11% of Materials)		L.S.		3,6
Sub-Total of B				72,7
C. Well Development		L.S,		5,5
D. Gravel Packing, Installation of Handpump and	<u> </u>			
Construction of Platform				
1. Materials		1		
(1) Improved Deep Well Cylinder Pump (Maławi Type)	1	set	9,922	9,9
(2) 63mm x 6m GI Pipe with coupling	4	pcs.	1,880	7,5
(3) #10 Sieved Gravel	0.53	cu.m	959	5
(4) Coarse Sand	1	cu.m	335	3
(5) Cement for Sanitary Seal	3	bags	128	3
(6) Pump Base and Platform				
1) Cement	4	bags	128	5
2) Gravel	2	cu.m	424	8
3) Sand	1	cu.m	335	3
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	2
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pes.	49	2
6) Nail	1	kg.	35	
Sub-Total of D-1			1	20,9
2. Labor (40% of D-1.)		1	.	8,3
3. Freight Cost (11% of Materials)		L.S.		2,3
Sub-Total of D				31,6
E. Indirect Cost				
Profit (10% of A, B, C & D)				11,3
VAT (10% of Profit & Labor)			i	5,6
Sub-Total of E	:	<b> </b>		16,9
Total of Construction Cost (A+B+C+D+E)				130,4
F. Estimated Government Expenses	+			
1. Preliminary & Detailed Engineering Cost		L.S.		3,3
2. Construction Supervision		L.S.		2,2
3. Water Quality Analysis		L.S.	1	1,
Sub-Total of I	ř	ĺ		6,
GRAND TOTAL				137,
SAY				137,

Table 10.2.2 (a)	Unit Cost of Level I (Deep Well - 30m Depth)
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Note: L.S. - Lamp Sum Source: DPWH standard price in 1994 Unit Cost: Adjusted to 1997 Price Level

 $\sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i$ 

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**▼** A

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Description	Quantity	Unit	Unit	Cost
A. Mobilization/Demobilization		L.S.	Cost	3,60
		12401		0,00
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials	}			
(1) 100mm x 3m Steel Casing with coupling	7	pes.	2,894	20,25
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,99
(3) 100mm x 3m Low Carbon Steel Screen	2	pes.	4,755	9,5
2. Labor, Fucl, Lubricant and others				
Well Drilling for 30 m depth at 150mm borehole	30	1	935	28,0
3. Freight Cost (11% of Materials)		L.S.		3,6
Sub-Total of B				64,4
C. Well Development		L.S.		5,5
				.,.
D. Gravel Packing, Installation of Handpump and				
Construction of Platform				
1. Materials	· .	· .		~ ~
(1) Improved Deep Well Cylinder Pump (Malawi Type)		set	9,922	9,9
(2) 63mm x 6m GI Pipe with coupling	4	1	1,880	7,5
(3) #10 Sieved Gravel	0	1	959	~
(4) Coarse Sand		cu.m	335	3
(5) Cement for Sanitary Seal	3	bags	128	3
(6) Pump Base and Platform		. ·	100	
1) Cement	4		128	5
2) Gravel	2	1 -	424	8
3) Sand		cu.m	335	3
4) Plywood (1,200mm x 2,400mm x 6mm)		pc.	275 49	2
5) Form Lumber (50mm x 75mm x 1,800mm)	6	1 * `	49	2
6) Nail Sub-Total of D-1	.  <b>'</b>	kg.	53	20,4
	1	1		20,4 8,1
2. Labor (40% of D-1.)		L.S.		2,2
3. Freight Cost (11% of Materials)		1		۷,۷
Sub-Total of L				30,8
F. Indirect Cost		<b>+-</b>	<u> </u>	
Profit (10% of A, B, C & D)	1			10,4
VAT (10% of Profit & Labor)				4,6
Sub-Total of 1	ε			15,1
Total of Construction Cost (A+B+C+D+E)				119,5
F. Estimated Government Expenses		1, 0		
1. Preliminary & Detailed Engineering Cost		L.S.		3,1 2,2
2. Construction Supervision		L.S.		2,4 1,2
3. Water Quality Analysis Sub-Total of	F	10.0.		1,4 6,1
500-10(4) 01	'I	1		ν,
GRAND TOTAL		- [		126,2
SAY		1		126,

Table 10.2.2 (b) Unit Cost of Level I (Deep Well, Natural Gravel Pack - 30m Depth)

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

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10 - 4

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.	0.031	3,60
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				10.0
(1) 100mm x 3m Steel Casing with coupling	14	pcs.	2,894	40,5
(2) 100nm x 3m Steel Casing with one end closed		pc.	2,997	2,9
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,5
2. Labor, Fuel, Lubricant and others	50		1,212	60,6
Well Drilling for 50 m depth at 200mm borchole	00	m L.S.	1,212	5,8
3. Freight Cost (11% of Materials) Sub-Total of B		42,3.		
		····		
C. Well Development		L.S.		5,5
D. Gravel Packing, Installation of Handpump and	<u> </u>	[		
Construction of Platform				
1. Materials		1		
(1) Improved Deep Well Cylinder Pump (Maławi Type)	1	set	9,922	9,9
(2) 63mm x 6m GI Pipe with coupling	6	1	1,880	11,2
(3) #10 Sieved Gravel	1.0	1	959	9
(4) Coarse Sand				3
(5) Cement for Sanitary Seal	3	bags	128	3
(6) Pump Base and Platform			100	-
1) Cement	4		128	5
2) Gravel	2			8
3) Sand		cu.m	275	2
4) Plywood (1,200mm x 2,400mm x 6mm)		pc.	49	2
5) Form Lumber (50mm x 75mm x 1,800mm)		pcs. kg.	35	٠ •
6) Nail Sub-Total of D-1	1	^g.	55	25,1
2. Labor (40% of D-1.)				10,0
3. Freight Cost (11% of Materials)		L.S.		2,7
Sub-Totat of E				38,0
n. L. R. M. Oast		·	<b> </b>	
E. Indirect Cost Profit (10% of A, B, C and D)				16.6
VAT (10% of Profit & Labor)		1		5,1
Sub-Total of I	e			21,7
	1	·†		
Total of Construction Cost (A+B+C+D+E)				188,3
F. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.	1	3,
2. Construction Supervision		L.S.		2,2
3. Water Quality Analysis	1	L.S.		1,2
Sub-Total of	F			6,
GRAND TOTAL		-		195,
SAY				195,

Table 10.2.3 (a)	Unit Cost of Level I (Deep Well - 50m Depth)
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Note: L.S. - Lamp Sum Source: DPWH standard price in 1994 Unit Cost: Adjusted to 1997 Price Level

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Description	Quantity	Unit	Unit	Cost
-	Quantity		Cost	
A. Mobilization/Demobilization		L.S.		3,60
B. Drilling of Well & Installation of Steel Casing/Screen				
I. Materials				
(1) 100mm x 3m Steel Casing with coupling	14	pes.	2,894	40,5
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,9
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,5
2. Labor, Fuel, Lubricant and others		:		,
Well Drilling for 500 m depth at 150mm borehole	50	m	935	46,7
3. Freight Cost (11% of Materials)		L.S.		5,8
Sub-Total of B				105,6
C. Well Development		L.S.		5,50
D. Gravel Packing, Installation of Handpump and			····	
Construction of Platform	1			
1. Materials				
(1) Improved Deep Well Cylinder Pump (Maławi Type)	1	set	9,922	9,9
(2) 63mm x 6m Gl Pipe with coupling	6	pcs.	1,880	11,2
(3) #10 Sieved Gravel	Ō	•	959	•••,
(4) Coarse Sand	1	cu.m	335	3
(5) Cement for Sanitary Seal	3	bags	128	3
(6) Pump Base and Platform		0-		·
1) Cement	4	bags	128	5
2) Gravel	2	-	424	8
3) Sand	1	cu.m	335	3
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	2
5) Form Lumber (50mm x 75mm x 1,800mm)	6	pes.	49	2
6) Nail	1	kg.	35	
Sub-Total of D-1		Ŭ		24,2
2. Labor (40% of D-1.)				9,6
3. Freight Cost (11% of Materials)		L.S.		2,6
Sub-Total of D				36,5
E. Indirect Cost	<b> </b> .			
Profit (10% of A, B, C and D)				15,1
VAT (10% of Profit & Labor)				4,8
Sub-Total of E		ļ		20,0
Total of Construction Cost (A+B+C+D+E)				171,2
F. Estimated Government Expenses			<u> </u>	
1. Preliminary & Detailed Engineering Cost		L.S.		3,3
2. Construction Supervision	1 · · ·	L.S.		2,2
3. Water Quality Analysis		L.S.		1,2
Sub-Total of 1	<sup>7</sup>			6,7
GRANÐ TOTAL				178,0
SAY				178,0

## Table 10.2.3 (b) Unit Cost of Level I (Deep Well, Natural Gravel Pack - 50m Depth)

Note: L.S. - Lamp Sum Source: DPWH standard price in 1994 Unit Cost: Adjusted to 1997 Price Level 1

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Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		IS.		3,60
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	21	pcs.	2,894	60,7
(2) 100mm x 3m Steel Casing with one end closed		pc.	2,997	2,9
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,5
2. Labor, Fuel, Lubricant and others				-
Well Drilling for 70 m depth at 200mm borehole	70	m	1,212	84,84
3. Freight Cost (11% of Materials)		L.S.		8,0
Sub-Total	of B			166,1
C. Well Development		L.S.		5,5
D. Gravel Packing, Installation of Handpump and		<b></b>		
Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Maławi Type)		set	9,922	9,9
(2) 63mm x 6m GI Pipe with coupling	9		1,880	16,9
(3) #10 Sieved Gravel	1.5	cu.m	959	1,4
(4) Coarse Sand	1	cu.m		3
(5) Cement for Sanitary Seal	3	bags	128	3
(6) Pump Base and Platform		I.		-
1) Cement	4		128	5
2) Gravel	2	cu.m	424	8
3) Sand		cu.m	335	3
4) Plywood (1,200mm x 2,400mm x 6mm)		pc.	275	2
5) Form Lumber (50mm x 75mm x 1,800mm)	6		49 35	2
6) Nail Sub-Total o	f D 1	kg.		31,2
	1.0-1			12,5
<ol> <li>Labor (40% of D-1.)</li> <li>Freight Cost (11% of Materials)</li> </ol>		L.S.		3,4
3. Fleight Cost (11% of Materials) Sub-Total	l of D	D.9.		47,2
E. Indirect Cost				
Profit (10% of A, B, C and D)	Í	i		22,2
VAT (10% of Profit & Labor)				6,3
Sub-Total	l of E			28,5
Total of Construction Cost (A+B+C+D+E)				251,1
F. Estimated Government Expenses		<b>†</b>		
1. Preliminary & Detailed Engineering Cost		L.S.		3,3
2. Construction Supervision		L.S.		2,2
3. Water Quality Analysis		L.S.		1,2
Sub-Tota	lofF			6,7
GRAND TOTAL				257,8
SAY			}	257,8

Table 10.2.4 (a)	Unit Cost of Level I (	Deep Well - 7	70m Depth)
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Note: L.S. - Lamp Sum Source: DPWH standard price in 1994 Unit Cost: Adjusted to 1997 Price Level

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Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		3,60
B. Drilling of Well & Installation of Steel Casing/Screen			· · · · · · · · · · · · · · · · · · ·	
1. Materials				
(1) 100mm x 3m Steel Casing with coupling	21	pcs.	2,894]	60,77
(2) 100mm x 3m Steel Casing with one end closed	1	pc.	2,997	2,99
(3) 100mm x 3m Low Carbon Steel Screen	2	pcs.	4,755	9,51
2. Labor, Fuel, Lubricant and others				
Well Drilling for 70 m depth at 150mm borehole	70	m	935	65,45
3. Freight Cost (11% of Materials)		L.S.		8,06
Sub-Total of B				146,79
C. Well Development		1.S.		5,50
	l			
D. Gravel Packing, Installation of Handpump and				
Construction of Platform				
1. Materials				
(1) Improved Deep Well Cylinder Pump (Malawi Type)		set	9,922	9,92
(2) 63num x 6m GI Pipe with coupling	9	pcs.	1,880	16,92
(3) #10 Sieved Gravel	0.0	cu.m	959	
(4) Coarse Sand	1	cu.m	335	- 33
(5) Cement for Sanitary Seal	3	bags	128	38
(6) Pump Base and Platform				
1) Cement	1	bags	128	51
2) Gravel	2		424	84
3) Sand	1	cu.m	335	33
4) Plywood (1,200mm x 2,400mm x 6mm)	1	pc.	275	27
5) Form Lumber (50mm x 75mm x 1,800mm)	6	1	49	29
6) Nail	1	kg.	35	3
Sub-Total of D-1				29,86
2. Labor (40% of D-1.)				- 11,94
3. Freight Cost (11% of Materials)	1	L.S.		3,28
Sub-Total of D	2			45,08
E. Indirect Cost		[		
Profit (10% of A, B, C and D)				20,09
VAT (10% of Profit & Labor)				5,94
Sub-Total of E	;			26,04
Total of Construction Cost (A+B+C+D+E)				227,02
F. Estimated Government Expenses	- <b> -</b>			
1. Preliminary & Detailed Engineering Cost	ł	L.S.		3,30
2. Construction Supervision		L.S.		2,20
3. Water Quality Analysis		L.S.		1,24
Sub-Total of H	2	0.0-		6,74
CRANNTOTAL				333.0
GRAND TOTAL	1		1	233,71

# Table 10.2.4 (b) Unit Cost of Level I (Deep Well, Natural Gravel Pack - 70m Depth)

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Note: L.S. - Lamp Sum

Source: DPWH standard price in 1994 Unit Cost: Adjusted to 1997 Price Level

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		3,60
B. Well Rehabilitation		<b></b>		
1. Materials				
(1) Cylinder Pump Set	1	set	9,922	9,92
(2) Cement for Surface Sealing	4	bags	128	51
(3) Pump Base and Platform				
1) Cement	4	bags	128	51
2) Gravel	2	cu.m	424	84
3) Sand	1	cu.m	335	33
4) Plywood (4' x 8' x 1/4")	1	pc.	275	27
5) Form Lumber (2" x 3" x 6")	6		49	29
6) Nail	1	kg.	35	3
Sub-Total of	B-1			12,73
2. Labor (40% of B-1)				5,05
3. Freight Cost (11% of Materials)	1			1,40
Sub-Tofal	of B			19,22
C. Well Development		L.S.	·	7,1(
D. Indirect Cost				<i></i>
Profit (10% of A, B & C)				2,99
VAT (10% of Profit & Labor)				1,51
Sub-Total e	G lo			4,51
Total of Construction Cost (A+B+C+D)				34,43
E. Estimated Government Expenses		·		
1. Preliminary & Detailed Engineering Cost		L.S.		1,20
2. Supervision		L.S.		72
3. Water Quality Analysis		L.S.		1,24
Sub-Total	of E			3,1
GRAND TOTAL				37,6
SAY		ļ		37,6

Table 10.2.5	Unit Cost of Level I (Deep Well Rehabilitation)	
	One cost of never i (never i tenaonitation)	

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

	<b>.</b>		Unit	ost: Peso
Description	Quantity	Unit	Cost	Cost
A. Mobilization/Demobilization		L.S.		1,20
B. Drilling of Well & Installation of Steel Casing/Screen				
1. Materials				
(1) 63mm x 6m PVC Pipe with socket	2	pcs.	896	1,79
(2) 63mm x 3m PVC Pipe with plug	1	pe.	452	45
(3) 63mm PVC Socket	1	pe.	99	9
(4) 63mm x 3m PVC Screen	1	pc.	1,433	1,43
2. Labor, Fuel, Lubricant and others				
Well Drilling for 18 m depth at 150mm borehole	18	m	573	10,3
3. Freight Cost (11% of Materials)		L.S.		41
Sub-Total of B				14,50
C. Well Development		L.S.		6(
D. Gravel Packing, Installation of Handpump and				
Construction of Platform				
1. Materials			Į	
(1) 50mm Jetmatic Handpump	1 1	set	2,623	2,6
(2) 50mm x 1m Gl Pipe (Sch. 40)	1	pc.	110	-,
(3) #10 Sieved Gravel	0.1		959	-
(4) Coarse Sand		cu.m	335	
(5) Cement for Sanitary Seal	1	1.	128	1
(6) Pump Base and Platform	-	8		-
1) Cement	4	bags	128	5
2) Gravel	i i	cu.m	424	4
3) Sand	l i	cu.m	335	. 3
4) Plywood (1,200mm x 2,400mm x 6mm)		pc.	275	
5) Form Lumber (50mm x 75mm x 1,800 mm)		pc.	49	-
6) Nail	i i	kg.	35	
Sub-Total of D-1	1			4,6
2. Labor (40% of D-1.)		1		1,8
3. Freight Cost (11% of Materials)		L.S.		5
Sub-Total of E				6,9
E. Indirect Cost	1		<u> </u>	<u> </u>
Profit (10% of A, B, C & D)				2,3
VAT (10% of Profit & Labor)		1		1,4
Sub-Total of H	e	<u> </u>		3,7
Total of Construction Cost (A+B+C+D+E)			ļ	27,0
P. Petimeted Covernment Example		<b>_</b>	·	
F. Estimated Government Expenses 1. Preliminary & Detailed Engineering Cost		L.S.		2,2
2. Construction Supervision	1	L.S. L.S.		1,6
3. Water Quality Analysis	1	L.S. L.S.	1	1,2
3. water Quarty Marysis Sub-Total of I		L.S.	1	5,0
500-10(2) 0(1	<sup>1</sup>			3,0
GRAND TOTAL		· [	1	32,1
SAY	1	I	1	32,

Table 10 5 C	West Coast of Lavel I (Shellow Well - 19m Douth)
Table 10.2.6	Unit Cost of Level I (Shallow Well - 18m Depth)

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

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		3,60
B. Construction of Spring Box				<u>-</u>
1. Materials		L.S.		30,70
2. Labor (35% of 1.)		L.S.		10,74
3. Freight Cost (11% of Materials)		L.S.	•	3,3
Sub-Total of B				44,8
C. Installation of Pipelines & Fittings				<b>-</b>
1. Transmission Main			1 1	
(1) Materials				
1) 25mm dia. Gl Pippe	330	pes.	400	132,0
2) 25mm dia. Tee	1	no.	163	1
3) 25mm dia. Coupling	26	cans	23	5
4) 25mm dia. Elbow (90 deg.)	3	nos.	23	
5) 25mm dia. Elbow (45 deg.)	i	pc.	23	
6) 25mm dia. Gate Valve	2	pcs.	250	5
7) 13mm dia. x 1m Stand Pipe	1	pes.	103	1
8) 13mm x 25mm GI Nipple	1	pr.	72	
9) 13mm dia. Union Patente	3	pes.	35	1
	2		72	]
10) 25mm x 13mm dia. Reducing Socket	2	pcs.	14	
11) 13mm dia. GI Elbow (90 deg.)	2	pcs.	72	1
12) 25mm x 13mm dia. Socket Adaptor		pcs.	253	
13) 13mm dia. GI Gate Valve	2	pcs.	1 1	4
14) 13mm dia. Brass Faucet	2	pes.	45	
Sub-Total of Material	5			134,4
(2) Labor (35% of Material Cost)		L.S.		47,0
(3) Freight Cost (11% of Materials)		L.S.		14,7
Sub-Total of (	2			196,3
D. Indirect Cost				
1. Transmission Main				
(1) Profit (10% of C)			1	19,0
(2) VAT (10% of Profit and Labor)				6,6
2. Source Facilities	1			
(1) Profit (10% of A, B)	1	1		4,5
(2) VAT (10% of Profit and Labor)		1		1,5
Sub-Total of I				32,*
Total Construction Cost (A+B+C+D)	<b> </b>		-	277,-
		<b> </b>		
E. Estimated Government Expenses		l		2,3
1. Preliminary & Detailed Engineering and RWSA Formation		[		13,
2. Supervision		1	ļ	
3. Water Quality Analysis				l,
Sub-Total of I	r.			16,
GRAND TOTAL				294, 294,

#### Table 10.2.7 Unit Cost of Level I (Spring Development)

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

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A. Mobilization       1.3         B. Construction of Spring Box       1.4         1. Materials       1.5         2. Labor (35% of 1.)       1.5         3. Freight Cost (11% of Materials)       1.5         C. Installation of Pipelines & Fittings       1.5         1. Transmission Main       10         (1) Materials       1.6         1) 63mm dia. PVC Pipe (Class 12 5 with pusher type socket)       3.00         2) 63mm dia Tee       1         2) 63mm dia X 150mm Nipple       3         3) Solvent Cement       1         4) 63mm dia Libow (90 deg.)       1         8) 63mm dia Elbow (90 deg.)       1         9) 63mm dia Elbow (90 deg.)       1         9) 63mm dia Elbow (90 deg.)       1         9) 63mm dia Elbow (90 deg.)       1.5         (2) Labor (35% of Material Cost)       1.5         (3) Freight Cost (11% of Materials)       1.5         (1) Materials       1.5         1) 50mm dia PVC Pipe (Class 12.5 with pusher type socket)       20         1) 30mm dia X 150mm PVC Nipple       10         1) 30mm dia X 150mm PVC Nipple       3         1) 30mm dia X 150mm PVC Nipple       3         1) 30mm dia X 150mm PVC Nipple       3         <	Unit Cost	Cost: Pese Cost
1. Materials       1.5         2. Labor (35% of L)       1.5         3. Freight Cost (11% of Materials)       1.5         C. Installation of Pipelines & Fittings       1.5         1. Transmission Main       10         (1) Materials       30         1) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket)       330         2) 63mm dia. Tee       1         3) 50/brent Cement       26         4) 63mm dia. X 150mm Nipple       3         5) 63mm dia. Libow (90 deg.)       1         6) 63mm dia. Elbow (90 deg.)       1         9) 63mm dia. Elbow (90 deg.)       1         10) 50mm dia. Elbow (90 deg.)       1         110) 7       50         1110) 7       50         11110) 7       50         111110) 7       50         11110) 7       50         11110) 7       50         11110) 7       50         11110) 7       50         111110) 7		3,30
1. Materials       1. Sub-Total of B         2. Labor (35% of 1.)       1. Sub-Total of B         2. Installation of Pipelines & Fittings       1. Sub-Total of B         2. Installation of Pipelines & Fittings       1. Sub-Total of B         2. C. Installation of Pipelines & Fittings       1. Sub-Total of B         2. Gamm dia. PVC Pipe (Class 12 5 with pusher type socket)       330         2. Gamm dia. Tee       1         3. Solvent Cement       26         4. Gamm dia. Stömm Nipple       3         5. Gamm dia. Elbow (90 deg.)       1         9. Gamm dia. Elbow (90 deg.)       1         9. Gamm dia. Elbow (90 deg.)       1         9. Gamm dia. Cate Valve       3         9. Gamm dia. Gate Valve       3         9. Gamm dia. PVC Pipe (Class 12.5 with pusher type socket)       30         10. Materials       1. Sub-Total of Transmission Main         2.) Labor (35% of Materials)       1. Sub-Total of Transmission Main         2.) Distribution Pipeline       10         (1) Materials       10         1. Stam dia. PVC Pipe (Class 12.5 with pusher type socket)       30         2.) Solvent Cement       40         4.) Stomm dia. X 150mm PVC Nipple       3         a. Somm dia. X 150mm PVC Nipple       3		
3. Freight Cost (11% of Materials)       L.S.         Sub-Total of B       L.S.         C. Installation of Pipelines & Fittings       1.         1. Transmission Main       11         (1) Materials       330         pc:       2) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket)       330         a) Solvent Cement       26         4) 63mm dia. Union Patente       1         6) 63mm dia. Somm dia. Reducing Socket       2         7) 63mm dia. Somm dia. Reducing Socket       2         9) 63mm dia. Gate Valve       3         9) 63mm dia. Gate Valve       3         9) 63mm dia. Gate Valve       3         9) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket)       20         (2) Labor (35% of Material Cost)       L.S.         (3) Freight Cost (11% of Materials)       L.S.         1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)       20         1) 30mm dia. PVC Pipe (Class 12.5 with pusher type socket)       30         1) 30mm dia. X 150mm PVC Nipple       3         1) 30mm dia. X 150mm PVC Nipple       3         2) Solvent Cement       4         6) Fittings       a. 50mm dia. X 150mm PVC Nipple         3. 30mm dia. X 150mm PVC Nipple       3         4. 30mm dia. X 150mm		39,90
Sub-Total of BC. Installation of Pipelines & Fittings1. Transmission Main(1) Materials1) 6 3mm dia. PVC Pipe (Class 12.5 with pusher type socket)2) 63mm dia. Tee3) Solvent Cement4) 63mm dia. X 150mm Nipple5) 63mm dia. X 150mm Nipple6) 63mm dia. X 150mm Nipple7) 63mm dia. Sonun dia. Reducing Socket9) 63mm dia. Libow (45 deg.)9) 63mm dia. Elbow (45 deg.)1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)2) Labor (35% of Material Cosi)(1) Materials2) Labor (35% of Class 12.5 with pusher type socket)20) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)30) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)30) 50mm dia. PVC Pipe (Class 42.5 with pusher type socket)31) 50mm dia. PVC Pipe (Class 42.5 with pusher type socket)320mm dia. X 150mm PVC Nipplea. 50mm dia. x 150mm PVC Nippleb. 32mm dia. x 150mm PVC Nipplec. 13mm dia. x 150mm PVC Nippled. 50mm dia. X 150mm PVC Nippled. 32mm dia. X 150mm PVC Nippled. 32mm dia. X 150mm RV Nippled. 32mm dia. X 150mm RV Nippled. 32mm dia. X 150mm GN Nippled. 32mm dia. X 150mm RV Nippled. 32mm dia. X 150mm PVC Nippled. 32mm dia. X 150mm GN Nippled. 32mm dia. S 150mm GN Nippled. 32mm dia. S 150mm GN Nippled. 32mm dia. S 150mm GN Nippled. 32mm dia. Glate Valve <td></td> <td>13,96</td>		13,96
C. Installation of Pipelines & Fittings 1. Transmission Main (1) Materials 1) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket) 33 Solvent Cement 3 Solvent Cement 4 6 famm dia. x 150mm Nipple 3 noo 5 63mm dia. Union Patente 6 6 famm dia. Elbow (90 deg.) 8 63mm dia. Elbow (90 deg.) 9 63mm dia. Elbow (90 deg.) 1 pc 9 63mm dia. Elbow (90 deg.) 1 pc 9 63mm dia. Gate Valve Sub-Total of Materials 2 Distribution Pipeline (1) Materials 1 Sound dia. PVC Pipe (Class 12.5 with pusher type socket) 2 Distribution Pipeline (1) Materials 1 Sound dia. X 150mm FVC Nipple 3 Solvent Cement 4 Garm dia. x 150mm FVC Nipple 3 Solvent Cement 4 Garm dia. x 150mm PVC Nipple 3 Solvent Cement 4 Garm dia. X 150mm PVC Nipple 3 Solvent Genent 4 Garm dia. X 150mm PVC Nipple 3 Solvent Genent 4 Garm dia. X 150mm PVC Nipple 3 Solvent Genent 4 Garm dia. X 150mm PVC Nipple 4 Samm dia. Genetate 5 Comm dia. X 150mm PVC Nipple 5 Solvent Genent 5 Comm dia. X 150mm PVC Nipple 5 Solvent Genent 5 Comm dia. X 150mm PVC Nipple 5 Comm dia. Comm dia. Reducing Socket 5 Comm dia. X 150mm PVC Nipple 5 Comm dia. X 150mm dia. Reducing Socket 5 C		4,38
1. Transmission Main       (1) Materials         (1) Materials       330         (1) Materials       330         (2) Ghum dia. PVC Pipe (Class 12.5 with pusher type socket)       330         (3) Solvent Cement       26         (4) Ghum dia. X 150mm Nipple       3         (5) Ghum dia. Union Patente       1         (6) Ghum dia. Union Patente       1         (7) Ghum dia. Elbow (90 deg.)       1         (8) Ghum dia. Elbow (90 deg.)       1         (2) Labor (35% of Material Cost)       L.5         (3) Freight Cost (11% of Materials)       L.5         (2) Labor (35% of Material Cost)       L.5         (3) Freight Cost (11% of Materials)       L.5         (1) Materials       Sub-Total of Transmission Main         2. Distribution Pipeline       20         (1) Materials       10         1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)       20         2) Distribution Pipeline       10         (1) Materials       20         1) 30mm dia. PVC Pipe (Class 12.5 with pusher type socket)       20         2) Jamm dia. VC Pipe (Class 12.5 with pusher type socket)       30         3) 20mm dia. x 150mm PVC Nipple       3         4) 13mm dia. Union Patente       10		58,25
(1)Materials1)63mm dia. PVC Pipe (Class 12.5 with pusher type socket)3302)63mm dia. Tee13)Solvent Cement264)63mm dia. x 150mm Nipple35)63mm dia. x 150mm Nipple36)63mm dia. Solvent Cement17)63mm dia. Solvent de Redocing Socket27)63mm dia. Solvent de Redocing Socket27)63mm dia. Elbow (90 deg.)18)63mm dia. Gate Valve28)63mm dia. Gate Valve39)63mm dia. Gate Valve38)Sub-Total of Materials1.52)11 pc59)63mm dia. Gate Valve209)63mm dia. PVC Pipe (Class 12.5 with pusher type socket)2010)Materials1011)Solvent Cenent411)Solvent Cenent412)38mm dia. x 150mm PVC Nipple313)30mm dia. x 150mm PVC Nipple314)J3mm dia. x 150mm PVC Nipple315)Solvent Cenent416)Futings317)13mm dia. x 150mm PVC Nipple318)30mm dia. x 150mm PVC Nipple319)13mm dia. x 150mm PVC Nipple319)13mm dia. x 150mm FVC Nipple319)		
1) 63mm dia. PVC Pipe (Class 12 5 with pusher type socket)3302) 63mm dia. Tee13) Solvent Cement264) 63mm dia. X 150mm Nipple35) 63mm dia. X 150mm Nipple16) 63mm dia. X 150mm Nipple17) 63mm dia. Stonun dia. Reducing Socket27) 63mm dia. Elbow (90 deg.)18) 63mm dia. Gate Valve39) 63mm dia. Gate Valve39) 63mm dia. Gate Valve39) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket)201) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)202) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket)303) Solvent Cement46) Fittings3a. 50mm dia. x 150mm PVC Nipple3b. 32mm dia. x 150mm PVC Nipple3c. 13mm dia. x 150mm PVC Nipple3c. 13mm dia. x 150mm PVC Nipple3pc. 13mm dia. x 150mm fit Nipple4d. 50mm dia. X 150mm fit Nipple3pc. 13mm dia. X 150mm fit Nipple3pc. 13mm dia. X 150mm fit Nipple2pc. 13mm dia. S 13mm dia. Reducing Socket10pc. 13mm dia. X 13mm dia. Reducing Socket10pc. 13mm dia. Gl Gate Valve2pc. 13mm d		
2) 63mm dia. Tee1no3) Solvent Cement264) 63mm dia x 150mm Nipple35) 63mm dia x 50mm dia. Reducing Socket27) 63mm dia. Elbow (90 deg.)18) 63mm dia. Elbow (90 deg.)19) 63mm dia. Elbow (90 deg.)19) 63mm dia. Gate Valve322) Labor (35% of Material Cost)1.5(3) Freight Cost (11% of Materials)1.520) Sub-Total of Transmission Main2.521) Distribution Pipeline20(1) Materials201) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)202) 38mm dia. I m Stand Pipe103) Solvent Cement46) Fittingsaa. 50mm dia. x 150mm FVC Nipple3b. 32mm dia. x 150mm FVC Nipple3c. 13mm dia. x 150mm FVC Nipple3pcc. 13mm dia. x 150mm FVC Nippled. 50mm dia. x 150mm fit Nipple4d. 50mm dia. x 150mm fit Nipple3pcf. 13mm dia. x 150mm fit Nippled. 50mm dia. X 10m Patente10pcf. 13mm dia. S 10mm di. Reducing Socket10pcj. 50mm dia. X 13mm dia. Reducing Socket10pcj. 50mm dia. X 13mm dia. Reducing Socketm dia. S 13mm dia. Reducing Socket10pcj. 50mm dia. S 13mm dia. Reducing Socketj. 50mm dia. Gl Gate Valve2pcj. 32mm dia. Gl Gate Valvej. 50mm dia. Gl Gate Valve2pcj. 32mm dia. Gl Gate Valvej. 50mm dia. Gl Ga		
3)Solvent Cement26car4)63mm dia x 150mm Nipple3noo5)63mm dia x 150mm Aia Reducing Socket2pc;7)63mm dia x Elbow (90 deg.)1pc8)63mm dia Elbow (45 deg.)1pc9)63mm dia Gate Valve3pc;Sub-Total of MaterialsC2)Labor (35% of Material Cost)1(2)Labor (35% of Material Cost)1pc;(3)Freight Cost (11% of Materials)1.51.5Sub-Total of Transmission Main2.Distribution Pipeline20pc;(1)Materials20pc;1)50mm dia PVC Pipe (Class 12.5 with pusher type socket)30pc;3)20mm dia. PVC Pipe (Class 12.5 with pusher type socket)10pc;3)20mm dia. PVC Pipe (Class 12.5 with pusher type socket)10pc;3)30mm dia. X 150mm PVC Nipple3pc;4)13mm dia. x 150mm PVC Nipple3pc;5)30/vent Cement4qa;6)Futings3pc;a.50mm dia. X 150mm PVC Nipple3pc;b.32mm dia. X 150mm PVC Nipple40pc;c.32mm dia. X 150mm Gi. Reducing Socket10pc;j.50mm dia. X 13mm dia. Reducing Socket10pc;j.50mm dia. X 13mm dia. Reducing Socket10pc;j.50mm dia. X 13mm dia. Reducing Socket10	896	295,6
4)63mm dia. x 150mm Nipple3nov5)63mm dia. Union Patente1pc6)63mm dia. x 50mm dia. Reducing Socket2pc7)63mm dia. Elbow (90 deg.)1pc8)63mm dia. Elbow (90 deg.)1pc9)63mm dia. Gate Valve3pcSub-Total of Materials(2)Labor (35% of Material Cost)1.5(3)Freight Cost (11% of Materials)1.5Sub-Total of Transmission Main2.Distribution Pipeline20(1)Materials20(2)10pc2)38mm dia. PVC Pipe (Class 12.5 with pusher type socket)301)50mm dia. PVC Pipe (Class 12.5 with pusher type socket)102)38mm dia. X 1 m Stand Pipe103)20mm dia. X 150mm PVC Nipple3a50mm dia. x 150mm PVC Nipple3b32mm dia. x 150mm PVC Nipple3c13mm dia. x 150mm PVC Nipple3c32mm dia. x 150mm di. Nipple40c32mm dia. x 150mm di. Nipple40c32mm dia. x 150mm di. Reducing Socket10f13mm dia. x 12mm dia. Reducing Socket10f13mm dia. x 13mm dia. Reducing Socket10f20mm dia. x 13mm dia. Reducing Socket10f13mm dia. G Gate Valve2f13mm dia. G Gate Valve2f13mm dia. G Gate Valve2f13mm	97	
S) 63mm dia. Union Patente1pc6) 63mm dia. x 50mm dia. Reducing Socket2pc:7) 63mm dia. Elbow (90 deg.)1pc8) 63mm dia. Elbow (65 deg.)1pc9) 63mm dia. Gate Valve3pc:(2) Labor (35% of Material Cost)1.51.5(3) Freight Cost (11% of Materials)1.5(1) Materials1.5(2) Distribution Pipeline20(1) Materials10(2) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket)202) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket)303) 20mm dia. PVC Pipe (Class 12.5 with pusher type socket)304) 13mm dia. x 150mm PVC Nipple105) Solvent Cement46) Fittings3a 50mm dia. x 150mm PVC Nipple3b 32mm dia. x 150mm PVC Nipple3c 33mm dia. x 150mm PVC Nipple3c 30mm dia. x 150mm PVC Nipple40p 6, 32mm dia. x 150mm PVC Nipple3c 7, 13mm dia. x 150mm di Nipple40d 30mm dia. X 130mm di Nipple40p 6, 50mm dia. x 32mm dia. Reducing Socket10p 7, 50mm dia. x 32mm dia. Reducing Socket10p 6, 50mm dia. X 13mm dia. Reducing Socket10p 7, 50mm dia. Gl Gate Valve2p 7, 50mm dia. Gl Gate Valve2p 7, 13mm dia. Gl Gate Valve2p 1, 13mm dia. Gl Gate Valve2 <td>50</td> <td>1,3</td>	50	1,3
6)6)6)7)6)7)6)7)6)7)6)7)6)7)6)7)6)7)6)7)6)7)6)7)6)7)6)7)6)7) <td>149</td> <td>4</td>	149	4
7) 63mm dia. Elbow (90 deg.)1pc8) 63mm dia. Elbow (45 deg.)1pc9) 63mm dia. Gate ValveSub-Total of Materials3(2) Labor (35% of Material Cost)L.S.L.S.(3) Treight Cost (11% of Materials)Sub-Total of Transmission Main2.52. Distribution PipelineSub-Total of Transmission Main2.5(1) MaterialsSub-Total of Transmission Main2.62) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket)30pc3) 20mm dia. PVC Pipe (Class 12.5 with pusher type socket)10pc3) 20mm dia. PVC Pipe (Class 40 with pusher type socket)10pc3) 30mm dia. PVC Pipe (Class 40 with pusher type socket)10pc4) 13mm dia. x 1 m Stand Pipe10pc5) Solvent Cement4car6) Fittings3pca S0mm dia. x 150mm PVC Nipple3pcc. 13mm dia. x 150mm PVC Nipple3pcc. 13mm dia. x 150mm PVC Nipple3pcd. 50mm dia. x 150mm Gt Nipple40pcd. 50mm dia. x 150mm dia. Reducing Socket10pcf. 13mm dia. Reducing Socket10pcj. 50mm dia. x 13mm dia. Reducing Socket10pcj. 50mm dia. G Elbow (90 deg.)20pck. 13mm dia. GI Gate Valve2pcn. 32mm dia. GI Gate Valve2pc	190	1
8) 63mm dia. Elbow (45 deg.)       1       pc         9) 63mm dia. Gate Valve       3       pc:         Sub-Total of Materials         (2) Labor (35% of Material Cost)       1.5         (3) Freight Cost (11% of Materials)       1.5         Sub-Total of Transmission Main         2. Distribution Pipeline       20         (1) Materials       20         1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)       30         2) 38mm dia. PVC Pipe (Class 40 with pusher type socket)       30         3) 20mm dia. PVC Pipe (Class 40 with pusher type socket)       10         4) 13mm dia. x 1 m Stand Pipe       10         5) Solvent Cement       4         6) Fittings       3         a 50mm dia. x 150mm PVC Nipple       3         b. 32mm dia. x 150mm PVC Nipple       4         c. 13mm dia. X 150mm PVC Nipple       20         c. 35mm dia. Union Patente       10         pc       50mm dia. X 150mm dia. Reducing Socket         10       pc         j. 50mm dia. x 20mm dia. Reducing Socket       10         pc       j. 50mm dia. Reducing Socket       10         pc       j. 50mm dia. Reducing Socket       10         j. 50mm dia. GI Gate Valve       2	115	2
9) 63mm dia. Gate Valve       3         Sub-Total of Materials       1.5         (2) Labor (35% of Material Cost)       1.5         (3) Freight Cost (11% of Materials)       1.5         Sub-Total of Transmission Main       2.5         2. Distribution Pipeline       20         (1) Materials       20         1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)       30         3) 20mm dia. PVC Pipe (Class 40.5 with pusher type socket)       10         3) 20mm dia. PVC Pipe (Class 40.5 with pusher type socket)       10         4) 13mm dia. x 1 m Stand Pipe       10         5) Solvent Cement       4         6) Fittings       3         a 50mm dia. X 150mm PVC Nipple       3         b. 32mm dia. x 150mm FVC Nipple       3         c. 13mm dia. X 150mm FVC Nipple       3         g. 50mm dia. V30mm dia. Reducing Socket       10         pc       f. 13mm dia. Reducing Socket       10         pc       j. 20mm dia. X 20mm dia. Reducing Socket       10         g. 50mm dia. X 13mm dia. Reducing Socket       10       10         pc       j. 50mm dia. Reducing Socket       10       10         pc       j. 50mm dia. Reducing Socket       10       10         g. 20mm dia. X 13mm	83	
Sub-Total of Materials(2) Labor (35% of Material Cost)L.5(3) Freight Cost (11% of Materials)L.5Sub-Total of Transmission MainL.52. Distribution Pipeline20(1) Materials201) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)202) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket)303) 20mm dia. PVC Pipe (Class 40 with pusher type socket)10pc203) 20mm dia. x I m Stand Pipe105) Solvent Cement46) Fittings3a S0mm dia. x 150mm PVC Nipple3b. 32mm dia. x 150mm PVC Nipple3c. 13mm dia. x 150mm GI Nipple40d. 50mm dia. x 150mm GI Nipple10pc5.32mm dia. X 150mm GI Nippled. 50mm dia. x 130mm dia. Reducing Socket10pc1.20mm dia. x 130mm dia. Reducing Socketf. 13mm dia. X 20mm dia. Reducing Socket10pcj. 50mm dia. X 13mm dia. Reducing Socketh. 32mm dia. GI Elbow (90 deg.)2k. 13mm dia. GI Gate Valve2pcn. 32mm dia. GI Gate Valvem. 30mm dia. GI Gate Valve2pcn. 32mm dia. Teepc6s. 32mm dia. Tee6pc13mm dia. Teepc6pc13mm dia. Teeg. 50mm dia. Tee6pc13mm dia. Teepc13mm dia. Teepc13mm dia. Teepc13mm dia. Teepc13mm dia. Tee<	82	
(2)Labor (35% of Material Cost)L.S.(3)Freight Cost (11% of Materials)L.S.Sub-Total of Transmission MainSub-Total of Transmission Main2.Distribution Pipeline20(1)Materials20(2)38mm dia. PVC Pipe (Class 12.5 with pusher type socket)30(3)20mm dia. PVC Pipe (Class 12.5 with pusher type socket)30(4)13mm dia. X I m Stand Pipe10(5)Solvent Cement4(6)Fittings3(7)Solmm dia. x 150mm PVC Nipple3(8)32mm dia. x 150mm FVC Nipple3(9)Solmm dia. x 150mm FVC Nipple3(10)pc40(11)gomm dia. x 150mm GN Nipple40(12)Solmm dia. Union Patente10(13)gomm dia. X 20mm dia. Reducing Socket10(14)Somm dia. X 20mm dia. Reducing Socket10(15)Solmm dia. X 13mm dia. Reducing Socket10(16)Solmm dia. X 13mm dia. Reducing Socket10(17)Solmm dia. X 13mm dia. Reducing Socket10(18)Solmm dia. Gl Gate Valve2(19)Solmm dia. Gl Gate Valve2(20)Solmm dia. Gl Gate Valve2(31)Solm dia. Tee24(42)Solm dia. Tee24(50)Solm dia. Tee24(7)Solm dia. Tee24(7)Solm dia. Tee24(7)Solm dia. Tee24(7)Solm dia.	841	2,5
(3)       Freight Cost (11% of Materials)       L.3         Sub-Total of Transmission Main       1         2. Distribution Pipeline       1         (1)       Materials       20         1)       50mm dia. PVC Pipe (Class 12.5 with pusher type socket)       30         2)       38mm dia. PVC Pipe (Class 12.5 with pusher type socket)       30         3)       20mm dia. PVC Pipe (Class 40 with pusher type socket)       10         4)       13mm dia. x 1 m Stand Pipe       10         5)       Solvent Cement       4         6)       Fittings       3       pc         a.       S0mm dia. x 150mm PVC Nipple       3       pc         c.       13mm dia. x 150mm PVC Nipple       3       pc         c.       32mm dia. X 150mm PVC Nipple       3       pc         c.       32mm dia. X 150mm PVC Nipple       3       pc         c.       33mm dia. X 150mm PVC Nipple       40       pc         d.       50mm dia. X 150mm PVC Nipple       3       pc         f.       13mm dia. Union Patente       1       pc         g.       50mm dia. X 32mm dia. Reducing Socket       10       pc         j.       20mm dia. X 13mm dia. Reducing Socket       10		300,6
(3)       Freight Cost (11% of Materials)       L.3         Sub-Total of Transmission Main       1         2. Distribution Pipeline       1         (1)       Materials       20         1)       50mm dia. PVC Pipe (Class 12.5 with pusher type socket)       30         2)       38mm dia. PVC Pipe (Class 12.5 with pusher type socket)       30         3)       20mm dia. PVC Pipe (Class 40 with pusher type socket)       30         4)       13mm dia. x 1 m Stand Pipe       10         5)       Solvent Cement       4         6)       Fittings       3         a       S0mm dia. x 150mm PVC Nipple       3         b       32mm dia. x 150mm PVC Nipple       3         c       13mm dia. x 150mm PVC Nipple       3         d       50mm dia. x 150mm PVC Nipple       3         e       32mm dia. X 150mm PVC Nipple       40         pc       f. 13mm dia. Union Patente       10         gc       50mm dia. X 32mm dia. Reducing Socket       6         f       13mm dia. X 13mm dia. Reducing Socket       10         g. 50mm dia. X 13mm dia. Socket Adaptor       10       pc         j. 20mm dia. Gl Gate Valve       2       pc         n. 32mm dia. Gl Gate Valve		105,2
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s. Water Meter 24 pc t. Water Meter Box 24 pc	1	
t. Water Meter Box 24 pc		
		19,1
Sub-Total of Materials	<b>I,</b> 212	29,0
		87,0
(2) Labor (35% of Material Cost)		30,4
(3) Freight Cost (11% of Materials)	.	9,5
Sub-Total of Distribution Pipeline		127,0
Sub-Total of C	1	565,9

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

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W. LL. 10 10	Half Cost of Louis II ((60 Counter Deputation)
1 able 10.2.8	Unit Cost of Level II (600 Service Population)

Sheet-2			(	Cost: Peso
Description	Quantity	Unit	Unit Cost	Cost
D. Indirect Cost	1			
1. Transmission Main				
(1) Profit (10% of C-1)				43,892
(2) VAT (10% of Profit and Labor)				14,911
2. Source Facilities and Distribution Pipeline				
(1) Profit (10% of A, B, C-2)				18,859
(2) VAT (10% of Profit and Labor)			1	6,328
Sub-Total of D				83,990
Total Construction Cost (A+B+C+D)				711,500
E. Estimated Government Expenses		w		2 200
1. Preliminary & Detailed Engineering and RWSA Formation				2,200 13,200
2. Supervision				13,200
3. Water Quality Analysis Sub-Total of E				16,64
Total Estimated Cost				728,15
Unit Cost per Person Served	<u> </u>			1,21
-				3,22

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

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S Dia suda Maria	10	<b>1</b> 7 7.4		(Cost: Peso)
Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		330,000
B. Spring Development/Source Development and Storage				
1. Spring Development/Deep Well	1 1	No.	1,770,000	1,770,000
2. Intake Box/Deep Well Pump	] ]	No.	632,000	632,000
3. Chlorinator House & Equipment	1 1	LS.		480,000
4. Storage Tank (250 cum)	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	<u> </u>			
1. Vehicle	1	No.	606,000	606,000
2. Office & Workshop Bldg.	1	No.	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				22,227,50(
Unit Cost per Person Served	1			
For New Construction				4,440
				4,50(
For Expansion of Existing System (Exclude F.)		ļ		4,08
		L		4,100

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

Note: L.S. - Lamp 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

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				(Cost: Peso)
Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		330,000
B. Spring Development/Source Development and Storage			·	
1. Spring Development/Deep Well	1	No.	1,770,000	1,770,000
2. Intake Box/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	617,00
Sub-Total of C				617,000
D. Distribution Main				
1. 160mm dia.	2,000	LM.	1,234	2,468,00
2. 110mm dia.	5,000	L.M.	1,019	5,095,00
3. 90mm dia.	6,000	L.M.	639	
4. 75mm dia.	8,000	L.M.	595	4,760,00
Sub-Total of D				16,157,000
E. Service Connections	2,000	Nos.		3,880,000
F. Miscellaneous	·			
1. Vehicle		No.	606,000	606,00
2. Office & Workshop Bldg.	1	No.	606,000	606,00
3. Office Equipment		L.S.		110,00
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)				6,624,50
Total Estimated Cost				33,122,50
Unit Cost per Person Served				
For New Construction	ļ			3,31
				3,40
For Expansion of Existing System (Exclude F.)				3,13 3,20

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

Note: L.S. - Lamp Sum

₹. 65 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

Description	0			(Cost: Peso)
A. Mobilization/Demobilization	Quantity	Unit	Unit Cost	Cost
		L.S.		330,000
B. Spring Development/Source Development and Storage				
1. Spring Development/Deep Well	2	No.	1,770,000	3,540,000
2. Intake Box/Deep Well Pump	2	No.	632,000	1,264,000
3. Chlorinator House & Equipment	2	L.S.	002,000	480,000
4. Storage Tank (250 cu.m)	2	No.	1,200,000	
Sub-Total of B	-		.,,	6,484,000
C. Transmission Main				
1. 160mm dia.	1,000	L.M.	1,234	1,234,00
Sub-Total of C	1,000	L.NI-	1,234	1,234,000
				1,434,000
D. Distribution Main				
1. 160mm dia.	3,000	L.M.	1,234	3,702,000
2. 110mm dia.	7,000	L.M.	1,019	
3. 90mm dia.	9,000	L.M.	639	
4. 75mm dia.	11,000	L.M.	595	
Sub-Total of D	,			23,131,000
				20,101,000
E. Service Connections	3,000	Nos.		5,820,000
F. Miscellaneous				
1. Vehicle	1	No.	606,000	606,000
2. Office & Workshop Bldg.	i	No.	606,000	606,000
3. Office Equipment	-	L.S.	,	110,000
4. Tools and Spare Paris		LS.		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
				3,300
For Expansion of Existing System (Exclude F.)				3,083
· · · · · · · · · · · · · · · · · · ·				3,100

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

Note: L.S. - Lamp 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

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10 - 16

	Description	Quantity	Unit	Unit Cost	Cost
۱.	Demolition		L.S.		1,00
8.	Earthwork			·	
۱.	Materials	ł			
	(1) Gravel Fill	1	cu.m.	424	42
	Sub-Total of B-1				42
2.	Labor				
	(1) Excavation	6	cu.m.	131	78
	(2) Backfill	2	៤ម.អា.	119	23
	(3) Gravel Fill	1	cu.m	155	1
	Sub-Total of B-2				1,13
	Sub-Total of B				1,60
С.	Concrete Work			1	
1.	Materials				
	Slab on wood planks				
	(1) 16 - 2" x 8" x 6' Coco Lumber	128	bd.N	8	1,02
	(2) 10mm dia x 6.0m Rebar	3	pes.	54	10
	(3) #16 Tie Wire	0.5	kg.	54	
	(4) Cement	10	bags	128	1,2
	(5) Sand	1.5	cu.m.	335	51
	(6) Gravel	2	cu.m.	424	8-
	(7) Stone Lining with Mortar	3	L.S.		1,1
	Sub-Total of C-1	1			4,9.
2.	Labor (30% of C-1) Sub-Total of C				1,4 6,4
D.	Carpentry Work			- <b> </b>	
	Materials				
	(1) Nipa	60	pcs.	2	13
	(2) 1.5m x 1.8m, amakan	3	pes.	70	2
	(3) $2x 3 \times 10^{\circ}$ Coco Lumber	20	bd R	10	2
	(4) $2 \times 2 \times 10^{\circ}$ Coco Lumber	33.3	bd.ft	10	3.
	(5) 3" dia. Bamboo	3	lights	20	
	(6) Assorted CWN	4	kgs.	40	14
	(7) Rattan wire	20	pcs.		
	Sub-Total of C-1		•		1,1
2.	Labor (30% of C-1)				3
5.	Sub-Total of C				1,4
ε.	Plumbing				
1.	Materials				
	(1) Water Closet	1	set	4,500	4,5
	(2) Water line and sanitary fixtures		L.S.		1,5
	Sub-Total of E-1				6,0
2	Labor (30% of E-1)				1,8
	Sub-Total of E			┦	7,8
F.	Transportation Cost		L.S.		5
	(excluding indigenous materials)				<u> </u>
G.	Indirect Cost	1 I			
	Profit (10% of A - F)				1,8
	VAT (10% of Profit & Labor)			.	6
	Sub-Total of F	<u></u> ∤			2,5
	Total of Construction Cost				21,3
	(A+B+C+D+E+F+G)	<u> </u>	<u></u>	<u> </u>	21,3

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

Source: DOH standard price in1993

Cost adjusted to 1997 Price Level

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Table 10.2.13 Unit Cost of Pour	r <b>Flus</b> n With	Dônnie i u	1.40100	(Cost: Peso)
Description	Quantity	Unit	Unit Cost	Cost
Easthwork				
1. Materials				
(1) Gravel Fill	1	cu.m.	424	424
Sub-Total of A-I				424
2. Labor				
(1) Excavation	6	cu.m.	131	78
(2) Backfill	2	cu.m.	119	23
	1	cu.m.	155	15
(3) Gravel Fill Sub Total of A 2		CO.10.		1,17
Sub-Total of A-2 Sub-Total of A				1,60
Concrete Work				
1. Materials				
Slab on wood planks				
(1) 16 - 2" x 8" x 6' Coco Lumber	128	bd ft	8	1,02
(2) 10mm dia x 6.0m Rebar	3	pcs.	54	16
· · · · · · · · · · · · · · · · · · ·	0.5	kg.	54	2
(3) #16 Tie Wire	10	bags	128	1,28
(4) Cement	1.5	-	335	50
(5) Sand		cu.m.	424	84
(6) Gravel	2	CU.M.	424	1,1
(7) Stone Lining with Mortar		L.S.	-   -	
Sub-Total of B-1	1			4,95
2. Labor (25% of B-1)			1	1,24
Sub-Total of B			_ <b>}</b>	6,19
Carpentry Work		i		
1. Materials				•
(1) Nipa	60	pes	2	1
(2) 1.5m x 1.8m, amakan	3	pcs	70	2
(3) 2x 3 x 10' Coco Lumber	20	bdft	10	2
(4) 2 x 2 x 10' Coco Lumber	33.3	bdft	10	3
(5) 3" dia. Bamboo	3	lights	20	
(6) Assorted CWN	4	kgs.	40	1
(7) Rattan wire	20	pcs	1	
(8) Pale (medium)	1	pc.	190	1
	1	pc.	180	1
(9) 3" dia. PVC x 3m	2	pcs	15	
(10) 3" dia. PVC Elbow	2	· ·	50	
(11) PVC solvent		pint	200	2
(12) Ga. 31 x 8' plain Gi sht.	1	sht.	200	
Sub-Total of C-1				1,7
2. Labor (25% of C-1)				4
Sub-Total of C				2,1
). Plumbing	Į	1		
1. Material			603	6
(1) Toilet Bowl-Squat Type	<b>!</b> .	pe.	142	
(2) 75mm dia x 6.0m PVC Pipe		pc.	142	
Sub-Total of D-1				
2. Labor (25% of D-1)				
Sub-Total of D	<u> </u>	<u> </u>		
E. Transportation Cost		L.S.		
(excluding indigenous materials)		<b>_</b>		
F. Indirect Cost	1 .			
Profit (10% of A - D)		Í		j <u>1</u> ,
VAT (10% of Profit & Labor)				
Sub-Total of H	÷ .			1,
	-1	-1	1	12,
Total Construction Cost			Say	1 .

Table 10.2.13 Unit Cost of Pour Flush with Double Pit Latrine

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

	Description	Quantity	Unit	Unit Cost	(Cost: Pese Cost
	Earthwork				
	Materials				
	(1) Gravel Fill	0.5	cu.m.	424	21
	Sub-Total of A-1				21
2	Labor				
	(1) Excavation	3	co.m.	131	39
	(2) Backfill	1	cu.m.	119	11
	(3) Gravel Fill	0.5	cu.m.	155	
	Sub-Total of A-2	***			59
	Sub-Total of A				8
3.	Concrete Work	· · · · · ·			
1.	Materials				
	Slab on wood planks				
	(1) 8 - 2" x 8" x 6' Coco Lumber	64	bd.ft	8	5
	(2) 10mm dia x 6.0m Rebar	2	pcs.	54	10
	(3) #16 Tie Wire	0.5	kg.	54	
	(4) Cement	4	bags	128	5
	(5) Sand	0.5	cu.m	335	1
	(6) Gravel	0.5	cu.m	424	2
	(7) Stone Lining with Mortar		L.S.		1,0
	Sub-total of B-1				2,6
2.	Labor (25% of B-1)			1	6
	Sub-Total of B				3,2
Ċ.	Carpentry Work				<u>`</u>
	Materials				
	(1) Nipa	60	pcs	2	1
	(2) 1.5m x 1.8m, amakan	3	pcs	70	2
	(3) 2x 3 x 10' Coco Lumber	20	bđít	10	2
	(4) 2 x 2 x 10' Coco Lumber	33.3	bdft	10	3
	(5) 3" dia. Bamboo	3	lights	20	
	(6) Assorted CWN	4	kgs.	40	1
	(7) Rattan wire	20	pcs	1	
	(8) 3 x 3" hinges	2	pc.	30	1
	Sub-Total of C-1	_			1,1
2	Labor (25% of C-1)	1		1	2
	Sub-Total of C				1,4
D.	Plumbing		1		İ
	Material				1
	(1) 50mm dia. PVC Pipe	1	pc.	71	
	(2) Fly Screen		i.s.	1	
	Sub-Total of D-1				i
2.	Labor (25% of D-1)			Í	
-1	Sub-Total of D	)			1
£.	Transportation Cost	1	L.S.		1
	(excluding indigenous materials)				
F.	Indirect Cost				
	Profit (10% of A - E)				
	VAT (10% of Profit & Labor)		1	1	
	Sub-Total of F	7			8
	Total Construction Cost	1	t	1	6,0
	(A+B+C+D+E+F)			Say	
	L.S Lump Sum				

Table 10.2.14 Unit Construction Cost of Ventilated Improved Pit Latrine

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

	Table 10.2.15 Unit Const	ation Cost	VI I II Dati		(Cost: Peso)
	Description	Quantity	Unit	Unit Cost	Cost
λ. Ε	arthwork				
1. M	aterials				
(1	) Gravel Fill	0.3	çu.m.	424	127
	Sub-Total of A-1			[	127
2. La	abor				
(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				38(
	Sub-Total of A				507
B. C	oncrete Work				
1. M	laterials				
S	ab on wood planks				
(1	) 8 - 2" x 8" x 6' Coco Lumber	38	bd.ft	8	30-
(2	2) 10mm dia x 6.0m Rebar	1	pcs.	54	54
(3	3) #16 Tie Wire	0.5	kg.	54	27
(4	I) Cement	3	bags	128	384
(5	5) Sand	0.3	cu.m	335	10
(6	5) Gravel	0.3	cu.m	424	12
· ()	<ol><li>Stone Lining with Mortar</li></ol>		L.S.		650
	Sub-total of B-1				1,643
2. I.	abor (25% of B-1)				412
	Sub-Total of B			ļ	2,055
с. с	Carpentry Work				
	faterials				
	1) Nipa	30	pcs.	2	6
•	2) 1.0m x 1.8m, amakan	3	pcs.	70	21
, , , , , , , , , , , , , , , , , , ,	3) 2x 3 x 10' Coco Lumber	14	bd.ft	10	
, , , , , , , , , , , , , , , , , , ,	4) 2 x 2 x 10' Coco Lumber	24	bd.ft	10	24
	5) 3" dia. Bamboo	3	lights	20	
	6) Assorted CWN	3	kgs.	40	12
	7) Rattan wire	14	pcs.	1	1
(	8) 3 x 3" hinges	2	pcs.	30	1
	Sub-Total of C-1				90
2.1	.abor (25% of C-1)				22
ļ	Sub-Total of C				1,13
	Fransportation Cost		L.S.	Į	15
	excluding indigenous materials)		<u> </u>		<b> </b>
	ndirect Cost	ļ			
	Profit (10% of Λ -D)				37
`	VAT (10% of Profit & Labor)				15
<b> </b>	Sub-Total of F		· · · · · · · ·		52
	Total Construction Cost	1			4,37
	(A+B+C+D+E)	1	L	Say	4,40

Table 10.2.15 Unit Construction Cost of Pit Latrine

Note: L.S. - Lump Sum

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

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization and Demobilization		L.S.		5,50
B. Earthwork				
1. Materials				
(1) Gravel Fill	3.00	cu.m	424	1,27
Sub-Total of B-1	i i			1,27
2. Labor				
(1) Excavation	15.88	çu.m	131	2,03
(2) Backfill	4.97	cu.m	119	5
(3) Gravel Fill	3.00	cu.m	155	40
Sub-Total of B-2	-			3,1
Sub-Total of B	į			4,4
C. Concrete Work				
1. Materials				
(1) Cement	61.00	bags	128	7,8
(2) Sand	4.00	ເບັກ	335	1,3
(3) Gravel	8.00	cu.m	424	3,3
(4) Rebars: 12mm dia x 6m	38.00	pcs.	74	2,8
10mm dia x 6m	57.00	pcs.	54	3,0
(5) #16 Tie Wire	8.00	kgs.	54	4
(6) Formworks:			1	
1/4" Plywood	6.00	pcs.	446	2,6
2"x2"x10" (Coco Lumber)	200.00	bd.ft.	8	1,6
Sub-Total of C-1		0.0.00		23,1
2. Labor (30% of C-1)		L.S.		6,9
2. Labor (507001C-1) Sub-Total of C			1	30,0
D. Masonry Work				
I. Materials				
(1) 6" CHB	800.00	pes.	6	4,8
(2) 4" CHB	260.00	pcs.	5	1,
(3) Cement	97.00	-	128	12,4
(5) Sand	10.00	-	335	3,3
(6) Rebars: 12mm dia x 6m	30.00		74	
(o) Rebars: 12mm dia x om 10mm dia x 6m	11.00	pes.	54	1
	4.00	-	54	
(7) #16 Tie Wire (8) Scaffolding:	4.00	ng3.		i i
$2^*x4^*x8^* = 10 \text{ pcs.}$ (Coco Lumber)	53.33	bf.	8	
2 x4 x8 = 10 pcs. (Coco Lunioer) Sub-Total of D-1	1	0	ľ	25,
ų lietuvių substantinių s		L.S.		7,
2. Labor (30% of D-1) Sub-Total of D		12.01		32,
	<b></b>			
E. Roofing Work 1. Materials		ļ	1	
	20.00	0.00	290	5,
(1) $GA #26 Corr. GI (1 = 10^{\circ})$	3.00	-	280	
(2) GA #24 Pln. GI Flashing	9.00		280	
(3) GA #24 Pln. GI Gutter (Pre-Fab)		1 .	46	
(4) Umbrella Nails 2 - 1/2"	12.00		33	
(5) Rafter - $2^n x 5^n x 18' = 5 \text{ pcs.}$	75.00		1	1
(6) Purlins $-2^{*}x2^{*}x12^{*} = 18 \text{ pcs.}$	72.00		33	
(7) WD Cleats - $2^{n}x2^{n}x10^{n} = 6 \text{ pcs.}$	20.00	bf.	33	

## Table 10.2.16 Unit Cost of School Tollet

Description	Quantity	Unit	Unit Cost	Cost
(8) Nailers - 2"x2"x1012' = 30 pcs.	120.00	bf.	33	3,96
$-2^{*}x2^{*}x10^{*}=36$ pcs.	120.00	bf.	33	3,90
(9) Fascia Board				
$1^{n}x   2^{n}x   2^{n} = 4 \text{ pcs.}$	48.00	bf.	33	1,58
1"x12"x18' = 2 pcs.	36.00	bf.	33	1,18
(10) Wood Plate				
$2^{*}x4^{*}x20^{*}=2$ pcs.	26.66	bf.	33	8
(11) 1/4" Thk. Mar. Plywood 4'x8'	14.00	pes.	30	4:
(12) C.W.N. Assorted	15.00	kgs.	30	4
(13) 3" dia x 3m Downspout (PVC)	3.00	pes.	85	2
(14) 3" dia Elbow (PVC)	2.00	pcs.	15	
(15) 3"dia Coupling (PVC)	1.00	pes.	14	
(16) Ceiling Vent				
1''x I''x S' = 4  pcs.	2.67	Ъf.	27	
(17) Screen (1/8"x1/S")	1.00	yJ.	85	
Sub-Total of E-1				28,1
2. Labor (30% of E-1)		L.S.		8,4
Sub-Total of E				36,5
Carpentry Work				
1. Materials	1			
(1) D - 1 Hollow Core Tanguile				
Flush Type Door w/ Louver (.80x2.20)	2.00	sets	1,514	3,0
(2) D - 2 Hollow Core Tanguile				
Flush Type Door (.60x2.10)	1.00	sets	1,136	1,1
(3) D - 3 Louver Door (.60x1.40)	5.00	sets	947	4,7
(4) Door Jambs (Apitong)				,
2"x6"x14" = 1 pc.	14.00	Ъf.	33	4
$2^{\circ}x6^{\circ}x10^{\circ} = 2 \text{ pcs.}$	20.00	bf.	33	6
$2^{n}x6^{n}x10^{n} = 1 \text{ pc.}$	18.00	bf.	33	Š
$2^{n}x4^{n}x12^{n} = 5$ pcs.	40.00	bf.	33	1,3
(7) Wooden Jalousie Window	10.00	<i>v</i> 1.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	* <u>* *</u>
With 5 Blades (.40x.50)	14.00	set	316	4,4
(8) Window Jambs (Apitong)	34.00	501	5.0	-,-
$2^{*}x6^{*}x16^{*} = 5 \text{ pcs.}$	80.00	bf.	33	2,6
$2^{*}x6^{*}x14^{*} = 1 \text{ pc.}$	14.00	6f.	33	2,0
$2^{\circ}x6^{\circ}x10^{\circ} = 1 \text{ pc.}$	10.00	bf.	33	3
(9) Cabinet	10.00	01.	,,,	
$3/4^{\circ}x4'x8' = 1 \text{ pc. (plyboard)}$	1.00	-	821	8
Sub-Total of P-1	1.00	pc.	023	20,6
		10		
2. Labor (30% of F-1)		L.S.		6,1
Sub-Total of F			······	26,7
. Tile Work				
1. Moterials				
(1) 4 - 1/4"x4 - 1/4" Glazed Tiles	1,950.00	pcs.	4	7,8
(2) 0.10x0.20m Floor Tiles	900.00	pcs.	1 7	6,
(3) Cement	4.00	bags	128	
(4) White Coment	1.00	bag	693	
Sub-Total of G-1				15,

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## Table 10.2.16 Unit Cost of School Toilet

Description	Quantity	Unit	Unit Cost	Cost
•		• • • • • • • • • • • • • • • • • • • •	<u>1</u>	
2. Labor (30% of G-1)		L.S.		4,59
Sub-Total of G				19,8
. Plumbing Work				
1. Materials				
(1) Toilet Bowl - Squat Type	3.00	sets	657	1,9
(2) Toilet Bowl-Sit Type	2.00	sets	657	1,3
(3) Lavatory	2.00	sets	3,000	6,0
(4) 4" dia x 3m PVC San. Pipe	4.00	pcs.	164	6
(5) 3" dia x 3m PVC San. Pipe	7.00	pcs.	92	6
(6) 1 1/2" dia x 3m PVC San. Pipe	4.00	pcs.	58	2
(7) 2" dia. x 3m PVC San. Pipe	2.00	pcs.	55	1
(8) 6" x 4" Floor Drain	5.00	pcs.	92	4
(9) 2" dia. Elbow PVC	4.00	pcs.	7	
(10) 4" dia WYB PVC	2.00	pes.	27	
(11) 4" dia. x 3" dia. WYB PVC	12.00	pcs.	33	3
(12) 4" dia. x 2" dia. TEE PVC	2.00	pcs.	34	
(13) 4" dia. TEE PVC	3.00	pcs.	34	1
(14) 1 1/2" dia. WYB PVC	1.00	pcs.	13	
(15) 4" dia. Clean Out PVC	3.00	pes.	38	1
(16) 3" dia. Clean Out PVC	1.00	pcs.	30	
(17) Faucet	3.00	pcs.	55	1
(18) 3" dia. x 2" dia. WYB PVC	2.00	pcs.	27	
(19) 1 1/2" dia Elbow PVC	6.00	pes.	14	
(20) PVC Cement	1.00	can	133	1
(21) 2" dia. PVC San. Pipe x 3m	2.00	pcs.	87	1
(22) 4" dia. x 2" dia. TEE	2.00	pcs.	23	
(23) Check Valve 1 1/2"	1.00	pes.	200	2
(24) 4" P-Trap	5.00	pes.	72	3
Sub-Total of H-1	1			13,4
2. Labor (30% of H-1)		L.S.		4,0
Sub-Total of H			ļ	17,4
Painting				
1. Materials		1	ļ	
(1) Acrylic, Semi Gloss	8.00	gals.	276	2,2
(2) Concrete Sealer	4.00	gals.	218	8
(3) Acri Color: Wood	4.00	gals.	84	3
(4) Enamel, QDE	6.00	gals.	282	1,6
(5) Wood Putty	1.00	gals.	320	
(6) Paint Thinner	1.00		63	
(7) Tinting Color	4.00	pint	42	
(8) Sand Paper (Assorted)	15.00	pcs.	7	
(9) Misecellaneous		L.S.		1,0
(10) Roof Paint (green, ready-mix)	2.00	gals.	298	
Sub-Total of I-1				7,4
<ol> <li>Labor (30% of I-1)</li> </ol>	1	L.S.	1	2,2

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## Table 10.2.16 Unit Cost of School Toilet

heet-4	16 Unit Cos				(Cost: Pese
Description		Quantity	Unit	Unit Cost	Cost
. Electrical Work					
I. Materials					
<ol> <li>40 Watts Flourescent Lamp</li> </ol>		2.00	sets	270	5/
(2) Elect. Wire TW #12		24.00	М	7	10
(3) Elect. Conduit - 1/2" dia x 10"		4.00	pcs.	82	3
(4) Entrance Cap. 1/2" dia		1.00	pc.	30	
(5) Switch Outlet, Flush Type		2.00	pcs.	41	1
(6) Utility Box 2"x3"	l l	2.00	pcs.	7	
(7) Porcelain Receptacle 2" dia		2.00	pes.	7	
(8) Safety Switch 60A, 250V		1.00	set	519	5
(9) Electrical Tape		1.00	roll	23	
	Total of J-1				1,7
<ol><li>Labor (30% of J-1)</li></ol>			L.S.		5
	-Total of J			] [	2,2
. Hardware					
1. Materials					
(1) 3"x3" Butt Hinges (Loose Pin)		10.00	pcs.	15	1
(2) 4"x4" Butt Hinges (Loose Pin)		12.00	pcs.	19	2
(3) Door Lockset (Schlage US)		3.00	pes.	481	1,4
(4) Barrel Bolt (4")		5.00	pçs.	42	2
(5) Cabinet Pull (4")	1	5.00	pcs.	7	
(6) Water Storage Cover			•		
Checkered Plate 1/4" thick					
1.44x0.645 w/ L bar & flat bar		1.00	set	1,043	1,0
0.645x0.633 w/ L bar & flat bar	1	2.00	set	588	3,1
(7) Padlock		1.00	pcs.	401	. 4
• •	Total of K-1				4,6
2. Labor (30% of K-1)			L.S.		1,4
	-Total of K		2.0.		6,0
I. Materials					
(I) 4* CHB	4	180.00	pcs.	s	ç
(1) 4 CHD (2) Cement		18.00	bags	128	2,3
(3) Sand		1.50	cu.m	335	_,
(4) Gravel		1.00		424	
(5) Rebars: 10mm dia x 6m		29.00		74	2,1
(6) #16 Tire Wire		2.00	•	54	د,
(7) Formworks: Coco Lumber		2.00	~ <u>5</u> >.	,4	
$2^{*}x3^{*}x10^{\circ} = 12 \text{ pcs.}$	1	69.00	ծք	8	
$2 \times 3 \times 10 - 12 \text{ pcs.}$ 1/4" plywood ord. 4'x8'		2.00		446	
		2.00		31	i `
C.W.N. (Assorted)	·Total of L-1	2.00	kgs.		7,
	-10/3101 L-1		10	1	2,
2. Labor (30% of L-1)	. Tradatore		L.S.		, <u>,</u> 10,
Sul	b-Total of L			_I	<u>۱۷,</u>

## Table 10.2.16 Unit Cost of School Toilet

Table 10.2.16 Unit C Sheet-5	ost of School	Toilet		(Caste Day
Description	Quantity	Unit	Unit Cost	<u>(Cost: Pese</u> 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	1.70
(2) 63mm x 3m PVC Pipe with plug	1.00	pes.	452	1,79
(3) 63mm PVC Socket	1.00	pc.	99	45 9
(4) 63mm x 3m PVC Screen	1.00	pc.	1,433	1,43
Sub-Total of M-a-1		F. 4.		3,77
2. Labor, Fuel, Lubricant and others				2.11
Well Drilling for 18m depth at				
150mm borehole	18.00	m	573	10,31
Sub-Total of M-a	1			14,09
b. Well Development		L.S.		55
c. Gravel Packing, Installation of Hand-				
Pump and Construction of Platform				
1. Materials				
(1) 50mm Jetmatic Handpump	1.00	set	2,623	2,62
(2) 50mm x 1m Gl Pipe (Sch. 40)	1.00	pc.	82	8
(3) #10 Sieved Gravel	0.10	<b>c</b> ម.m	959	9
(4) Coarse Sand	0.07	cu.m	474	3
(5) Cement for Sanitary Seal	1.00	bag	128	12
(6) Pump Base and Platform				
I) Cement	4.00	bags	128	51
2) Gravel	1.00	cu.m	424	42
3) Sand	1.00	cu.m	335	33
4) Plywood (1,200mm x 2,400mm x 6mm)	1.00	pc.	446	44
5) Form Lumber (50mmx75mmx1,800mm)	1.00	pc.	49	4
6) Nail	1.00	kg.	31	3
Sub-Total of M-c-1				4,75
2. Labor (40% of M-c-1)	i i	L.S.		1,90
Sub-Total of M-c			l	6,66
Sub-Total of M				21,30
S. Freight Cost (11% of Materials for A - M		L.S.	[	16,08
excluding sand and gravel)				
			Ì	
Profit (10% of A - N) VAT (10% of Brock & Labor)				23,91
VAT (10% of Profit & Labor)				7,32.
Sub-Total of Construction Cost				31,23
(A to O)	1			270,340
. Estimated Government Expenses		<del></del>		
1. Preliminary & Detailed Engineering Cost		L.S.		0.000
2. Construction Supervision		L.S. L.S.		2,200
Sub-Total of P		L.3.		1,60(
GRAND TOTAL		·		3,800
			Say	274,14( 274,10(

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

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Sheet-1		1		T	(Cost: Peso
Descriptio	>n	Quantity	Unit	Unit Cost	Cost
A. Mobilization and Dem	obilization		L.S.		6,80
(2.4% of B - M)					
3. Earthwork					
I. Materials					
(1) Gravel Fill		3.00	cu m	424	1,27
	Sub-Total of B-1			} [	1,27
2. Labor					
(1) Excavation		15.88	cu m	131	2,08
(2) Backfill		4.97	ເພາກ	119	59
(3) Gravel Fill		3.00	ເບເກ	155	46
	Sub-Total of B-2				3,13
	Sub-Total of B				4,40
C. Concrete Work					
1. Materials					
(1) Cement		61.00	bags	128	7,80
(2) Sand		4.00	លភា	335	1,34
(3) Gravel		8.00	cu m	424	3,39
(4) Rebars: 12mm dia	х бтэ	38.00	pes.	74	2,81
10mm dia x 6m		57.00	pcs.	52	2,96
(5) #16 Tie Wite		8.00	kgs.	52	41
(6) Formworks:					
1/4" Plywood		6.00	pes.	446	2,67
2"x2"x10" (Coco L	umber)	200.00	bd.ft.	8	1,60
	Sub-Total of C-1				23,00
<ol><li>Labor (30% of C-1)</li></ol>					6,90
	Sub-Total of C				29,91
D. Masonry Work					
1. Materials					
(1) 6" CHB		800.00	pcs.	6	4,80
(2) 4" CHB		260.00	pcs.	5	1,30
(3) Cement		97.00	bags	128	12,41
(5) Sand		10.00	cu.m	335	3,35
(6) Rebars: 12mm dia	х бт	30.00	pcs.	74	2,22
10mm dia x 6m		11.00	pcs.	54	55
(7) #16 Tie Wire		4.00	kgs.	54	2
(8) Scaffolding:					
$2^{*}x4^{*}x8^{*} = 10 \text{ pcs}.$	· ·	53.33	ծք.	8	
2 L-b- (2001 - CD b)	Sub-Total of D-1				25,32
2. Labor (30% of D-1)	Sub 'Estat of D				7,59
E. Roofing Work	Sub-Total of E	' <del> </del>			32,92
1. Materials			Ì	5 A.	
(1) GA #26 Corr. GI (	1 - 163	20.00		300	
(1) GA #26 Corr. GI ( (2) GA #24 Pin. GI FI		20.00	1 -	290	· · ·
		3.00	1 -	280	
(3) GA #24 Pin. GI G		9.00		280	
(4) Umbrella Nails 2 -		12.00	• •	46	
(5) Rafter - 2"x5"x18"	= o pes.	75.00	bf.	33	2,4

	Description	Quantity	Unit	Unit Cost	Cost
(	6) Purlins - 2"x2"x12" = 18 pcs.	72.00	bf.	33	2,37
	7) WD Cleats - 2"x2"x10" = 6 pcs.	20.00	bf.	33	66
	8) Nailers - 2"x2"x1012' = 30 pcs.	120.00	bf.	33	3,96
``	$-2^{*}x2^{*}x10^{*} = 36 \text{ pcs.}$	120.00	bf.	33	3,96
C	9) Fascia Board	120.00	01.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	5,70
Ì	$1^{*}x12^{*}x12^{*}=4$ pcs.	48.00	bf.	33	1,58
	1"x12"x18' = 2  pcs.	36.00	Ы. Ы.	33	1,18
6	10) Wood Plate	50.00	01.	, , , , , , , , , , , , , , , , , , , ,	1,10
``	2''x4''x20' = 2  pcs.	26.66	bf.	33	\$8
(	11) 1/4" Thk. Mar. Plywood 4'x8'	14.00		479	6,70
	12) C.W.N. Assorted	15.00	pcs.	1 1	•
	13) 3" dia x 3m Downspout (PVC)		kgs.	30	45
		3.00	pes.	85	25
	14) 3" dia Elbow (PVC) 15) 2#Via Counting (DVC)	2.00	pcs.	15	-
	15) 3"dia Coupling (PVC)	1.00	pes.	14	1
	16) Ceiling Vent, 1"x1"x8', 4 pes.	2.67	ы.	27	1
. (	17) Screen (1/S"x1/8")	1.00	yd.	85	8
	Sub-Total of E-1				34,4(
2. L	abor (30% of E-1)			1	10,32
	Sub-Total of E				44,72
	arpentry Work				
	faterials				
(	1) D - I Hollow Core Tanguile			1	
	Flush Type Door w/ Louver (.80x2.20)	2.00	sets	1,514	3,02
0	2) D - 2 Hollow Core Tanguile				
	Flush Type Door (.60x2.10)	1.00	sets	1,136	1,13
	3) D - 3 Louver Door (.60x1.40)	5.00	seis	947	4,73
(*	<ol> <li>Door Jambs (Apitong)</li> </ol>			1	
	$2^{n}x6^{n}x14^{n} = 1$ pc.	14.00	bf.	33	46
	$2^{*}x6^{*}x10^{*} = 2 \text{ pcs.}$	20.00	bf.	33	60
	$2^{*}x6^{*}x10^{*} = 1 \text{ pc.}$	18.00	bf.	33	59
I.	$2^{*}x4^{*}x12^{*}=5$ pcs.	40.00	bf.	33	1,32
(	7) Wooden Jalousie Window				
	With 5 Blades (.40x.50)	14.00	set		4,17
(1	8) Window Jambs (Apitong)				
	$2^{p}x6''x16'' = 5 pcs.$	\$0.00	bf.	33	2,64
	$2^{n}x6^{n}x14^{n} = 1 \text{ pc.}$	14.00	bf.	33	46
	$2^{*}x6^{*}x10^{*} = 1 \text{ pc}$	10.00	bf.	33	33
6	9) Cabinet			1	
	$3/4^{*}x4^{*}x8^{*} = 1 \text{ pc. (plyboard)}$	1.00	pc.	821	82
	Sub-Total of F-1		<b>P</b>		20,36
2.1	abor (30% of F-1)				6,10
	Sub-Total of F			1 -	26,46
G. 1	Tile Work		·	<u>}</u> ∔	20,41
	faterials				
	1) 4 - 1/4"x4 - 1/4" Glazed Tiles	1,950	nce		7,80
	2) 0.10x0.20m Floor Tiles	900.00	pcs.	4	
	-	900.00	pcs.	7	6,30
	3) Cement	4.00	bags	128	51

Table 10.2.17 Unit Cost of Public Toilet (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				20,58			
2. Labor (30% of G-1)				6,17			
Sub-Total of G				26,76			
. Plumbing Work				· · · · · · · · · · · · · · · · · · ·			
1. Materials							
(1) Urinal	3.00	sets	1,171	3,51			
(2) Toilet Bowl - Squat Type	6.00	sets	657	3,94			
(3) 4" dia x 3m PVC San. Pipe	6.00	pcs.	164	98			
(4) 3" dia x 3m PVC San. Pipe	4.00	pcs.	92	36			
(5) 2" dia x 3m PVC San. Pipe	3.00	pes.	55	16			
(6) 3/4" dia x 6m G.I. Pipe Sch. 40	5.00	pes.	269	1,34			
(7) 1/2" dia x 6m G.I. Pipe Sch. 40	1.00	pes.	197	19			
(8) 4"x4" WYE PVC	1.00	pcs.	27	2			
(9) 3 <sup>a</sup> dia Elbow PVC	10.00	pcs.	33	33			
(10) 3" dia 45 degrees Bend PVC	2.00	pcs.	27	5			
(11) 2" dia Elbow PVC	6.00	pes.	7	4			
(12) 2" dia 45 degrees Bend PVC	2.00	pcs.	22	4			
(13) 1/2" dia Elbow G.I.	5.00	pcs.	11	5			
(14) 4" dia 3" dia WYE PVC	8.00	pes.	44	35			
(15) 3/4" dia TEE G.I.	7.00	pcs.	44	30			
(16) 1/2" dia TEE G.I.	5.00	pcs.	22	11			
(17) 4" dia x 2" dia TEE PVC	6.00	pcs.	44	26			
(18) 4" dia Clean Out PVC	3.00	pes.	38	11			
(19) 2" dia Clean Out PVC	1.00	pes.	27	2			
(20) Faucet	10.00	•	55	55			
(21) 3" dia x 2" dia Elbow Reducer PVC	1.00	•	30	3			
(22) 3" dia x 2" dia WYE PVC	3.00	•	27	8			
(22) 5 dia x 2 dia W 17.1 VC (23) 2" dia x 2" dia WYE PVC	3.00	•	16	4			
(24) PVC Cement	1.00	e · ·	133				
(25) 4" dia x 2" dia WYE PVC	2.00		44	13			
· ·	1.00		133	13			
(26) Gate Valve 3/4" dia (27) Gate Valve 1/2" dia	1.00		105				
	1.00	-					
(28) Water Meter 3/4" dia (20) 2/4" // and (2"/dia 70) and participation (2.1)			1,390	-			
(29) 3/4"dia x1/2"dia Elbow Reducer G.J. Sub-Total of H-1	1.00	pcs.	15	1 14,81			
2. Labor (30% of H-1)				4,44			
Sub-Total of H		·		19,25			
Painting							
1. Materials							
(1) Acrylic, Semi Gloss	8.00		276	1 .			
(2) Concrete Sealer	4.00	gals.	218	87			
(3) Acri Color: Wood	4.00	gals.	84	33			
(4) Enamel, QDE	6.00	gals.	282	1,69			
(5) Wood Putty	1.00	-	320				
(6) Paint Thinner	1.00		63				

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Table 10.2.17 Unit Co Sheet-4	st of Publ	ic Toilet		(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 1-1)				2,228
Sub-Total of I			<u> </u>	9,654
. Electrical Work				
1. Materials				
(1) 40 Watts Flourescent Lamp	2.00	sets	270	540
(2) Elect. Wire TW #12	24.00	М	7	168
(3) Elect. Conduit - 1/2" dia x 10"	4.00	pes.	82	328
(4) Entrance Cap. 1/2 <sup>n</sup> 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	pes.	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				
Checkerod 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			í I	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

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Sheet-5				(Cost: Peso)
Description	Quantity	Unit	Unit Cost	Cost
(7) Formworks: Coco Lumber				
$2^{*}x3^{*}x10^{\circ} = 12 \text{ pcs.}$	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		5		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				12
i) Excavation	14.70	<b>៥</b> ម.ញ	131	1,926
2) Backfill	13.08	ល.៣ ល.៣	119	1,557
3) Gravel Fill	1.00	cu.m	155	155
Sub-Total of M-1 (2)	1 1	<b>LU</b> .311		3,637
Sub-Total of M-1 (2) Sub-Total of M-1				4,061
2. Materials				4,001
	62.00	hann	128	7.020
(1) Cement	62.00	bags		7,930
(2) Sand	4.50	cu.m	335	1,508
(3) Gravel	8.00		424	3,392
(4) Rebars: 12mm dia x 6m	160.00	•	54	8,640
(5) #16 Tie Wire	4.00	kgs.	54	216
(6) Formworks:				
1/4" plywood	12.00	pes.	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	2			43,222
<ol><li>Labor (30% of M-2)</li></ol>	1			12,96
Sub-Total of M				60,250
N. Freight Cost (11% of Materials for A - M				20,84
excluding sand and gravel)				
O. Indirect Cost				
Profit (10% of A - M)	1			30,04
VAT (10% of Profit & Labor)				9,78
Sub-Total of C		1	I	39,83
Total of Construction Cost	1		1	340,32
(A to O)				
P. Estimated Government Expenses	1	l	1	
1. Preliminary & Detailed Engineering Cost	1	L.S.		2,20
2. Construction Supervision	1	L.S.		1,60
Sub-Total of I	>			3,80
GRAND TOTAL	+		- <u> </u>	344,12
Samp IVING			Say	

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

#### 10.2.2 Unit Cost of Equipment

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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 \$250 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 \$250 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 1 facility shall be provided to respective municipality.

Type: Ammonia testing kit

Unit cost: Peso 15,300 per unit

## 10.2.2 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.

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Item	Unit	Unit Cost (Pesos)	Qty.	Amount (Pesos)
1.Building				
New Building	m²	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	l	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.		<u>.</u>	
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 10.2.18 Cost for New Laboratory

# 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

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## 10.3 Cost of required Facilities and Equipment

# 10.3.1 Cost of Required Facilities

										Unit: P-L(	000 Pesos
	Urban					Water Su	viga				
Muntateality	Water			<u> </u>	iew Systen				Levell		Grand
Municipality	Supply	Level 11	<del></del> .	Deep Well	1.e	Shallow	Spring	Subtotal	Rehabili-	Total	Total
	Level III	Ì I	30 m	50 m	70 m	Well	Dev.	Santatat	1ation		
Baganga Nanaybanay	18,249		~			1,766	7,058	8,824		8,824	27,073
Boston	5,045	2,119				161	588	749		2,868	7,913
Caraga	6,261			8,703		225	6,470	35,398	169	15,567	21,828
Cateel	9,441	5,202				161	588	749		5,951	15,392
Governor Generoso	5,953	8,984								8,984	14,937
Lupon		3,814								3,814	3,814
Manay	15,367					3,531	13,823	17,354		17,354	33,721
Mati (Capital)	7,893	5,588			511	289	1,471	2,271	. 8	7,967	15,860
San Isidro	6,400	5,896						-		5,896	12,296
Tanagona	9,491		544			1,059	4,706	6,309	15	6,324	15,815
Provincial Total	85,100	31,703	\$44	8,703	531	7,192	34,704	51,654	192	83,549	168,649

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

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

	<u></u>								Unit:	P 1,000 Pesos	
	Urban				Rural Wate	er Supply	-			1	
	Water			New S	Levell						
Municipality	1			Lev	el 1			Rehabili	Total	Grand Total	
	Supply	]	Deep Well		Shallow	Spring	6.1		LOISI		
	Level III	30 m	50 m	70 m	Well	Dev.	Subtotal	-tation			
Baganga	30,112	1			3,435	7,058	10,493		10,493	40,605	
Banaybanay	44,006		4,061		2,022		6,083	79	6,162	50,168	
Boston	7,138				1,059	588	1,647		1,647	8,785	
Caraga	11,345		17,599		514	6,470	24,583	342	24,925	36,270	
Cateel	18,573				2,761	588	3,349		3,349	21,922	
Governor Generoso	26,752	17,013					17,013	470	17,483	44,235	
Lupon	61,317				3,082		3,082		3,082	64,399	
Manay	16,367				3,627	13,823	17,450		: 17,450	33,817	
Matí (Capital)	100,812			7,497	5,232	: 1,471	14,110	109	14,219	115,031	
San Isidro	23,254	1,225		- · · · ·	2,440		3,665	34	3,699	26,953	
Farragona	14,276	953		-	1,894	4,706	7,553	26	7,579	21,855	
Provincial Total	353,952	19,191	21,660	7,407	26,066	34,704	109,028	1,060	110,088	454,040	

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	Urban Sanitation											Rural Sanitation							
ŀ		Hoas	ehold Te				·····			··	Housebold Tolicts						[		
Municipality		Pour Flus	VIP/ Dry	Sub- total of Cons- truction Cast	Sud- total of Public Invest- ment Cost	Public Schoot Toilets	t Public	Tois1 blic Contrue dets tion Cost	Fotal Public Invest -ment Cost	Flush	Pour Flush	VIP/ Dry	Sub- totst of Cons truction Cost	Invest-	School	sel truction	Total Public Invest- ment Cost		
Baganga	13,419	<u> </u>		13,419		3,131	1,032	17,582	4 163			4,871	4,871		6,217				
Banaybanay		1,131		1,131	13	2,314	344	3,789	2,671		5,083	4,039	9,122	58	4,902	14,024	4,960		
Boston						710	1,032	1,742	1,742		3,666	1,313	4,979	42	2,415	7,394	2,457		
Caraga	4,196			4,196		1,365	1,032	6,593	2,397			4,792	4,792		6,889	11,681	6,889		
Cateel				1		1,393	1,032	2,425	2,425		4,329	3,868	8,197	S	5,441	13,638	5,491		
Governor Generaso	9,968		·	9,968		2,340	688	12,996	3,028		\$,161	5,749	10,910	59	7,813	18,723	7,872		
Lupon	14,782	6,331		21,113	73	4,103	1,032	26,248	5,208			6,105	6,105	1	7,664	13,769	7,66		
Manay	4,963	52		5,015	1	1,693	344	7,052	2,038		6 760	5,149	11,908	71	5,992	17,900	6.07		
Mati (Capital)		24,71		24,713	284	10,198	1,032	35,943	11,514		34,567	9,247	43,814	395	12,280	56,094	12.671		
San Isidro	7,072			7,072		2,130	344	9,546	2,474		1	3,755	3,755		4,918	8,673	4,91		
Tanagona	4,643	676		5,319	8	877	1,032	7,248	1,937		1,521	2,878	4,399	1	3,112	2,511	3,12		
Provincial Total	59,043	32.90		91,946	379	30.274	8,944	1331,164	39,597		61,087	51,765	112,852	702	67,643	1\$0,495	68,34		

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

	Urban Sanitation													Rural S	anitation	۱ 		
		House	hold T	oilets				Total				Hous	ehold	l'oile ts			( I	
Municipality	Flush	Pour Elush	VIP/ Dry	Sud- total of Coas- truc-	Sub- total of Public Invest- Ment Cost		Public Toilets	Cons- truc-	Total Public Invest- ment Cost	Urban Sewer age	Flush	Pour Etush	V1P/ Dry	Sub- total of Costruc tion Cast	Sub- 10tal of Public Lavest- ment Cast	Public School Tolets	Totał Cons- truc tioa Cost	Total Public Invest ment Cost
Baganga	25,304	10,309		35,613	319	4,553	3,785	43,951	B,457	62,014		37,622		37,622	633	9,041	46,663	9,47
Banay banay	27,307	4,602	-	31,909	53	3,302	2,065	37,276	5,420	\$1,239		36,348		36,343	418	6,994	43,342	7,41
Boston	6,731			6,731		845	2,409	9,985	3,254			13,351		13,351	154	2,872	16,223	3,02
araga	9,564	3,718		13,282	43	1,979	2,065	17,326	4,087			37,999		37,999	437	9,981	47,980	10,41
Careel	15,251	715		15,966	8	1,967	2,409	20,342	4,384			31,022	1	31,122	356	7,679	38,801	8,03
Governor Generoso	17,189	6,734		23,923	77	3,436	2,065	29,424	5,578	43,377		44,018		44,018	506	11,476	55,494	11,98
Lupon	33,122	13,286		45,408	153	6,158	2,409	\$4,975	8,720	82,249		46,644	†	46,644	536	11,505	58,149	12.04
Manay	14,697	5,887		20,586	68	2,412	1,376	24,374	3,856			38,805		33,865	445	8,536	47,341	8,98
tati (Capital)	72,228	27,170		\$9,398	312	14,023	4,473	117,894	18,808	188,165		65,6)7		65,637	755	16,886	82,523	17,64
San tsidrə	16,742	6,578		23,320	76	3,114	2,065	28,499	5,255	42,216		30,992	<u> </u>	30,992	356	7,192	38,184	7,54
famagona	8,541	3,380		11,921	39	1,799	683	14,318	2,435			23,530		23,530	27)	5,935	29,455	6,20
Provincial Total	245,676	82.381	L	329.057	1 948	43,498	25 809	398,364	70.255	459,260	<u> </u>	406.068	<del>† – –</del>	406,668	4,670	98,097	504,165	102,7

#### 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.

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

Table 10.4.1 Breakdown of Community Development and Training Cost

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### 11. FINANCIAL ARRANGEMENTS

#### 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.

Sub-Sector	Component	1996	1997	1998	1999	2000	Total
	Level III System						
Urban Water	Feasibility Study and Detail Design	50	50	0	0	0	100
Supply	Construction & Supervision	0	20	30	30	20	100
	Institutional Development	30	20	20	20	10	100
· ·	Level I Facility						
	Detail Design	50	50	0	0	0	100
	Construction & Supervision	0	20	30	30	20	100
Rural Water	Institutional Development	30	30	20	10	10	100
Supply	Level II System			<u>-</u>		<b></b>	
	Detail Design	100	0	0	0	0	100
	Construction & Supervision	50	50	0	0	0	100
	Institutional Development	50	50	0	0	0	100
	Urban Household Toilet	12	22	22	22	22	100
	Rural Household Toilet	12	2.2	22	22	22	100
	Public School Toilet	12	22	22	22	22	100
Sanitation	Public Toilet	12	22	22	22	22	100
Contraction	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

Table 11.3.1 Percentages for Annual Investment

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.

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- 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 1):

- 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.

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	(% of Und	Evaluation Factor (% of Underserved and Unserved Populat	Evaluation Factor 1d Unserved Population or Hc	tion or Households)		Score by S	Score by Sub-Sector	<u>.</u>		Weighted	Weighted Score by Sub-Sector	th-Sector		Synthetic
Nunicipality	Urban Water Supply	Rural Water Supply	nitation	Rural Sanitation	Urban Water	Rural Water	Urban Rural Sanitation Sanitation	Rural	Urban Water Suonly	Rural Water Sundv	Urban Rural Sanitation Sanitation	Rural Sanitation	Total Weighted Score	wed Rankir
			VL.	×		00 <sup>-1</sup>	0.X0	0.20	0.0	0.00	0.16	20.0	0.80	ы
Baganga	V.V.	00	ς ×	24	0.56	0.20	0.60	0.20	0.17	0.06	0.12	0.04	0.39	11
Banavoanav	V.V.	07	3~	30	801	8	0.20	0.40	0.0	0.30	0.0k	0.08	0.72	s
Boston	A.A.	3	° ;;	) o	0.07	8	0.80	0.20	620	0.30	0,16	0.04	0.79	4
Caraga	A.V.	3 3	2	, ×¢	001	0.80	0.60	0.20	0:0	0.24	0.12	0.0	0.70	7
Calce	V.V	00	1,92	57	800	970	990	0.20	0.27	0.18	0.12	1000	0.61	¢
Covernor Ceneroso	Y.Y.	4	67 13	, v	2. 2. 0	0.20	8	0.20	0.17	80	0.20	0.04	0.47	10
Lupon	A.V.	A7	2/	00	38	100	0.80	0.20	0.30	0.30	0.16	z S	0.80	2
Manay	<u></u>	ţ	20	48	0.70	0.60	8	0.60	0.21	0.18	0.20	0.12	0.71	6
Mati (Lapital)			P <sup>2</sup>		0.87	0.60	0.80	0.20	0.26	0.18	0.16	0.04	0.64	×
ordered and				22	8	8	8	0.20	0.30	0.30	0.20	0.04	0.84	~
Provincial Total	¢ Z	53	, <del>4</del>	25										

Table 11.4.1 Comprehensive Investment Need Ranking of the Municipalities

(1) Scoring to Undetserved and Unserved Percentage.

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

 <b>94</b>	tange of	Unde	rserv	Range of Underserved and Unserved Fercentage	LISCI	ied Pe	rcentage		0.3	C.0	0.2	0.2	Allocated Weight
5	%~	ſ	4	% V		19	%≻	Π					
ž	<%< 60 31	8	•	<%< 40	\$	5	< % < 60	60					
4	×%×	ŝ	ភ	>%>	8	4]	< % <	50					
ž	<%< 40	4	=	>%>	2	31	< % < 4(	4					
	% < 30	è		% < 10	2		% < 30	30					

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							Rural	Rural Water Sunnly	Viv								Kura	Kural Sanitation	i0n				
	TO YON HIT	2	e Joz	r R Wa	No. of R. Water Supply	L	nber of l	Number of LEVEL, I Facilities	scilities	Prov.	Mun.	Sub-total	No.of	Rural 5	Rural Santation		Vumb	<b>Number of Toilets</b>	lets		Prov. M	Mun. Sul	Sub-total
Name of City or	Ugy. in	Class	Related	1 Allotme	Class Related Allotment of tRA	Å	Shallow	v Spring	Total	Avail	Avail	Avail.	Related	Allotmer	Altotment of IRA	Public	Bus	Public	- 	Total A	Avail. A	Avait.	Avait
Municipality	Rural Area		96	Prov	Muni.	Wells	Wells	Dev't	Related	IRA	IRA	JRA	Bgv.	Prov.	Muní.	Mkt.	Term. School	School		Related	I Y	IRA	ž
Baganga	4	<u>-</u>	Ĺ	1.8.1	1 2,303		55	24	0			0	0	1,290				X	×	0		-	0
Pertonante de la contractione de	f	-			0	0	0	0	0			0	12	1,029	3,846		-	0	0	0	_		5
Date Voltav	:			YO3	No.				°			0	ĥ	510	069			6	\$	\$	510	690	80
Boston			Ţ		ľ	Ŷ	Ĩ	- - -		ſ		¢	<u>`</u>	1 429	1.518			6	2	61	1,429	\$18	2.947
Laraga			1	4	Ŧ								ř	Г		ſ			=	=	1.139	117	2,450
Catect	0		Ţ		1				Ì				×				ľ	22	33	12	1,633	,X33	3 466
COVERIOF CERETOSO	×		ļ	1				Ĩ							Γ			5	5	0	┞		0
noon	×1	22		2	_	2 							2			Ī	ſ	2	5	¢	026.1	¥71	2
Manay	15	3rd	-	0 3,600	_	-	Ĭ	. 47	•			<b>&gt;</b>	2	_			Ť		*	*		-	
Man (Capital)	12	lst -		0 1,653	3 2.579	2		•••	•			•	2				T	ľ		- - -			111
San Isidro	4	- 41V	- 7	0 1 1,223	3 1,574	•	_	0	0			•	4					ţ.	-		2		
Таптахопа	×	40	ŀ	216,1 0	1,554	4	1 3.	F 16				•	×	649		-		-	¢	-			
Total	-721	į.		0 17,334	4 20,636	15	224	118	•	0	•	°	5	14.179	22,665	0	0	12	122	Z	014	×.707	
Total Available 14A Pund	bna		15,947	4																			1

Fotal Available JRA Fund

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

	Td Nos of		Nor of	Urban Sanitation	nitation		Number	Number of Tiolets	L.,	Prov.	Mun	Sub-total
Name of City of		Q ass	Related	Related Allotment of IKA	OLIXA	Public	Bus	Public	묊	Avail	Avail	Avail
winucipatity	Urban	•••	Bey.	Prov.	Muni.	Mkt.	Term.	School	Related.	IRA	IRA	IRA
Bavanya	4	lst	0	864	C37		-	¢	0			•
Banavbanav	5	PLE	0	554	2,071	0		0		554	2,071	2,625
Boston	-	4		361	489			3	2	361	489	851
Carava	· ·	Ĕ		407	528	-		4	2	464	825	1,025
Catech		ŧ	[-,	503	579	-	-	5	5	503 -	579	1.042
Governor Generoso	~	P.	-	62X	705	F	Ē	9	2	628	205	1,333
Lupon		둱	0	080'1	3,252		-	Ŷ	0			0
Manav	5	Jrd		423	293	0	-	•••		423	202	216
Matt (Capital)	Ŷ	1st	0	2,389	3,728			10	0			0
Nan Isidro	( ) ( )	4ª		513	999	0	_		1	513	660	1.174
Tarracona	<b>C</b> -4	녙	5	402	476	-	_	¢4	~	402	476	878
Total	. 26	٥	12	8,215	13,868	×	-	47	13	3,882	5,802	9,684
Toral Available IRA Fund	- pun		9.684									

Table 11.5.3 Total Available IR4 for GOP-Assisted Level I Water Supply and Sanitation Project

Name of City or	Water Supply	Saniration	ation	Total
Municipality	Rural	Urban	Rural	
Bacanca	•	0	0	0
Banavhanav	0	2,625	0	2,625
Boston	0	851	1,200	2,051
Canto	0	1,025	2,947	3,973
Cater	0	1,082	2,450	3.532
Covernor Generoso	0	1,333	3,466	4,800
Ludon	0	0	0	0
Manay	0	716	2,132	2,848
Mati (Capital)	0	0	0	0
San Isdro	0	1,174	2,333	3,507
Гатахова	0	878	1.4.8	2.296
Total	0	9,684	15,947	25,631

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A Const & Civil Works		lst year	2nd year	3rd year	4th year	5th year
1. Water Supply 2. Sanitation 3. Land Acquisition	26.314,650 0	000	0 5,262,930 0	7.894,395 0	7,894,395	0 5,262,930 0
B. Equip./Logistic Support	0	0	0	0	0	0
C. Consultancy Services 1. Hydrogeological Survey 2. D/D and Const. Sv.	0 2,894,612	0 1,157,845	0 578,922	0 578,922	0 289,461	0 289,461
D. Instiutional Devt. 1. Capacity Enhanc. Prog.	3,200,000	960,000	960,000	640,000	320,000	320,000
<ol> <li>Commu. Manag. Prog.</li> <li>Health &amp; Hygiene Educ.</li> </ol>	1,249,320 208,800	374,796 62,640	374,796	249,864	20,880	20,880
4. Water Quality Surveil.	81,200	24,360	24,360	16,240	8,120	8,120
5. NGO Assistance 6. Administrative Support	1,200,000	41,760 360,000	41,760 360,000	240,000	12,920	12,920
E. Physical Contingency (10% of sub-total A+B+C+D)	3,528,778	298,140	766,541	968,902	879,171	616,024
Total (A+B+C+D+E+F)	38,816,560	3,279,541	8,431,949	10.657.923	9.670.879	6,776,267
F. Others 1. Price Contingency 2. Value Added Tax (VAT)	14,819,420 1,156,537	1,252,066 97,714	3,219,157 251,229	4,068,991 317,552	3,692,157 288,143	2,587,049 201,898
Grand Total	54,792,517	4.629.320	11.902.336	15.044.467	13.651.179	9.565.215

Table 11.6.1 Investment Program of GOP-Assisted Level I Water Supply and Sanitation Project

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# **Q&M Cost for GOP Assisted Level I Water Supply Project**

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	Deep Well	Shallow Well	Spring Dev't
Nos. of Facilities to be Constructed	46	348	47
Nos. of HHs to be Served	695	5,255	710
Reconstruction Cost (Peso)			
Unit Cost	208,100	32,100	294,100
Ttl. Reconst. Cost	9,572,600	11,170,800	
Ttl. Reconst. Cost/year	478,630	1,117,080	······································
Cost per HH/year	689	213	
Rehabilitation Cost (Peso)			
Unit Cost	37,600		
Ttl. Rehab. Cost	1,729,600		
Ttl. Rehab. Cost/year	172,960	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Cost per HIVyear	249	·	·· <u>···································</u>
Recurrent Cost for O&M (Peso)			
Cost per HH/year	100	50	50
U&M Cost Total (Peso)	<u> </u>		
Cost per HH/year	1,038	263	50

### Table 11.6.2 O&M Cost for Level I Facilities

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	87	22	4
Proportion (Mean)	1.5%	0.4%	0.1%
Proportion (Median)	2.0%	0.5%	0.1%

Tabl	e 11.6.4 Family In	come	(Unit: Pesos)
Ann	ual "	Mor	thly '
Mean	Median	Mean	Median
47,556	34,857	5,947	4,360

Note: 1) 1994 NSO Family Income and Expenditure Survey

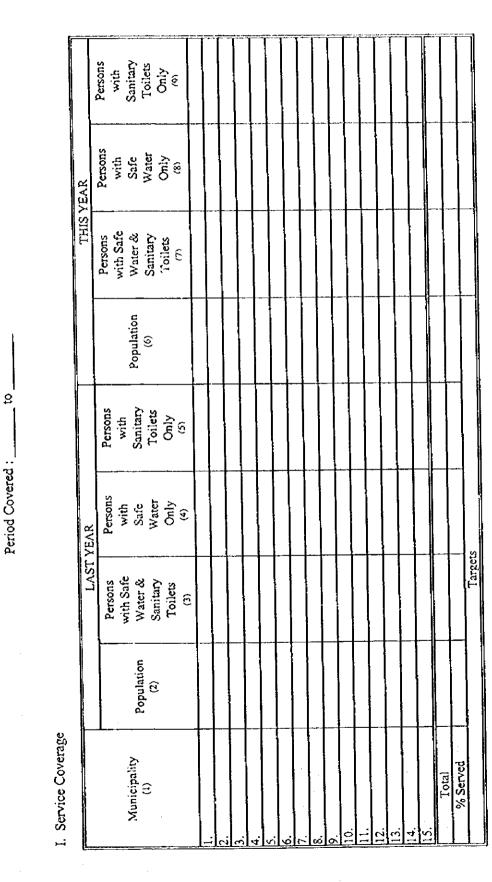
2) Estimated value in 2003 applying 7% inflation rate/year

### **O&M Cost for GOP Assisted Sanitation Project**

Tabl	e 11.6.5 O&M Cos	it for Rural Sanit	ation	(Unit: Pesos)
Nos. of Facilities	to be Constructed	Unit Consti	ruction Cost	Yearly O&M
Public Toilets	School Toilets	<b>Public Toilets</b>	School Toilets	Cost
0	91	344,100	274,100	1,247,155

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.

Tabl	e 11.6.6 O&M Cos	t for Urban Sanit	ation	(Unit: Pesos)
Nos. of Facilities	to be Constructed	Unit Const	ruction Cost	Yearly O&M
Public Toilets	School Toilets	<b>Public Toilets</b>	School Toilets	Cost
11	0	344,100	274,100	189,255



### 12.4 Evaluation of Plan Implementation and Updating the PW4SP

MONITORING FOR MEDIUM-TERM DEVELOPMENT PLAN

12.

Form P-1

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

Provincial Water & Sanitation Monitoring System

Province of

Annual Sector Performance Summary Report

an utility

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

1

II. Sources & Uses of Capital Development Funds

12 - 2

III. School Sanitation (Source, DECS)

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

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		

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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,

Form M-1

Annual Sector Performance Summary Report Period Covered : \_\_\_\_\_\_ to

I. Service Coverage

	Persons with Sanitary Toilets Only (9)														
EAR	Persons with Safe Water Only (8)														
THIS YEAR	Persons with Safe Water & Sanitary Toilets (7)														
	Population (6)						 								
	Persons with Sanitary Toilets Only (5)														
EAR	Persons with Safe Water Only (4)														
LAST YEAR	Persons with Safe Water & Sanitary Toilets (3)														
	Population (2)														
	Name of Barangay (1)	1.	2.	3.	4.	5.		 5 0	 	 12.	12.	15	 17	<u>r/:</u> Total	% Served

Cores.

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					Uses (	Uses of Funds			
Source of (1)	Budget (2)	Actual Disbursement (3)	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									
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II. Sources & Uses of Capital Development Funds.

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