# 10 COST ESTIMATES FOR FUTURE SECTOR DEVELOPMENT

## 10.2 Assumption for Cost Estimates

### 10.2.1 Unit Construction Cost

(1) Calculation method

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

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

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

## Table 10.2.1 Price of Major Materials by Facility

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

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

## Table 10.2.2 (a) Unit Cost of Level I (Deep Well - 30m Depth)

S (Cost: Peso)

| Description | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| **A. Mobilization/Demobilization** | | L.S. | | 3,600 |
| **B. Drilling of Well & Installation of Steel Casing/Screen** | | | | |
| 1. Materials | | | | |
| (1) 100mm x 3m Steel Casing with coupling | 7 | pcs. | 2,894 | 20,258 |
| (2) 100mm x 3m Steel Casing with one end closed | 1 | pc. | 2,997 | 2,997 |
| (3) 100mm x 3m Low Carbon Steel Screen | 2 | pcs. | 4,755 | 9,510 |
| 2. Labor, Fuel, Lubricant and others | | | | 0 |
| Well Drilling for 30 m depth at 200mm borehole | 30 | m | 1,212 | 36,360 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 3,604 |
| **Sub-Total of B** | | | | **72,729** |
| **C. Well Development** | | L.S. | | 5,500 |
| **D. Gravel Packing, Installation of Handpump and Construction of Platform** | | | | |
| 1. Materials | | | | |
| (1) Improved Deep Well Cylinder Pump (Malawi Type) | 1 | set | 9,922 | 9,922 |
| (2) 63mm x 6m GI Pipe with coupling | 4 | pcs. | 1,880 | 7,520 |
| (3) #10 Sieved Gravel | 0.53 | cu.m | 959 | 508 |
| (4) Coarse Sand | 1 | cu.m | 335 | 335 |
| (5) Cement for Sanitary Seal | 3 | bags | 128 | 384 |
| (6) Pump Base and Platform | | | | |
| 1) Cement | 4 | bags | 128 | 512 |
| 2) Gravel | 2 | cu.m | 424 | 848 |
| 3) Sand | 1 | cu.m | 335 | 335 |
| 4) Plywood (1,200mm x 2,400mm x 6mm) | 1 | pc. | 275 | 275 |
| 5) Form Lumber (50mm x 75mm x 1,800mm) | 6 | pcs. | 49 | 294 |
| 6) Nail | 1 | kg. | 35 | 35 |
| Sub-Total of D-1 | | | | 20,968 |
| 2. Labor (40% of D-1.) | | | | 8,387 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 2,307 |
| **Sub-Total of D** | | | | **31,662** |
| **E. Indirect Cost** | | | | |
| Profit (10% of A, B, C & D) | | | | 11,349 |
| VAT (10% of Profit & Labor) | | | | 5,610 |
| **Sub-Total of E** | | | | **16,959** |
| **Total of Construction Cost (A+B+C+D+E)** | | | | **130,450** |
| **F. Estimated Government Expenses** | | | | |
| 1. Preliminary & Detailed Engineering Cost | | L.S. | | 3,300 |
| 2. Construction Supervision | | L.S. | | 2,200 |
| 3. Water Quality Analysis | | L.S. | | 1,244 |
| **Sub-Total of F** | | | | **6,744** |
| **GRAND TOTAL** | | | | **137,194** |
| **SAY** | | | | **137,200** |

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

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

(Cost: Peso)

| Description | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| **A. Mobilization/Demobilization** | | L.S. | | 3,600 |
| **B. Drilling of Well & Installation of Steel Casing/Screen** | | | | |
| 1. Materials | | | | |
| (1) 100mm x 3m Steel Casing with coupling | 7 | pcs. | 2,894 | 20,258 |
| (2) 100mm x 3m Steel Casing with one end closed | 1 | pc. | 2,997 | 2,997 |
| (3) 100mm x 3m Low Carbon Steel Screen | 2 | pcs. | 4,755 | 9,510 |
| 2. Labor, Fuel, Lubricant and others | | | | 0 |
| Well Drilling for 30 m depth at 150mm borehole | 30 | m | 935 | 28,050 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 3,604 |
| **Sub-Total of B** | | | | **64,419** |
| **C. Well Development** | | L.S. | | 5,500 |
| **D. Gravel Packing, Installation of Handpump and Construction of Platform** | | | | |
| 1. Materials | | | | |
| (1) Improved Deep Well Cylinder Pump (Malawi Type) | 1 | set | 9,922 | 9,922 |
| (2) 63mm x 6m GI Pipe with coupling | 4 | pcs. | 1,880 | 7,520 |
| (3) #10 Sieved Gravel | 0 | cu.m | 959 | 0 |
| (4) Coarse Sand | 1 | cu.m | 335 | 335 |
| (5) Cement for Sanitary Seal | 3 | bags | 128 | 384 |
| (6) Pump Base and Platform | | | | |
| 1) Cement | 4 | bags | 128 | 512 |
| 2) Gravel | 2 | cu.m | 424 | 848 |
| 3) Sand | 1 | cu.m | 335 | 335 |
| 4) Plywood (1,200mm x 2,400mm x 6mm) | 1 | pc. | 275 | 275 |
| 5) Form Lumber (50mm x 75mm x 1,800mm) | 6 | pcs. | 49 | 294 |
| 6) Nail | 1 | kg. | 35 | 35 |
| Sub-Total of D-1 | | | | 20,460 |
| 2. Labor (40% of D-1.) | | | | 8,184 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 2,251 |
| **Sub-Total of D** | | | | **30,895** |
| **E. Indirect Cost** | | | | |
| Profit (10% of A, B, C & D) | | | | 10,441 |
| VAT (10% of Profit & Labor) | | | | 4,668 |
| **Sub-Total of E** | | | | **15,109** |
| **Total of Construction Cost (A+B+C+D+E)** | | | | **119,523** |
| **F. Estimated Government Expenses** | | | | |
| 1. Preliminary & Detailed Engineering Cost | | L.S. | | 3,300 |
| 2. Construction Supervision | | L.S. | | 2,200 |
| 3. Water Quality Analysis | | L.S. | | 1,244 |
| **Sub-Total of F** | | | | **6,744** |
| **GRAND TOTAL** | | | | **126,267** |
| **SAY** | | | | **126,300** |

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

## Table 10.2.3 (a) Unit Cost of Level I (Deep Well - 50m Depth)

s

(Cost: Peso)

| Description | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| **A. Mobilization/Demobilization** | | L.S. | | 3,600 |
| **B. Drilling of Well & Installation of Steel Casing/Screen** | | | | |
| 1. Materials | | | | |
| (1) 100mm x 3m Steel Casing with coupling | 14 | pcs. | 2,894 | 40,516 |
| (2) 100mm x 3m Steel Casing with one end closed | 1 | pc. | 2,997 | 2,997 |
| (3) 100mm x 3m Low Carbon Steel Screen | 2 | pcs. | 4,755 | 9,510 |
| 2. Labor, Fuel, Lubricant and others | | | | 0 |
| Well Drilling for 50 m depth at 200mm borehole | 50 | m | 1,212 | 60,600 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 5,833 |
| **Sub-Total of B** | | | | 119,456 |
| **C. Well Development** | | L.S. | | 5,500 |
| **D. Gravel Packing, Installation of Handpump and Construction of Platform** | | | | |
| 1. Materials | | | | |
| (1) Improved Deep Well Cylinder Pump (Malawi Type) | 1 | set | 9,922 | 9,922 |
| (2) 63mm x 6m GI Pipe with coupling | 6 | pcs. | 1,880 | 11,280 |
| (3) #10 Sieved Gravel | 1.0 | cu.m | 959 | 959 |
| (4) Coarse Sand | 1 | cu.m | 335 | 335 |
| (5) Cement for Sanitary Seal | 3 | bags | 128 | 384 |
| (6) Pump Base and Platform | | | | |
| 1) Cement | 4 | bags | 128 | 512 |
| 2) Gravel | 2 | cu.m | 424 | 848 |
| 3) Sand | 1 | cu.m | 335 | 335 |
| 4) Plywood (1,200mm x 2,400mm x 6mm) | 1 | pc. | 275 | 275 |
| 5) Form Lumber (50mm x 75mm x 1,800mm) | 6 | pcs. | 49 | 294 |
| 6) Nail | 1 | kg. | 35 | 35 |
| Sub-Total of D-1 | | | | 25,179 |
| 2. Labor (40% of D-1.) | | | | 10,072 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 2,770 |
| **Sub-Total of D** | | | | 38,021 |
| **E. Indirect Cost** | | | | |
| Profit (10% of A, B, C and D) | | | | 16,658 |
| VAT (10% of Profit & Labor) | | | | 5,135 |
| **Sub-Total of E** | | | | 21,793 |
| **Total of Construction Cost (A+B+C+D+E)** | | | | 188,370 |
| **F. Estimated Government Expenses** | | | | |
| 1. Preliminary & Detailed Engineering Cost | | L.S. | | 3,300 |
| 2. Construction Supervision | | L.S. | | 2,200 |
| 3. Water Quality Analysis | | L.S. | | 1,244 |
| **Sub-Total of F** | | | | 6,744 |
| **GRAND TOTAL** | | | | 195,114 |
| **SAY** | | | | 195,100 |

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

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

(Cost: Peso)

| Description | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| **A. Mobilization/Demobilization** | | L.S. | | 3,600 |
| **B. Drilling of Well & Installation of Steel Casing/Screen** | | | | |
| 1. Materials | | | | |
| (1) 100mm x 3m Steel Casing with coupling | 14 | pcs. | 2,894 | 40,516 |
| (2) 100mm x 3m Steel Casing with one end closed | 1 | pc. | 2,997 | 2,997 |
| (3) 100mm x 3m Low Carbon Steel Screen | 2 | pcs. | 4,755 | 9,510 |
| 2. Labor, Fuel, Lubricant and others | | | | 0 |
| Well Drilling for 500 m depth at 150mm borehole | 50 | m | 935 | 46,750 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 5,833 |
| **Sub-Total of B** | | | | **105,606** |
| **C. Well Development** | | L.S. | | 5,500 |
| **D. Gravel Packing, Installation of Handpump and Construction of Platform** | | | | |
| 1. Materials | | | | |
| (1) Improved Deep Well Cylinder Pump (Malawi Type) | 1 | set | 9,922 | 9,922 |
| (2) 63mm x 6m GI Pipe with coupling | 6 | pcs. | 1,880 | 11,280 |
| (3) #10 Sieved Gravel | 0 | cu.m | 959 | 0 |
| (4) Coarse Sand | 1 | cu.m | 335 | 335 |
| (5) Cement for Sanitary Seal | 3 | bags | 128 | 384 |
| (6) Pump Base and Platform | | | | |
| 1) Cement | 4 | bags | 128 | 512 |
| 2) Gravel | 2 | cu.m | 424 | 848 |
| 3) Sand | 1 | cu.m | 335 | 335 |
| 4) Plywood (1,200mm x 2,400mm x 6mm) | 1 | pc. | 275 | 275 |
| 5) Form Lumber (50mm x 75mm x 1,800mm) | 6 | pcs. | 49 | 294 |
| 6) Nail | 1 | kg. | 35 | 35 |
| Sub-Total of D-1 | | | | 24,220 |
| 2. Labor (40% of D-1.) | | | | 9,688 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 2,664 |
| **Sub-Total of D** | | | | **36,572** |
| **E. Indirect Cost** | | | | |
| Profit (10% of A, B, C and D) | | | | 15,128 |
| VAT (10% of Profit & Labor) | | | | 4,886 |
| **Sub-Total of E** | | | | **20,014** |
| **Total of Construction Cost (A+B+C+D+E)** | | | | **171,292** |
| **F. Estimated Government Expenses** | | | | |
| 1. Preliminary & Detailed Engineering Cost | | L.S. | | 3,300 |
| 2. Construction Supervision | | L.S. | | 2,200 |
| 3. Water Quality Analysis | | L.S. | | 1,244 |
| **Sub-Total of F** | | | | **6,744** |
| **GRAND TOTAL** | | | | **178,036** |
| **SAY** | | | | **178,000** |

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

## Table 10.2.4 (a) Unit Cost of Level I (Deep Well - 70m Depth)

(Cost: Peso)

| Description | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| **A. Mobilization/Demobilization** | | L.S. | | 3,600 |
| **B. Drilling of Well & Installation of Steel Casing/Screen** | | | | |
| 1. Materials | | | | |
| (1) 100mm x 3m Steel Casing with coupling | 21 | pcs. | 2,894 | 60,774 |
| (2) 100mm x 3m Steel Casing with one end closed | 1 | pc. | 2,997 | 2,997 |
| (3) 100mm x 3m Low Carbon Steel Screen | 2 | pcs. | 4,755 | 9,510 |
| 2. Labor, Fuel, Lubricant and others | | | | 0 |
| Well Drilling for 70 m depth at 200mm borehole | 70 | m | 1,212 | 84,840 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 8,061 |
| **Sub-Total of B** | | | | 166,182 |
| **C. Well Development** | | L.S. | | 5,500 |
| **D. Gravel Packing, Installation of Handpump and Construction of Platform** | | | | |
| 1. Materials | | | | |
| (1) Improved Deep Well Cylinder Pump (Malawi Type) | 1 | set | 9,922 | 9,922 |
| (2) 63mm x 6m GI Pipe with coupling | 9 | pcs. | 1,880 | 16,920 |
| (3) #10 Sieved Gravel | 1.5 | cu.m | 959 | 1,439 |
| (4) Coarse Sand | 1 | cu.m | 335 | 335 |
| (5) Cement for Sanitary Seal | 3 | bags | 128 | 384 |
| (6) Pump Base and Platform | | | | |
| 1) Cement | 4 | bags | 128 | 512 |
| 2) Gravel | 2 | cu.m | 424 | 848 |
| 3) Sand | 1 | cu.m | 335 | 335 |
| 4) Plywood (1,200mm x 2,400mm x 6mm) | 1 | pc. | 275 | 275 |
| 5) Form Lumber (50mm x 75mm x 1,800mm) | 6 | pcs. | 49 | 294 |
| 6) Nail | 1 | kg. | 35 | 35 |
| Sub-Total of D-1 | | | | 31,299 |
| 2. Labor (40% of D-1.) | | | | 12,519 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 3,443 |
| **Sub-Total of D** | | | | 47,261 |
| **E. Indirect Cost** | | | | |
| Profit (10% of A, B, C and D) | | | | 22,254 |
| VAT (10% of Profit & Labor) | | | | 6,306 |
| **Sub-Total of E** | | | | 28,560 |
| **Total of Construction Cost (A+B+C+D+E)** | | | | 251,103 |
| **F. Estimated Government Expenses** | | | | |
| 1. Preliminary & Detailed Engineering Cost | | L.S. | | 3,300 |
| 2. Construction Supervision | | L.S. | | 2,200 |
| 3. Water Quality Analysis | | L.S. | | 1,244 |
| **Sub-Total of F** | | | | 6,744 |
| GRAND TOTAL | | | | 257,847 |
| SAY | | | | 257,800 |

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

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

(Cost: Peso)

| Description | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| **A. Mobilization/Demobilization** | | **L.S.** | | **3,600** |
| **B. Drilling of Well & Installation of Steel Casing/Screen** | | | | |
| 1. Materials | | | | |
| (1) 100mm x 3m Steel Casing with coupling | 21 | pcs. | 2,894 | 60,774 |
| (2) 100mm x 3m Steel Casing with one end closed | 1 | pc. | 2,997 | 2,997 |
| (3) 100mm x 3m Low Carbon Steel Screen | 2 | pcs. | 4,755 | 9,510 |
| 2. Labor, Fuel, Lubricant and others | | | | 0 |
| Well Drilling for 70 m depth at 150mm borehole | 70 | m | 935 | 65,450 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 8,061 |
| **Sub-Total of B** | | | | **146,792** |
| **C. Well Development** | | **L.S.** | | **5,500** |
| **D. Gravel Packing, Installation of Handpump and Construction of Platform** | | | | |
| 1. Materials | | | | |
| (1) Improved Deep Well Cylinder Pump (Malawi Type) | 1 | set | 9,922 | 9,922 |
| (2) 63mm x 6m GI Pipe with coupling | 9 | pcs. | 1,880 | 16,920 |
| (3) #10 Sieved Gravel | 0.0 | cu.m | 959 | 0 |
| (4) Coarse Sand | 1 | cu.m | 335 | 335 |
| (5) Cement for Sanitary Seal | 3 | bags | 128 | 384 |
| (6) Pump Base and Platform | | | | |
| 1) Cement | 4 | bags | 128 | 512 |
| 2) Gravel | 2 | cu.m | 424 | 848 |
| 3) Sand | 1 | cu.m | 335 | 335 |
| 4) Plywood (1,200mm x 2,400mm x 6mm) | 1 | pc. | 275 | 275 |
| 5) Form Lumber (50mm x 75mm x 1,800mm) | 6 | pcs. | 49 | 294 |
| 6) Nail | 1 | kg. | 35 | 35 |
| Sub-Total of D-1 | | | | 29,860 |
| 2. Labor (40% of D-1.) | | | | 11,944 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 3,285 |
| **Sub-Total of D** | | | | **45,089** |
| **E. Indirect Cost** | | | | |
| Profit (10% of A, B, C and D) | | | | 20,098 |
| VAT (10% of Profit & Labor) | | | | 5,947 |
| **Sub-Total of E** | | | | **26,045** |
| **Total of Construction Cost (A+B+C+D+E)** | | | | **227,026** |
| **F. Estimated Government Expenses** | | | | |
| 1. Preliminary & Detailed Engineering Cost | | L.S. | | 3,300 |
| 2. Construction Supervision | | L.S. | | 2,200 |
| 3. Water Quality Analysis | | L.S. | | 1,244 |
| **Sub-Total of F** | | | | **6,744** |
| **GRAND TOTAL** | | | | **233,770** |
| **SAY** | | | | **233,800** |

Note: L.S. - Lamp Sum

Source: DPWH standard price in 1994

Unit Cost: Adjusted to 1997 Price Level

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

S (Cost: Peso)

| Description | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| **A. Mobilization/Demobilization** | | **L.S.** | | **3,600** |
| **B. Well Rehabilitation** | | | | |
| 1. Materials | | | | |
| (1) Cylinder Pump Set | 1 | set | 9,922 | 9,922 |
| (2) Cement for Surface Sealing | 4 | bags | 128 | 512 |
| (3) Pump Base and Platform | | | | |
| 1) Cement | 4 | bags | 128 | 512 |
| 2) Gravel | 2 | cu.m | 424 | 848 |
| 3) Sand | 1 | cu.m | 335 | 335 |
| 4) Plywood (4' x 8' x 1/4") | 1 | pc. | 275 | 275 |
| 5) Form Lumber (2" x 3" x 6") | 6 | pcs. | 49 | 294 |
| 6) Nail | 1 | kg. | 35 | 35 |
| Sub-Total of B-1 | | | | 12,733 |
| 2. Labor (40% of B-1) | | | | 5,093 |
| 3. Freight Cost (11% of Materials) | | | | 1,401 |
| **Sub-Total of B** | | | | **19,227** |
| **C. Well Development** | | **L.S.** | | **7,100** |
| **D. Indirect Cost** | | | | |
| Profit (10% of A, B & C) | | | | 2,993 |
| VAT (10% of Profit & Labor) | | | | 1,519 |
| **Sub-Total of D** | | | | **4,512** |
| **Total of Construction Cost (A+B+C+D)** | | | | **34,439** |
| **E. Estimated Government Expenses** | | | | |
| 1. Preliminary & Detailed Engineering Cost | | L.S. | | 1,200 |
| 2. Supervision | | L.S. | | 720 |
| 3. Water Quality Analysis | | L.S. | | 1,244 |
| **Sub-Total of E** | | | | **3,164** |
| **GRAND TOTAL** | | | | **37,603** |
| **SAY** | | | | **37,600** |

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

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

(Cost: Peso)

| Description | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| **A. Mobilization/Demobilization** | | L.S. | | **1,200** |
| **B. Drilling of Well & Installation of Steel Casing/Screen** | | | | |
| 1. Materials | | | | |
| (1) 63mm x 6m PVC Pipe with socket | 2 | pcs. | 896 | 1,792 |
| (2) 63mm x 3m PVC Pipe with plug | 1 | pc. | 452 | 452 |
| (3) 63mm PVC Socket | 1 | pc. | 99 | 99 |
| (4) 63mm x 3m PVC Screen | 1 | pc. | 1,433 | 1,433 |
| 2. Labor, Fuel, Lubricant and others | | | | |
| Well Drilling for 18 m depth at 150mm borehole | 18 | m | 573 | 10,314 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 415 |
| **Sub-Total of B** | | | | **14,505** |
| **C. Well Development** | | L.S. | | **600** |
| **D. Gravel Packing, Installation of Handpump and Construction of Platform** | | | | |
| 1. Materials | | | | |
| (1) 50mm Jetmatic Handpump | 1 | set | 2,623 | 2,623 |
| (2) 50mm x 1m GI Pipe (Sch. 40) | 1 | pc. | 110 | 110 |
| (3) #10 Sieved Gravel | 0.1 | cu.m | 959 | 96 |
| (4) Coarse Sand | 0.07 | cu.m | 335 | 23 |
| (5) Cement for Sanitary Seal | 1 | bag | 128 | 128 |
| (6) Pump Base and Platform | | | | |
| 1) Cement | 4 | bags | 128 | 512 |
| 2) Gravel | 1 | cu.m | 424 | 424 |
| 3) Sand | 1 | cu.m | 335 | 335 |
| 4) Plywood (1,200mm x 2,400mm x 6mm) | 1 | pc. | 275 | 275 |
| 5) Form Lumber (50mm x 75mm x 1,800 mm) | 1 | pc. | 49 | 49 |
| 6) Nail | 1 | kg. | 35 | 35 |
| Sub-Total of D-1 | | | | 4,610 |
| 2. Labor (40% of D-1.) | | | | 1,844 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 507 |
| **Sub-Total of D** | | | | **6,961** |
| **E. Indirect Cost** | | | | |
| Profit (10% of A, B, C & D) | | | | 2,327 |
| VAT (10% of Profit & Labor) | | | | 1,449 |
| **Sub-Total of E** | | | | **3,776** |
| **Total of Construction Cost (A+B+C+D+E)** | | | | **27,042** |
| **F. Estimated Government Expenses** | | | | |
| 1. Preliminary & Detailed Engineering Cost | | L.S. | | 2,200 |
| 2. Construction Supervision | | L.S. | | 1,650 |
| 3. Water Quality Analysis | | L.S. | | 1,244 |
| **Sub-Total of F** | | | | **5,094** |
| **GRAND TOTAL** | | | | **32,136** |
| **SAY** | | | | **32,100** |

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

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

s

(Cost: Peso)

| Description | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| **A. Mobilization/Demobilization** | | L.S. | | 3,600 |
| **B. Construction of Spring Box** | | | | |
| 1. Materials | | L.S. | | 30,700 |
| 2. Labor (35% of 1.) | | L.S. | | 10,745 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 3,377 |
| **Sub-Total of B** | | | | 44,822 |
| **C. Installation of Pipelines & Fittings** | | | | |
| 1. Transmission Main | | | | |
| (1) Materials | | | | |
| 1) 25mm dia. GI Pippe | 330 | pcs. | 400 | 132,000 |
| 2) 25mm dia. Tee | 1 | no. | 163 | 163 |
| 3) 25mm dia. Coupling | 26 | cans | 23 | 598 |
| 4) 25mm dia. Elbow (90 deg.) | 3 | nos. | 23 | 69 |
| 5) 25mm dia. Elbow (45 deg.) | 1 | pc. | 23 | 23 |
| 6) 25mm dia. Gate Valve | 2 | pcs. | 250 | 500 |
| 7) 13mm dia. x 1m Stand Pipe | 1 | pc. | 103 | 103 |
| 8) 13mm x 25mm GI Nipple | 1 | pc. | 72 | 72 |
| 9) 13mm dia. Union Patente | 3 | pcs. | 35 | 105 |
| 10) 25mm x 13mm dia. Reducing Socket | 2 | pcs. | 72 | 144 |
| 11) 13mm dia. GI Elbow (90 deg.) | 2 | pcs. | 14 | 28 |
| 12) 25mm x 13mm dia. Socket Adaptor | 2 | pcs. | 72 | 144 |
| 13) 13mm dia. GI Gate Valve | 2 | pcs. | 253 | 506 |
| 14) 13mm dia. Brass Faucet | 2 | pcs. | 45 | 90 |
| Sub-Total of Materials | | | | 134,455 |
| (2) Labor (35% of Material Cost) | | L.S. | | 47,059 |
| (3) Freight Cost (11% of Materials) | | L.S. | | 14,790 |
| **Sub-Total of C** | | | | 196,304 |
| **D. Indirect Cost** | | | | |
| 1. Transmission Main | | | | |
| (1) Profit (10% of C) | | | | 19,630 |
| (2) VAT (10% of Profit and Labor) | | | | 6,669 |
| 2. Source Facilities | | | | |
| (1) Profit (10% of A, B) | | | | 4,842 |
| (2) VAT (10% of Profit and Labor) | | | | 1,559 |
| **Sub-Total of D** | | | | 32,700 |
| **Total Construction Cost (A+B+C+D)** | | | | 277,426 |
| **E. Estimated Government Expenses** | | | | |
| 1. Preliminary & Detailed Engineering and RWSA Formation | | | | 2,200 |
| 2. Supervision | | | | 13,200 |
| 3. Water Quality Analysis | | | | 1,244 |
| **Sub-Total of E** | | | | 16,644 |
| **GRAND TOTAL** | | | | 294,070 |
| **SAY** | | | | 294,100 |

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

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

(Cost: Peso)

| Description | Quantity | Unit | Unit Cost | Cost |
|---|---|---|---|---|
| **A. Mobilization/Demobilization** | | L.S. | | 3,300 |
| **B. Construction of Spring Box** | | | | |
| 1. Materials | | L.S. | | 39,900 |
| 2. Labor (35% of 1.) | | L.S. | | 13,965 |
| 3. Freight Cost (11% of Materials) | | L.S. | | 4,389 |
| Sub-Total of B | | | | 58,254 |
| **C. Installation of Pipelines & Fittings** | | | | |
| 1. Transmission Main | | | | |
| (1) Materials | | | | |
| 1) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket) | 330 | pcs. | 896 | 295,680 |
| 2) 63mm dia. Tee | 1 | no. | 97 | 97 |
| 3) Solvent Cement | 26 | cans | 50 | 1,300 |
| 4) 63mm dia. x 150mm Nipple | 3 | nos. | 149 | 447 |
| 5) 63mm dia. Union Patente | 1 | pc. | 190 | 190 |
| 6) 63mm dia. x 50mm dia. Reducing Socket | 2 | pcs. | 115 | 230 |
| 7) 63mm dia. Elbow (90 deg.) | 1 | pc. | 83 | 83 |
| 8) 63mm dia. Elbow (45 deg.) | 1 | pc. | 82 | 82 |
| 9) 63mm dia. Gate Valve | 3 | pcs. | 841 | 2,523 |
| Sub-Total of Materials | | | | 300,632 |
| (2) Labor (35% of Material Cost) | | L.S. | | 105,221 |
| (3) Freight Cost (11% of Materials) | | L.S. | | 33,070 |
| Sub-Total of Transmission Main | | | | 438,923 |
| 2. Distribution Pipeline | | | | |
| (1) Materials | | | | |
| 1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket) | 20 | pcs. | 496 | 9,920 |
| 2) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket) | 30 | pcs. | 330 | 9,900 |
| 3) 20mm dia. PVC Pipe (Class 40 with pusher type socket) | 10 | pcs. | 110 | 1,100 |
| 4) 13mm dia. x 1 m Stand Pipe | 10 | pcs. | 103 | 1,030 |
| 5) Solvent Cement | 4 | cans | 50 | 200 |
| 6) Fittings | | | | |
| a. 50mm dia. x 150mm PVC Nipple | 3 | pcs. | 137 | 411 |
| b. 32mm dia. x 150mm PVC Nipple | 3 | pcs. | 83 | 249 |
| c. 13mm dia. x 150mm GI Nipple | 40 | pcs. | 27 | 1,080 |
| d. 50mm dia. Union Patente | 1 | pcs. | 179 | 179 |
| e. 32mm dia. Union Patente | 2 | pcs. | 78 | 156 |
| f. 13mm dia. Union Patente | 10 | pcs. | 27 | 270 |
| g. 50mm dia. x 32mm dia. Reducing Socket | 6 | pcs. | 99 | 594 |
| h. 32mm dia. x 20mm dia. Reducing Socket | 10 | pcs. | 77 | 770 |
| i. 20mm dia. x 13mm dia. Reducing Socket | 10 | pcs. | 60 | 600 |
| j. 50mm dia. PVC Elbow (90 deg.) | 2 | pcs. | 74 | 148 |
| k. 13mm dia. GI Elbow (90 deg.) | 20 | pcs. | 14 | 280 |
| l. 20mm dia. x 13mm dia. Socket Adaptor | 10 | pcs. | 45 | 450 |
| m. 50mm dia. GI Gate Valve | 2 | pcs. | 739 | 1,478 |
| n. 32mm dia. GI Gate Valve | 2 | pcs. | 418 | 836 |
| o. 13mm dia. GI Gate Valve | 24 | pcs. | 253 | 6,072 |
| p. 13mm dia. Brass Faucet | 24 | pcs. | 45 | 1,080 |
| q. 50mm dia. Tee | 4 | pcs. | 143 | 572 |
| r. 32mm dia. Tee | 6 | pcs. | 121 | 726 |
| s. Water Meter | 24 | pcs. | 826 | 19,824 |
| t. Water Meter Box | 24 | pcs. | 1,212 | 29,088 |
| Sub-Total of Materials | | | | 87,013 |
| (2) Labor (35% of Material Cost) | | | | 30,455 |
| (3) Freight Cost (11% of Materials) | | L.S. | | 9,571 |
| Sub-Total of Distribution Pipeline | | | | 127,039 |
| Sub-Total of C | | | | 565,962 |

Table 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. 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) | | | | 6,328 |
| **Sub-Total of D** | | | | 83,990 |
| **Total Construction Cost (A+B+C+D)** | | | | 711,506 |
| **E. Estimated Government Expenses** | | | | |
| 1. Preliminary & Detailed Engineering and RWSA Formation | | | | 2,200 |
| 2. Supervision | | | | 13,200 |
| 3. Water Quality Analysis | | | | 1,244 |
| **Sub-Total of E** | | | | 16,644 |
| **Total Estimated Cost** | | | | 728,150 |
| **Unit Cost per Person Served** | | | | 1,214 |
| | | | | 1,220 |

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

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

s (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 | 617,000 |
| **Sub-Total of C** | | | | **617,000** |
| **D. Distribution Main** | | | | |
| 1. 160mm dia. | 1,000 | L.M. | 1,234 | 1,234,000 |
| 2. 110mm dia. | 3,000 | L.M. | 1,019 | 3,057,000 |
| 3. 90mm dia. | 3,000 | L.M. | 639 | 1,917,000 |
| 4. 75mm dia. | 5,000 | L.M. | 595 | 2,975,000 |
| **Sub-Total of D** | | | | **9,183,000** |
| **E. Service Connections** | **1,000** | **Nos.** | **2,138** | **2,138,000** |
| **F. Miscellaneous** | | | | |
| 1. Vehicle | 1 | No. | 606,000 | 606,000 |
| 2. Office & Workshop Bldg. | 1 | No. | 606,000 | 606,000 |
| 3. Office Equipment | | L.S. | | 110,000 |
| 4. Tools and Spare Parts | | L.S. | | 110,000 |
| **Sub-Total of F** | | | | **1,432,000** |
| **Total Direct Cost (A+B+C+D+E+F)** | | | | **17,782,000** |
| **G. Indirect Cost (25% of Direct Cost)** | | | | **4,445,500** |
| **Total Estimated Cost** | | | | **22,227,500** |
| **Unit Cost per Person Served** | | | | |
| **For New Construction** | | | | 4,446 |
| | | | | 4,500 |
| **For Expansion of Existing System (Exclude F.)** | | | | 4,088 |
| | | | | 4,100 |

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

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

s (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 | 617,000 |
| **Sub-Total of C** | | | | 617,000 |
| **D. Distribution Main** | | | | |
| 1. 160mm dia. | 2,000 | L.M. | 1,234 | 2,468,000 |
| 2. 110mm dia. | 5,000 | L.M. | 1,019 | 5,095,000 |
| 3. 90mm dia. | 6,000 | L.M. | 639 | 3,834,000 |
| 4. 75mm dia. | 8,000 | L.M. | 595 | 4,760,000 |
| **Sub-Total of D** | | | | 16,157,000 |
| **E. Service Connections** | 2,000 | Nos. | | 3,880,000 |
| **F. Miscellaneous** | | | | |
| 1. Vehicle | 1 | No. | 606,000 | 606,000 |
| 2. Office & Workshop Bldg. | 1 | No. | 606,000 | 606,000 |
| 3. Office Equipment | | L.S. | | 110,000 |
| 4. Tools and Spare Parts | | L.S. | | 110,000 |
| **Sub-Total of F** | | | | 1,432,000 |
| **Total Direct Cost (A+B+C+D+E+F)** | | | | 26,498,000 |
| **G. Indirect Cost (25% of Direct Cost)** | | | | 6,624,500 |
| **Total Estimated Cost** | | | | 33,122,500 |
| **Unit Cost per Person Served** | | | | |
| **For New Construction** | | | | 3,312 |
| | | | | 3,400 |
| **For Expansion of Existing System (Exclude F.)** | | | | 3,133 |
| | | | | 3,200 |

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

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

S

(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 | 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. | | 480,000 |
| 4. Storage Tank (250 cu.m) | 2 | No. | 1,200,000 | 1,200,000 |
| **Sub-Total of B** | | | | 6,484,000 |
| **C. Transmission Main** | | | | |
| 1. 160mm dia. | 1,000 | L.M. | 1,234 | 1,234,000 |
| **Sub-Total of C** | | | | 1,234,000 |
| **D. Distribution Main** | | | | |
| 1. 160mm dia. | 3,000 | L.M. | 1,234 | 3,702,000 |
| 2. 110mm dia. | 7,000 | L.M. | 1,019 | 7,133,000 |
| 3. 90mm dia. | 9,000 | L.M. | 639 | 5,751,000 |
| 4. 75mm dia. | 11,000 | L.M. | 595 | 6,545,000 |
| **Sub-Total of D** | | | | 23,131,000 |
| **E. Service Connections** | 3,000 | Nos. | | 5,820,000 |
| **F. Miscellaneous** | | | | |
| 1. Vehicle | 1 | No. | 606,000 | 606,000 |
| 2. Office & Workshop Bldg. | 1 | No. | 606,000 | 606,000 |
| 3. Office Equipment | | L.S. | | 110,000 |
| 4. Tools and Spare Parts | | L.S. | | 110,000 |
| **Sub-Total of F** | | | | 1,432,000 |
| **Total Direct Cost (A+B+C+D+E+F)** | | | | 38,431,000 |
| **G. Indirect Cost (25% of Direct Cost)** | | | | 9,607,750 |
| **Total Estimated Cost** | | | | 48,038,750 |
| **Unit Cost per Person Served** | | | | |
| **For New Construction** | | | | 3,203 |
| | | | | 3,300 |
| **For Expansion of Existing System (Exclude F.)** | | | | 3,083 |
| | | | | 3,100 |

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

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

(Cost: Peso)

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

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

**Table 10.2.13 Unit Cost of Pour Flush with Double Pit Latrine**

(Cost: Peso)

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

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

Table 10.2.14 Unit Construction Cost of Ventilated Improved Pit Latrine

(Cost: Peso)

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

Note: L.S. - Lump Sum

Source: DOH standard price in 1993

Unit Cost: Adjusted to 1997 Price Level

**Table 10.2.15 Unit Construction Cost of Pit Latrine**

(Cost: Peso)

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

Note: L.S. - Lump Sum

Source: DOH standard price in 1993

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.16 Unit Cost of School Toilet

Sheet-1 (Cost: Peso)

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

Table 10.2.16 Unit Cost of School Toilet

Sheet-2 (Cost: Peso)

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

Table 10.2.16 Unit Cost of School Toilet

Sheet-3 (Cost: Peso)

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

**Table 10.2.16 Unit Cost of School Toilet**

Sheet-4 (Cost: Peso)

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

Table 10.2.16 Unit Cost of School Toilet

Sheet-5

(Cost: Peso)

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

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

**Table 10.2.17 Unit Cost of Public Toilet**

Sheet-1 (Cost: Peso)

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

Table 10.2.17 Unit Cost of Public Toilet

Sheet-2 (Cost: Peso)

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

**Table 10.2.17 Unit Cost of Public Toilet**

Sheet-3 (Cost: Peso)

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

Table 10.2.17 Unit Cost of Public Toilet

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

**Table 10.2.17 Unit Cost of Public Toilet**

Sheet-5 (Cost: Peso)

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

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

### 10.2.2 Unit Cost of Equipment

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

(1) Medium size rotary drilling rig

Type: Truck-mounted top head drive mud circulation type

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

Equipment composition:

One unit of truck-mounted drilling rig

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

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

Unit cost: Peso 32,314,000 per set

(2) Medium size percussion drilling equipment

Type: Truck-mounted cable percussion type

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

Equipment composition:

One unit of truck-mounted drilling rig

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

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

Unit cost: Peso 25,582,000 per set

(3) Well rehabilitation equipment

Equipment composition:

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

One set of air hose and hose fittings

Unit cost: Peso 280,000 per set

(4) Service truck

Type: Diesel engine driven 4 tons truck equipped with crane

Unit cost: Peso 1,200,000 per unit

(5) Support vehicle

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

Unit cost: Peso 590,000 per unit

(6) Refuse collection truck

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

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

(7) Maintenance tools

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

Unit cost: Peso 10,000 per unit

(8) Water quality testing kits

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

Type: Ammonia 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.

Table 10.2.18 Cost for New Laboratory

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

Table 10.2.19 Cost for Upgrading Laboratory

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

## 10.3 Cost of required Facilities and Equipment

### 10.3.1 Cost of Required Facilities

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

Unit: P 1,000 Pesos

| Municipality | Urban Water Supply Level III | Rural Water Supply | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | New System | | | | | | | Level I Rehabili-tation | Total | Grand Total |
| | | Level II | Level I | | | | | | | | |
| | | | Deep Well | | | Shallow Well | Spring Dev. | Subtotal | | | |
| | | | 30 m | 50 m | 70 m | | | | | | |
| Baganga | 18,249 | | | | | 1,766 | 7,058 | 8,824 | | 8,824 | 27,073 |
| Banaybanay | | | | | | | | | | | |
| Boston | 5,045 | 2,119 | | | | 161 | 588 | 749 | | 2,868 | 7,913 |
| Caraga | 6,261 | | | 8,703 | | 225 | 6,470 | 15,398 | 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 | 16,367 | | | | | 3,531 | 13,823 | 17,354 | | 17,354 | 33,721 |
| Mati (Capital) | 7,893 | 5,688 | | | 511 | 289 | 1,471 | 2,271 | 8 | 7,967 | 15,860 |
| San Isidro | 6,400 | 5,896 | | | | | | | | 5,896 | 12,296 |
| Tarragona | 9,491 | | 544 | | | 1,059 | 4,706 | 6,309 | 15 | 6,324 | 15,815 |
| Provincial Total | 85,100 | 31,703 | 544 | 8,703 | 511 | 7,192 | 34,704 | 51,654 | 192 | 83,549 | 168,649 |

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

Unit: P 1,000 Pesos

| Municipality | Urban Water Supply Level III | Rural Water Supply | | | | | | Level I Rehabili -tation | Total | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | | New System | | | | | | | | |
| | | Level I | | | | | | | | |
| | | Deep Well | | | Shallow Well | Spring Dev. | Subtotal | | | |
| | | 30 m | 50 m | 70 m | | | | | | |
| Baganga | 30,112 | | | | 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 |
| Mati (Capital) | 100,812 | | | 7,407 | 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 |
| Tarragona | 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 | 464,040 |

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

Unit: P 1,000 Pesos

| Municipality | Urban Sanitation | | | | | | | | | Rural Sanitation | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Household Toilets | | | | | | | | | Household Toilets | | | | | | | |
| | Flush | Pour Flus | VIP/ Dry | Sub-total of Cons-truction Cost | Sub-total of Public Invest-ment Cost | Public School Toilets | Public Toilets | Total Construc tion Cost | Total Public Invest -ment Cost | Flush | Pour Flush | VIP/ Dry | Sub-total of Cons truction Cost | Sub-total of Public Invest-ment Cost | Public School Toilets | Total Cons truction Cost | Total Public Invest-ment Cost |
| Baganga | 13,419 | | | 13,419 | | 3,131 | 1,032 | 17,582 | 4,163 | | | 4,871 | 4,871 | | 6,217 | 11,088 | 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 | | | | | | 1,393 | 1,032 | 2,425 | 2,425 | | 4,329 | 3,868 | 8,197 | 50 | 5,441 | 13,638 | 5,491 |
| Governor Generoso | 9,968 | | | 9,968 | | 2,340 | 688 | 12,996 | 3,028 | | 5,161 | 5,749 | 10,910 | 50 | 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 | | 7,664 | 13,769 | 7,664 |
| Manay | 4,963 | 52 | | 5,015 | 1 | 1,693 | 344 | 7,052 | 2,038 | | 6,760 | 5,148 | 11,908 | 78 | 5,992 | 17,900 | 6,070 |
| Mati (Capital) | | 24,71 | | 24,783 | 284 | 10,198 | 1,032 | 35,943 | 11,514 | | 34,587 | 9,247 | 43,814 | 398 | 12,280 | 56,094 | 12,678 |
| San Isidro | 7,072 | | | 7,072 | | 2,130 | 344 | 9,546 | 2,474 | | | 3,755 | 3,755 | | 4,918 | 8,673 | 4,918 |
| Tarragona | 4,643 | 676 | | 5,319 | 8 | 892 | 1,032 | 7,248 | 1,937 | | 1,521 | 2,878 | 4,399 | 17 | 3,112 | 7,511 | 3,129 |
| Provincial Total | 59,043 | 32,90 | | 91,946 | 379 | 30,274 | 8,944 | 133,164 | 39,597 | | 61,087 | 51,765 | 112,852 | 702 | 67,643 | 180,495 | 68,345 |

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

Unit: 1,000 Pesos

| Municipality | Urban Sanitation | | | | | | | | | | Rural Sanitation | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Household Toilets | | | | | | | | | | Household Toilets | | | | | | | |
| | Flush | Pour Flush | VIP/ Dry | Sub-total of Cons-truc- | Sub-total of Public Invest-Ment Cost | Public School Toilets | Public Toilets | Total Cons-truc- | Total Public Invest-ment Cost | Urban Sewer age | Flush | Pour Flush | VIP/ Dry | Sub-total of Costruc tion Cost | Sub-total of Public Invest-ment Cost | Public School Toilets | Total Cons-truc tion Cost | Total Public Invest-ment Cost |
| Baganga | 25,304 | 10,309 | | 35,613 | 119 | 4,553 | 3,785 | 43,951 | 8,457 | 62,014 | | 37,622 | | 37,622 | 433 | 9,041 | 46,663 | 9,474 |
| Banaybanay | 27,307 | 4,602 | | 31,909 | 53 | 3,302 | 2,065 | 37,276 | 5,420 | 51,239 | | 36,348 | | 36,348 | 418 | 6,924 | 43,342 | 7,342 |
| Boston | 6,731 | | | 6,731 | | 845 | 2,409 | 9,985 | 3,254 | | | 13,351 | | 13,351 | 154 | 2,872 | 16,223 | 3,026 |
| Caraga | 9,564 | 3,718 | | 13,282 | 43 | 1,979 | 2,065 | 17,326 | 4,087 | | | 37,999 | | 37,999 | 437 | 9,981 | 47,980 | 10,418 |
| Cateel | 15,253 | 715 | | 15,966 | 8 | 1,967 | 2,409 | 20,342 | 4,384 | | | 31,122 | | 31,122 | 358 | 7,679 | 38,801 | 8,037 |
| 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 | 11,982 |
| Lupon | 33,122 | 13,286 | | 46,408 | 153 | 6,158 | 2,409 | 54,975 | 8,720 | 82,249 | | 46,644 | | 46,644 | 536 | 11,505 | 58,149 | 12,041 |
| Manay | 14,697 | 5,889 | | 20,586 | 68 | 2,412 | 1,376 | 24,374 | 3,856 | | | 38,865 | | 38,865 | 446 | 8,536 | 47,341 | 8,982 |
| Mati (Capital) | 72,228 | 27,170 | | 99,398 | 312 | 14,023 | 4,473 | 117,894 | 18,808 | 188,165 | | 65,637 | | 65,637 | 755 | 16,886 | 82,523 | 17,641 |
| San Isidro | 16,742 | 6,578 | | 23,320 | 76 | 3,114 | 2,065 | 28,499 | 5,255 | 42,216 | | 30,992 | | 30,992 | 356 | 7,192 | 38,184 | 7,548 |
| Tarragona | 8,541 | 3,380 | | 11,921 | 39 | 1,709 | 688 | 14,318 | 2,436 | | | 23,530 | | 23,530 | 271 | 5,935 | 29,465 | 6,206 |
| Provincial Total | 246,676 | 82,381 | | 329,057 | 948 | 43,498 | 25,809 | 398,364 | 70,255 | 469,260 | | 406,068 | | 406,068 | 4,670 | 98,097 | 504,165 | 102,767 |

## 10.4 Costs of Sector Management

### 10.4.1 Breakdown of Community Development and Training Cost

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

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

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

**Table 10.4.1 Breakdown of Community Development and Training Cost**

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

# 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.

**Table 11.3.1 Percentages for Annual Investment**

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

Note: Institutional development includes:

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

Urban water supply:

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

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

Rural water supply (Level I):

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

Sanitation:

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

## 11.4 Medium-Term Implementation Arrangements

### 11.4.2 Alternative Countermeasures

**Comprehensive Investment Need Ranking for the Municipalities**

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

## 11.5 National Government Assisted Level I Water Supply and Sanitation Project

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

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

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

**O and M for Rural Water Supply**

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

**O and M for Sanitation**

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

Table 11.4.1 Comprehensive Investment Need Ranking of the Municipalities

| Name of Municipality | Evaluation Factor (% of Underserved and Unserved Population or Households) | | | | Score by Sub-Sector | | | | Weighted Score by Sub-Sector | | | | | Synthetic Investment Need Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Urban Water Supply | Rural Water Supply | Urban Sanitation | Rural Sanitation | Urban Water Supply | Rural Water Supply | Urban Sanitation | Rural Sanitation | Urban Water Supply | Rural Water Supply | Urban Sanitation | Rural Sanitation | Total Weighted Score | |
| Baganga | N.A. | 66 | 34 | 18 | 1.00 | 1.00 | 0.80 | 0.20 | 0.30 | 0.30 | 0.16 | 0.04 | 0.80 | 2 |
| Banaybanay | N.A. | 26 | 25 | 27 | 0.56 | 0.20 | 0.60 | 0.20 | 0.17 | 0.06 | 0.12 | 0.04 | 0.39 | 11 |
| Boston | N.A. | 64 | 8 | 39 | 1.00 | 1.00 | 0.20 | 0.40 | 0.30 | 0.30 | 0.04 | 0.08 | 0.72 | 5 |
| Caraga | N.A. | 64 | 37 | 9 | 0.97 | 1.00 | 0.80 | 0.20 | 0.29 | 0.30 | 0.16 | 0.04 | 0.79 | 4 |
| Cateel | N.A. | 56 | 21 | 28 | 1.00 | 0.80 | 0.60 | 0.20 | 0.30 | 0.24 | 0.12 | 0.04 | 0.70 | 7 |
| Governor Generoso | N.A. | 47 | 29 | 27 | 0.90 | 0.60 | 0.60 | 0.20 | 0.27 | 0.18 | 0.12 | 0.04 | 0.61 | 9 |
| Lupon | N.A. | 29 | 57 | 5 | 0.56 | 0.20 | 1.00 | 0.20 | 0.17 | 0.06 | 0.20 | 0.04 | 0.47 | 10 |
| Manay | N.A. | 94 | 38 | 29 | 1.00 | 1.00 | 0.80 | 0.20 | 0.30 | 0.30 | 0.16 | 0.04 | 0.80 | 2 |
| Mati (Capital) | N.A. | 47 | 46 | 48 | 0.70 | 0.60 | 1.00 | 0.60 | 0.21 | 0.18 | 0.20 | 0.12 | 0.71 | 6 |
| San Isidro | N.A. | 47 | 34 | 8 | 0.87 | 0.60 | 0.80 | 0.20 | 0.26 | 0.18 | 0.16 | 0.04 | 0.64 | 8 |
| Tarragona | N.A. | 69 | 51 | 22 | 1.00 | 1.00 | 1.00 | 0.20 | 0.30 | 0.30 | 0.20 | 0.04 | 0.84 | 1 |
| Provincial Total | N.A. | 53 | 40 | 25 | | | | | | | | | | |

Note:

(1) Scoring to Underserved and Unserved Percentage.

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

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

| 0.3 | 0.3 | 0.2 | 0.2 | Allocated Weight |
|---|---|---|---|---|

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

(Unit:1,000 Pesos)

| Name of City or Municipality | Ttl Nos. of Bgy. in Rural Area | Class | Rural Water Supply: Nos. of Related Bgy. | R. Water Supply Allotment of IRA: Prov. | Muni. | Number of LEVEL I Facilities: Deep Wells | Shallow Wells | Spring Dev't | Total Related | Prov. Avail. IRA | Mun. Avail. IRA | Sub-total Avail. IRA | Rural Sanitation: No.of Related Bgy. | Rural Sanitation Allotment of IRA: Prov. | Muni. | Number of Toilets: Public Mkt. | Bus Term. | Public School | Ttl. | Total Related | Prov. Avail. IRA | Mun. Avail. IRA | Sub-total Avail. IRA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baganga | 14 | 1st | 0 | 1,831 | 2,303 | 0 | 55 | 24 | 0 | | | 0 | 0 | 1,290 | 1,623 | | | 18 | 18 | 0 | | | 0 |
| Banaybanay | 12 | 3rd | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | 12 | 1,029 | 3,846 | | | 0 | 0 | 0 | | | 0 |
| Boston | 7 | 4th | 0 | 595 | 806 | 0 | 5 | 2 | 0 | | | 0 | 7 | 510 | 690 | | | 9 | 9 | 9 | 510 | 690 | 1,200 |
| Caraga | 15 | 3rd | 0 | 3,230 | 3,430 | 45 | 7 | 22 | 0 | | | 0 | 15 | 1,429 | 1,518 | | | 19 | 19 | 19 | 1,429 | 1,518 | 2,947 |
| Cateel | 15 | 4th | 0 | 1,235 | 1,420 | 0 | 5 | 2 | 0 | | | 0 | 15 | 1,139 | 1,311 | | | 11 | 11 | 11 | 1,139 | 1,311 | 2,450 |
| Governor Generoso | 18 | 3rd | 0 | 1,804 | 2,092 | 0 | 0 | 0 | 0 | | | 0 | 18 | 1,633 | 1,833 | | | 22 | 22 | 22 | 1,633 | 1,833 | 3,466 |
| Lupon | 18 | 2nd | 0 | 791 | 2,382 | 0 | 0 | 0 | 0 | | | 0 | 0 | 1,590 | 4,786 | | | 12 | 12 | 0 | | | 0 |
| Manay | 15 | 3rd | 0 | 3,600 | 2,495 | 0 | 110 | 47 | 0 | | | 0 | 15 | 1,259 | 873 | | | 12 | 12 | 12 | 1,259 | 873 | 2,132 |
| Mati (Capital) | 21 | 1st | 0 | 1,653 | 2,579 | 2 | 9 | 5 | 0 | | | 0 | 0 | 2,630 | 4,104 | | | 11 | 11 | 0 | | | 0 |
| San Isidro | 14 | 4th | 0 | 1,223 | 1,574 | 0 | 0 | 0 | 0 | | | 0 | 14 | 1,020 | 1,313 | | | 2 | 2 | 2 | 1,020 | 1,313 | 2,333 |
| Tarragona | 8 | 4th | 0 | 1,312 | 1,554 | 4 | 33 | 16 | 0 | | | 0 | 8 | 649 | 769 | | | 6 | 6 | 6 | 649 | 769 | 1,418 |
| Total | 157 | | 0 | 17,334 | 20,636 | 51 | 224 | 118 | 0 | 0 | 0 | 0 | 104 | 14,179 | 22,665 | 0 | 0 | 122 | 122 | 81 | 7,640 | 8,307 | 15,947 |
| Total Available IRA Fund | | | 15,947 | | | | | | | | | | | | | | | | | | | | |

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

| Name of City or Municipality | Ttl Nos. of Bgy. in Urban | Class | Nos. of Related Bgy. | Urban Sanitation Allotment of IRA: Prov. | Muni. | Number of Toilets: Public Mkt. | Bus Term. | Public School | Ttl Related | Prov. Avail. IRA | Mun. Avail. IRA | Sub-total Avail. IRA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baganga | 4 | 1st | 0 | 864 | 1,687 | 1 | 1 | 9 | 0 | | | 0 |
| Banaybanay | 2 | 3rd | 0 | 554 | 2,071 | 0 | 1 | 0 | 1 | 554 | 2,071 | 2,625 |
| Boston | 1 | 4th | 1 | 361 | 489 | 1 | 1 | 3 | 2 | 361 | 489 | 851 |
| Caraga | 2 | 3rd | 3 | 497 | 528 | 1 | 1 | 4 | 2 | 497 | 528 | 1,025 |
| Cateel | 1 | 4th | 2 | 503 | 579 | 1 | 1 | 3 | 2 | 503 | 579 | 1,082 |
| Governor Generoso | 2 | 3rd | 1 | 628 | 705 | 1 | 1 | 6 | 2 | 628 | 705 | 1,333 |
| Lupon | 3 | 2nd | 0 | 1,080 | 3,252 | 1 | 1 | 6 | 0 | | | 0 |
| Manay | 2 | 3rd | 1 | 423 | 293 | 0 | 1 | 3 | 1 | 423 | 293 | 716 |
| Mati (Capital) | 5 | 1st | 0 | 2,389 | 3,728 | 1 | 1 | 10 | 0 | | | 0 |
| San Isidro | 2 | 4th | 1 | 513 | 660 | 0 | 1 | 1 | 1 | 513 | 660 | 1,174 |
| Tarragona | 2 | 4th | 3 | 402 | 476 | 1 | 1 | 2 | 2 | 402 | 476 | 878 |
| Total | 26 | 0 | 12 | 8,215 | 13,868 | 8 | 11 | 47 | 13 | 3,882 | 5,802 | 9,684 |
| Total Available IRA Fund | | | 9,684 | | | | | | | | | |

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

| Name of City or Municipality | Water Supply: Rural | Sanitation: Urban | Sanitation: Rural | Total |
|---|---|---|---|---|
| Baganga | 0 | 0 | 0 | 0 |
| Banaybanay | 0 | 2,625 | 0 | 2,625 |
| Boston | 0 | 851 | 1,200 | 2,051 |
| Caraga | 0 | 1,025 | 2,947 | 3,973 |
| Cateel | 0 | 1,082 | 2,450 | 3,532 |
| Governor Generoso | 0 | 1,333 | 3,466 | 4,800 |
| Lupon | 0 | 0 | 0 | 0 |
| Manay | 0 | 716 | 2,132 | 2,848 |
| Mati (Capital) | 0 | 0 | 0 | 0 |
| San Isidro | 0 | 1,174 | 2,333 | 3,507 |
| Tarragona | 0 | 878 | 1,418 | 2,296 |
| Total | 0 | 9,684 | 15,947 | 25,631 |

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

(Unit: Pesos)

| Category | Total Amount | 1st year | 2nd year | 3rd year | 4th year | 5th year |
|---|---|---|---|---|---|---|
| **A. Const. & Civil Works** | | | | | | |
| 1. Water Supply | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. Sanitation | 26,314,650 | 0 | 5,262,930 | 7,894,395 | 7,894,395 | 5,262,930 |
| 3. Land Acquisition | 0 | 0 | 0 | 0 | 0 | 0 |
| **B. Equip./Logistic Support** | 0 | 0 | 0 | 0 | 0 | 0 |
| **C. Consultancy Services** | | | | | | |
| 1. Hydrogeological Survey | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. D/D and Const. Sv. | 2,894,612 | 1,157,845 | 578,922 | 578,922 | 289,461 | 289,461 |
| **D. Instiutional Devt.** | | | | | | |
| 1. Capacity Enhanc. Prog. | 3,200,000 | 960,000 | 960,000 | 640,000 | 320,000 | 320,000 |
| 2. Commu. Manag. Prog. | 1,249,320 | 374,796 | 374,796 | 249,864 | 124,932 | 124,932 |
| 3. Health & Hygiene Educ. | 208,800 | 62,640 | 62,640 | 41,760 | 20,880 | 20,880 |
| 4. Water Quality Surveil. | 81,200 | 24,360 | 24,360 | 16,240 | 8,120 | 8,120 |
| 5. NGO Assistance | 139,200 | 41,760 | 41,760 | 27,840 | 13,920 | 13,920 |
| 6. Administrative Support | 1,200,000 | 360,000 | 360,000 | 240,000 | 120,000 | 120,000 |
| **E. Physical Contingency** (10% of sub-total A+B+C+D) | 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 | 14,819,420 | 1,252,066 | 3,219,157 | 4,068,991 | 3,692,157 | 2,587,049 |
| 2. Value Added Tax (VAT) | 1,156,537 | 97,714 | 251,229 | 317,552 | 288,143 | 201,898 |
| **Grand Total** | 54,792,517 | 4,629,320 | 11,902,336 | 15,044,467 | 13,651,179 | 9,565,215 |

Note: Item A includes equity of users.

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

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

| | Deep Well | Shallow Well | Spring Dev't |
|---|---|---|---|
| Nos. of Facilities to be Constructed | 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 HH/year | 249 | | |
| Recurrent Cost for O&M (Peso) | | | |
| Cost per HH/year | 100 | 50 | 50 |
| O&M Cost Total (Peso) | | | |
| Cost per HH/year | 1,038 | 263 | 50 |

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% |

**Table 11.6.4 Family Income** (Unit: Pesos)

| Annual [1] | | Monthly [2] | |
|---|---|---|---|
| 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

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

| Nos. of Facilities to be Constructed | | Unit Construction Cost | | Yearly O&M Cost |
|---|---|---|---|---|
| Public Toilets | School Toilets | Public Toilets | School Toilets | |
| 0 | 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.

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

| Nos. of Facilities to be Constructed | | Unit Construction Cost | | Yearly O&M Cost |
|---|---|---|---|---|
| Public Toilets | School Toilets | Public Toilets | School Toilets | |
| 11 | 0 | 344,100 | 274,100 | 189,255 |

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

Form P- 1

Province of _____
Provincial Water & Sanitation Monitoring System
Annual Sector Performance Summary Report
Period Covered : _____ to _____

I. Service Coverage

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

II. Sources & Uses of Capital Development Funds

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

III. School Sanitation (Source, DECS)

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

IV. Incidence of Diarrhea (Source IPHO)

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

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

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

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

Form M - 1

Municipality of _____

Provincial Water & Sanitation Monitoring System

Annual Sector Performance Summary Report

Period Covered : _____ to _____

I. Service Coverage

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

II. Sources & Uses of Capital Development Funds.

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