

### 10.3 Cost of required Facilities and Equipment

#### 10.3.1 Cost of Required Facilities

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

Unit: P 1,000

Name of Municipality	Urban Water Supply Level III	Rural Water Supply								Grand Total	
		New System							Level I Rehabilitation		Total
		Level I						Subtotal			
		Deep Well			Shallow Well	Spring Dev.					
40 m	80 m	120 m									
Banga		4,764	3,394				670	4,065	93	8,921	8,921
Koronadal (Capital)	17,974										17,974
Lake Sebu	18,275	15,631		3,105		609	1,341	5,054	50	20,735	39,010
Norala											
Polomolok				3,105			670	3,775	50	3,825	3,825
Santo Niño	8,267		261					261	7	268	8,535
Surallah	9,430										9,430
Tampakan	9,576										9,576
Tantangan	7,821		1,044					1,044	28	1,073	8,894
T'Boli	35,135	4,671	20,888			3,167	10,055	34,109	570	39,350	74,486
Tupi	5,633		1,567			61	670	2,298	43	2,341	7,974
<b>Provincial Total</b>	<b>112,112</b>	<b>25,066</b>	<b>27,154</b>	<b>6,209</b>		<b>3,837</b>	<b>13,406</b>	<b>50,606</b>	<b>840</b>	<b>76,512</b>	<b>188,624</b>

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

Unit: P 1,000

Name of Municipality	Urban Water Supply Level III	Rural Water Supply								Grand Total	
		New System							Level I Rehabilitation		Total
		Level I						Sub-total			
		Deep Well			Shallow Well	Spring Dev.					
40 m	80 m	120 m									
Banga	50,064	33,943				670	34,613	926	35,539	85,603	
Koronadal (Capital)	208,735	31,071				792	31,863	847	32,710	241,445	
Lake Sebu	26,451		27,941			5,725	1,341	35,006	449	35,454	61,905
Norala	63,773	7,311					7,311	199	7,510	71,283	
Polomolok	111,599		51,603			731	670	52,404	819	53,222	164,822
Santo Niño	49,578	12,011					12,011	328	12,338	61,916	
Surallah	76,235	22,716				548	23,264	619	23,883	100,118	
Tampakan	31,645	3,655				1,827	5,482	100	5,582	37,227	
Tantangan	28,605	12,794					12,794	349	13,143	41,748	
T'Boli	47,328	30,810				4,750	10,055	45,615	840	46,455	93,782
Tupi	27,862	19,583				1,096	670	21,349	534	21,883	49,745
<b>Provincial Total</b>	<b>721,876</b>	<b>173,893</b>	<b>78,943</b>			<b>15,469</b>	<b>13,406</b>	<b>281,710</b>	<b>6,009</b>	<b>287,719</b>	<b>1,009,595</b>

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

Unit: P 1,000

Name of Municipality	Urban Sanitation									Rural Sanitation							
	Household Toilets					Public School Toilets	Public Toilets	Total Construction Cost	Total Public Investment Cost	Household Toilets					Public School Toilets	Total Construction Cost	Total Public Investment Cost
	Flush	Pour Flush	VIP/ Dry	Sub-total of Construction Cost	Sub-total of Public Investment Cost					Flush	Pour Flush	VIP/ Dry	Sub-total of Construction Cost	Sub-total of Public Investment Cost			
Banga			1,274	1,274		274		1,548	274		27,768		27,768	319	1,645	29,413	1,964
Koronadal (Capital)	46,775		8,296	55,071		1,096		56,167	1,096	19,106	9,971		29,077	115	1,096	30,174	1,211
Lake Sebu	8,669	9,451		18,120	109	2,467	688	21,275	3,264		95,771		95,771	1,101	13,979	109,75	15,080
Norala	20,129	3,081		23,210	35	2,467	688	26,365	3,191		2,678		2,678	31	1,371	4,049	1,401
Polomolok	37,871		673	38,545		3,563	688	42,796	4,252	14,761	9,672		24,433	111	3,289	27,722	3,400
Santo Niño	10,437	1,079		11,516	12			11,516	12		2,223		2,223	26		2,223	26
Surallah	18,808	845		19,653	10	3,289		22,942	3,299	14,165	7,813		21,978	90	5,482	27,460	5,572
Tampakan	7,199	910		8,109	10	1,096	344	9,550	1,451		15,353		15,353	177	2,193	17,546	2,369
Tantangan	6,944	858	752	8,554	10		344	8,898	354		15,665		15,665	180	822	16,487	1,002
T'Boli	17,871	29,263		47,134	337	4,386	344	51,863	5,066	29,586	117,02		146,612	1,346	16,172	162,78	17,518
Tupi	6,347	1,599	13	7,960	18	1,096	344	9,400	1,459	11,694	16,380		28,074	188	4,660	32,733	4,848
Provincial Total	181,050	47,086	11,609	239,145	541	19,735	3,441	262,321	23,718	89,311	320,320		409,631	3,684	50,709	460,339	54,302

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

Unit: P 1,000

Municipality	Urban Sanitation										Rural Sanitation							
	Household Toilets					Public School Toilets	Public Toilets	Total Construction Cost	Total Public Investment Cost	Urban Sewer age	Household Toilets					Public School Toilets	Total Construction Cost	Total Public Investment Cost
	Flush	Pour Flush	VIP/ Dry	Sub-total of Construction Cost	Sub-total of Public Investment Cost						Flush	Pour Flush	VIP/ Dry	Sub-total of Construction Cost	Sub-total of Public Investment Cost			
Banga	38,851			38,851		1,096		39,948	1,096	58,291		92,755		92,755	1,067	19,461	112,21	20,528
Koronadal (Capital)	145,75			145,75		5,208	1,032	151,99	6,240	291,547	34,016	78,273		112,289	900	19,187	131,47	20,087
Lake Sebu	26,859	435		27,314	5	1,096	1,032	29,443	2,134	52,414		108,74		108,745	1,251	20,832	129,57	22,082
Norala	58,767			58,767		1,919		60,685	1,919	116,917		24,401		24,401	281	5,482	29,883	5,763
Polomolok	124,30	3,718		128,02	43	5,482	1,032	134,53	6,557	241,331	30,267	72,800		103,067	837	18,365	121,43	19,202
Santo Niño	35,763	2,236		37,999	26	1,371		39,369	1,396	68,503		33,605		33,605	386	7,127	40,732	7,513
Surallah	56,999			56,999		2,193	344	59,536	2,537	112,683	23,643	52,351		75,994	602	16,446	92,440	17,048
Tampakan	24,900	1,911		26,811	22	1,096		27,907	1,118	47,399		35,763		35,763	411	8,497	44,260	8,908
Tantangan	20,640			20,640		822	344	21,806	1,166	41,026		37,440		37,440	431	7,675	45,115	8,105
T'Boli	51,397			51,397		1,919	688	54,004	2,607	102,207	16,337	127,58		143,919	1,467	27,684	171,60	29,151
Tupi	23,132	13		23,145	0	1,096	344	24,585	1,441	45,457	22,685	53,495		76,180	615	15,350	91,529	15,965
Provincial Total	607,370	8,333		615,703	96	23,299	4,817	643,818	28,212	1,177,775	126,948	717,210		844,158	8,248	166,105	1,010,2	174,353

## 10.4 Costs of Sector Management

### 10.4.1 Breakdown of Community Development and Training Cost

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

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

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

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

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

## 11. FINANCIAL ARRANGEMENTS FOR MEDIUM-TERM DEVELOPMENT PLAN

### 11.3 Additional Funding Requirements

#### Percentages for Annual Investment

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

**Table 11.3.1 Percentages for Annual Investment**

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

Note: Institutional development includes:

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

#### Urban water supply:

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

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

Rural water supply (Level I):

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

Sanitation:

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

**11.4 Medium-Term Implementation Arrangements**

**11.4.2 Alternative Countermeasures**

**Comprehensive Investment Need Ranking for the Municipalities**

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

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

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

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

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

#### **O and M for Rural Water Supply**

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

#### **O and M for Sanitation**

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

Table 11.4.1 Comprehensive Investment Need Ranking of the Municipalities

Name of Municipality	Evaluation Factor						Score by Sub-Sector						Weighted Score by Sub-Sector				Synthetic Investment Need Ranking					
	(% of Underserved and Unserved Population or Households)						Urban Sanitation			Rural Sanitation			Urban Water Supply		Rural Water Supply			Urban Sanitation		Rural Sanitation		
	Urban Water Supply	Rural Water Supply	Urban Sanitation	Urban Sanitation	Rural Sanitation	Rural Sanitation	Urban Water Supply	Rural Water Supply	Urban Sanitation	Urban Sanitation	Rural Sanitation	Urban Water Supply	Rural Water Supply	Urban Sanitation	Urban Sanitation	Rural Sanitation		Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation	Total Weighted Score
Banga	N.A.	47	5	22	22	22	0.66	0.60	0.20	0.20	0.20	0.17	0.15	0.05	0.05	0.05	0.15	0.15	0.05	0.05	0.42	10
Koronadal (Capital)	N.A.	35	31	30	30	30	0.76	0.40	0.80	0.80	1.00	0.19	0.10	0.20	0.20	0.25	0.10	0.10	0.20	0.25	0.74	4
Lake Sebu	N.A.	46	36	67	67	67	1.00	0.60	0.30	1.00	0.25	0.25	0.15	0.20	0.25	0.25	0.15	0.20	0.25	0.25	0.85	2
Norala	N.A.	29	22	22	22	22	0.53	0.20	0.60	0.20	0.20	0.13	0.05	0.15	0.05	0.05	0.15	0.15	0.15	0.05	0.38	11
Polomolok	N.A.	43	16	31	31	31	0.53	0.60	0.40	0.40	0.40	0.13	0.15	0.10	0.10	0.10	0.15	0.15	0.10	0.10	0.48	9
Santo Niño	N.A.	40	23	25	25	25	0.93	0.40	0.60	0.20	0.20	0.23	0.10	0.15	0.05	0.05	0.10	0.15	0.05	0.05	0.53	7
Surallah	N.A.	34	21	26	26	26	0.76	0.40	0.60	0.20	0.20	0.19	0.10	0.15	0.15	0.05	0.10	0.15	0.10	0.05	0.49	8
Tampakan	N.A.	30	28	36	36	36	0.93	1.00	0.60	0.40	0.40	0.23	0.25	0.15	0.10	0.10	0.25	0.10	0.10	0.10	0.73	5
Tantangon	N.A.	39	32	33	33	33	0.93	0.40	0.80	0.40	0.40	0.23	0.10	0.20	0.20	0.10	0.10	0.20	0.10	0.10	0.63	6
T'boli	N.A.	71	54	62	62	62	1.00	1.00	1.00	1.00	1.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1
Tupij	N.A.	44	31	30	30	30	0.93	0.60	0.80	1.00	1.00	0.23	0.15	0.20	0.20	0.25	0.15	0.20	0.25	0.25	0.83	3
Provincial Total	N.A.	44	25	37	37	37																

Note:

(1) Scoring to Underserved and Unserved Percentage.

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

Score	Range of Underserved and Unserved Percentage						Allocated Weight		
	61 < %	51 < % < 60	41 < % < 50	31 < % < 40	21 < % < 30	11 < % < 20	0.25	0.25	0.25
1.0			41 < %			61 < %			
0.8			31 < % < 40			51 < % < 60			
0.6			21 < % < 30			41 < % < 50			
0.4			11 < % < 20			31 < % < 40			
0.2			% < 30			% < 10			





(Unit: Pesos)

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

Category	Total Amount	1st year	2nd year	3rd year	4th year	5th year
<b>A. Const. &amp; Civil Works</b>						
1. Water Supply	0	0	0	0	0	0
2. Sanitation	44,172,600	0	8,834,520	13,251,780	13,251,780	8,834,520
3. Land Acquisition	0	0	0	0	0	0
<b>B. Equip./Logistic Support</b>	0	0	0	0	0	0
<b>C. Consultancy Services</b>						
1. Hydrogeological Survey	0	0	0	0	0	0
2. D/D and Const. Sv.	4,858,986	1,943,594	971,797	971,797	485,899	485,899
<b>D. Institutional Devt.</b>						
1. Capacity Enhanc. Prog.	3,200,000	960,000	960,000	640,000	320,000	320,000
2. Commu. Manag. Prog.	1,066,230	319,869	319,869	213,246	106,623	106,623
3. Health & Hygiene Educ.	178,200	53,460	53,460	35,640	17,820	17,820
4. Water Quality Surveil.	0	0	0	0	0	0
5. NGO Assistance	118,800	35,640	35,640	23,760	11,880	11,880
6. Administrative Support	1,200,000	360,000	360,000	240,000	120,000	120,000
<b>E. Physical Contingency</b> (10% of sub-total A+B+C+D)	5,479,482	367,256	1,153,529	1,537,622	1,431,400	989,674
<b>Total (A+B+C+D+E+F)</b>	60,274,298	4,039,820	12,688,815	16,913,846	15,745,402	10,886,416
<b>F. Others</b>						
1. Price Contingency	23,159,063	1,552,211	4,875,396	6,498,770	6,049,822	4,182,864
2. Value Added Tax (VAT)	2,163,418	145,001	455,438	607,087	565,148	390,745
<b>Grand Total</b>	85,596,778	5,737,032	18,019,649	24,019,702	22,360,371	15,460,024

Note: Item A includes equity of users.

## O&M Cost for ODA 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	0	0	0
Nos. of HHs to be Served	0	0	0
<b>Reconstruction Cost (Peso)</b>			
Unit Cost	N.A	N.A	N.A
Ttl. Reconst. Cost	N.A	N.A	
Ttl. Reconst. Cost/year	N.A	N.A	
Cost per HH/year	N.A	N.A	
<b>Rehabilitation Cost (Peso)</b>			
Unit Cost	N.A		
Ttl. Rehab. Cost	N.A		
Ttl. Rehab. Cost/year	N.A		
Cost per HH/year	N.A		
<b>Recurrent Cost for O&amp;M (Peso)</b>			
Cost per HH/year	100	50	50
<b>O&amp;M Cost Total (Peso)</b>			
Cost per HH/year	N.A	N.A	N.A

Note: 1) Reconstruction of deep and shallow wells shall be conducted every 20 and 10 years, respectively.

Spring development is excluded due to more than 20 years facility life.

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

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

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

Table 11.6.4 Family Income

(Unit: Pesos)

Annual <sup>1)</sup>			Monthly <sup>2)</sup>		
Mean	Median	Low	Mean	Median	Low
61,435	48,823	42,579	9,412	7,480	6,523

Note: 1) 1994 NSO Family Income and Expenditure Survey

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

## O&M Cost for ODA Assisted Sanitation Project

Table 11.6.5 O&M Cost for Rural Sanitation

(Unit: Pesos)

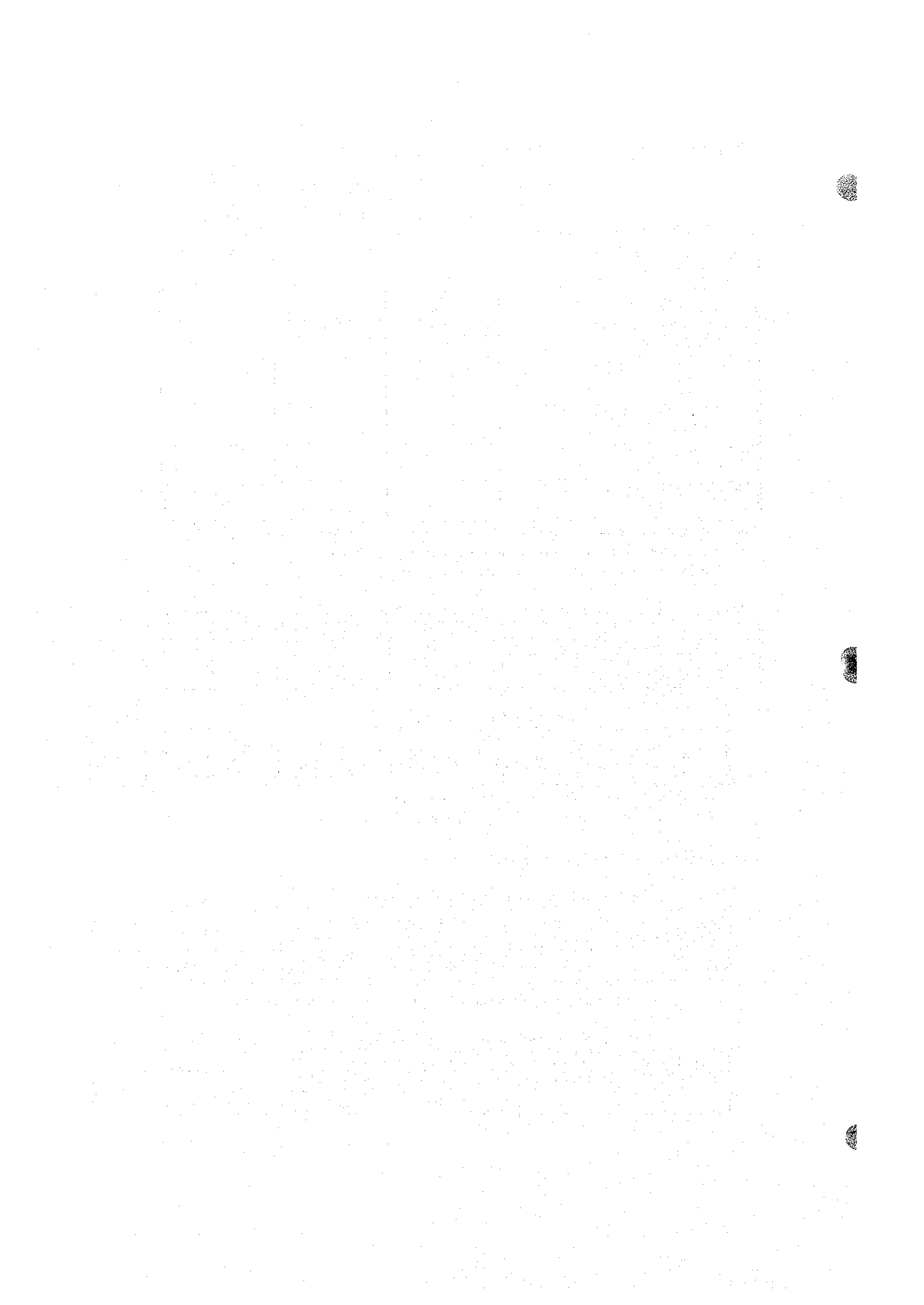
Nos. of Facilities to be Constructed		Unit Construction Cost		Yearly O&M Cost
Public Toilets	School Toilets	Public Toilets	School Toilets	
0	90	344,100	274,100	1,233,450

Note: O&M cost includes the salaries of maintenance staff, cost of pumping 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	
5	27	344,100	274,100	456,060



12. MONITORING FOR MEDIUM-TERM DEVELOPMENT PLAN

12.4 Evaluation of Plan Implementation and Updating the PW4SP

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:											
Provincial Funds											
Municipal Funds											
A.											
B.											
C.											
D.											
E.											
F.											
G.											
H.											
I.											
J.											
SUB-TOTAL											
B. National Funds											
DPWH											
DOH											
LWUA											
SUB-TOTAL											
C. External Funds											
NGO											
NGO											
NGO											
SUB-TOTAL											
TOTAL											



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

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

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

Municipality of \_\_\_\_\_  
 Provincial Water & Sanitation Monitoring System

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

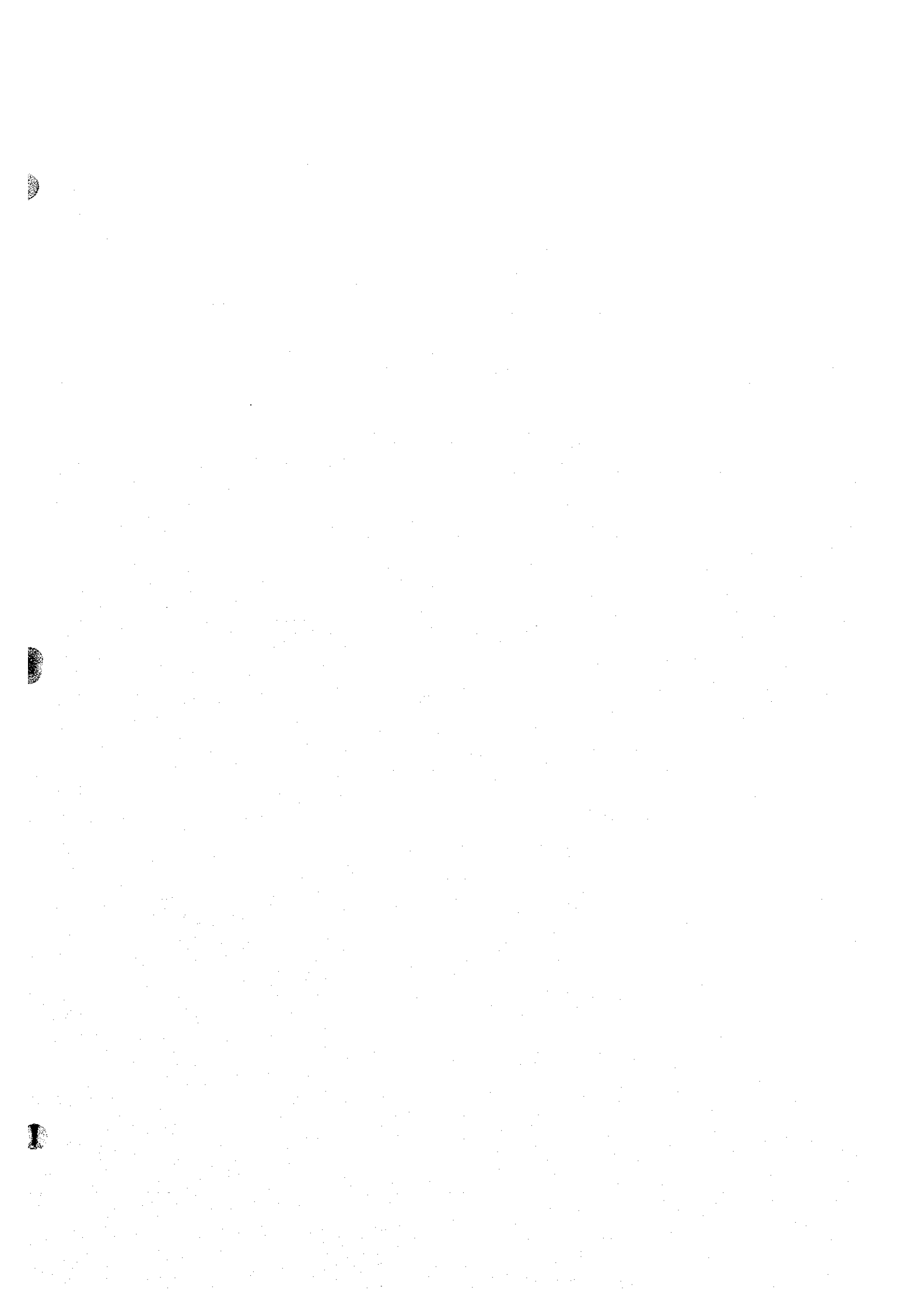
I. Service Coverage

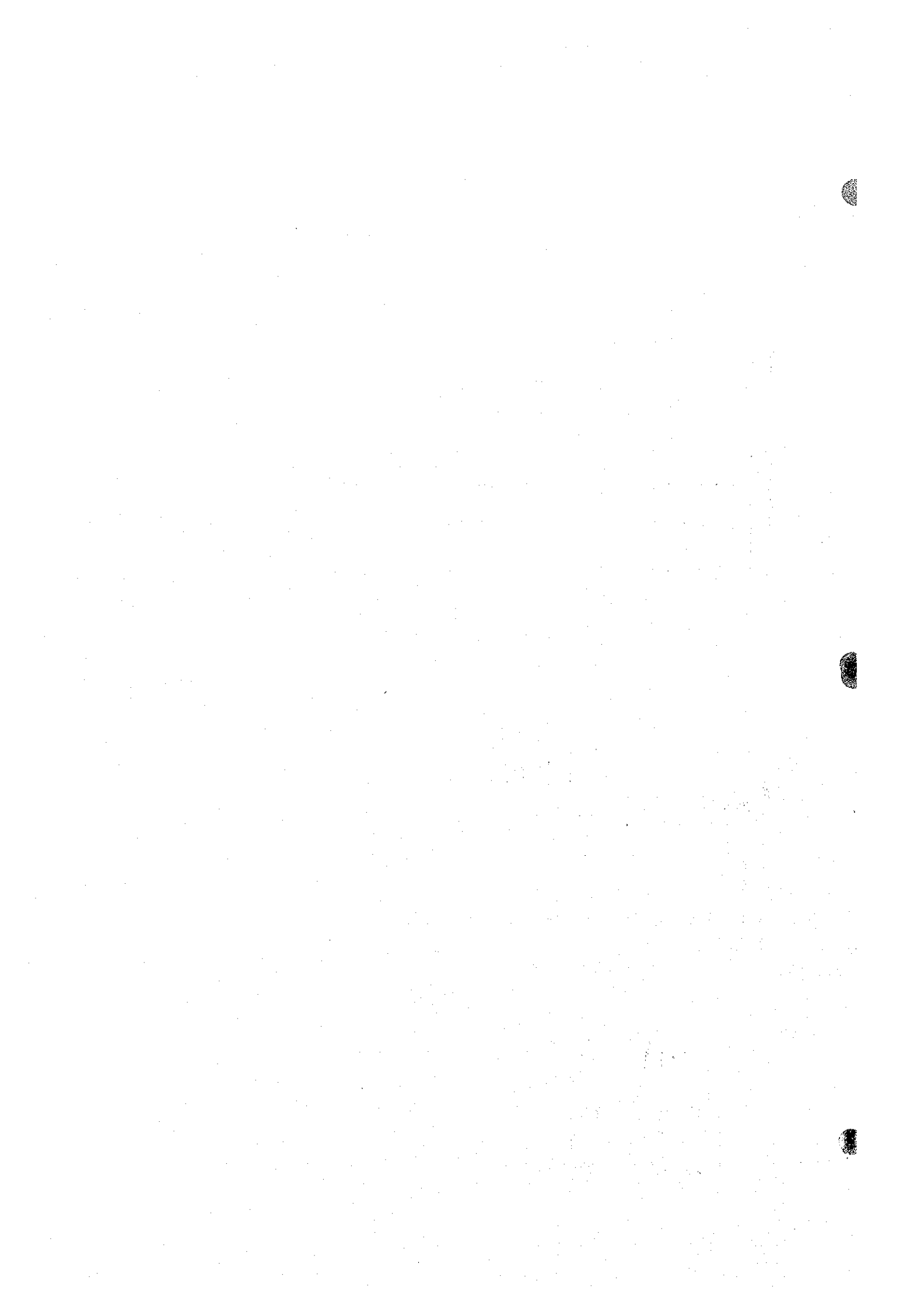
Name of Barangay (1)	LAST YEAR				THIS YEAR			
	Population (2)	Persons with Safe Water & Sanitary Toilets (3)	Persons with Safe Water Only (4)	Persons with Sanitary Toilets Only (5)	Population (6)	Persons with Safe Water & Sanitary Toilets (7)	Persons with Safe Water Only (8)	Persons with Sanitary Toilets 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												











JICA