JAPAN INTERNATIONAL COOPERATION AGENCY

DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT THE REPUBLIC OF THE PHILIPPINES

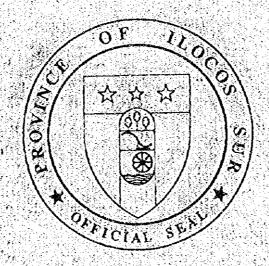
STUDY ON THE PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN IN THE REPUBLIC OF THE PHILIPPINES

VOLUME III - 7

DRAFT SUPPORTING AND DATA REPORT

PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN
FOR THE PROVINCE OF

ILOCOS SUR



FEBRUARY 1996

NIPPON JOGESUIDO SEKKEI CO., LTD.

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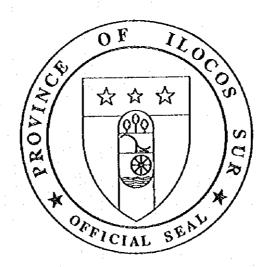
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VOLUME HI - 7 SUPPORTING AND DATA REPORT

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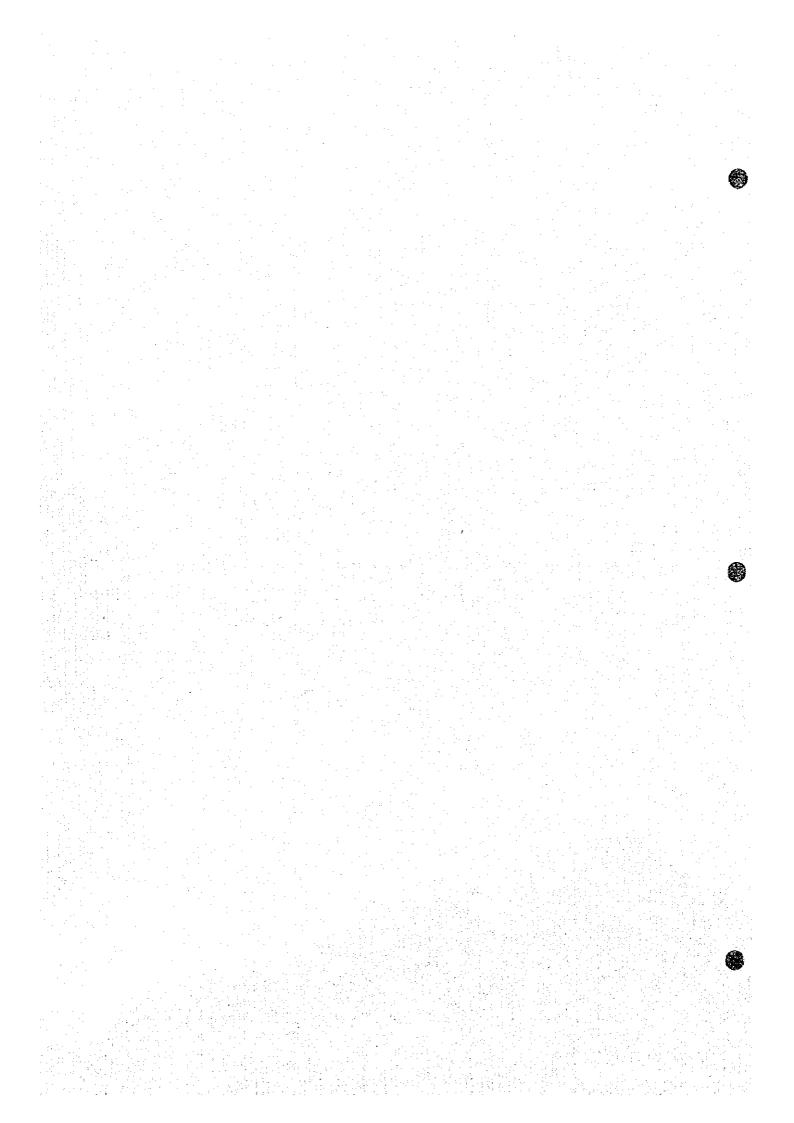
PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

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SUPPORTING REPORT

A. BACKGROUND INFORMATION AND EXISTING CONDITIONS



- INTRODUCTION 1.
- The Provincial Plan for the Province of Hocos Sur 1.3
- Preparation of the Plan 1.3.1

MINUTES OF DISCUSSIONS

ON

THE INCEPTION REPORT

FOR

STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

IN

THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN THE DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT

AND

STUDY TEAM OF

JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, SEPTEMBER 5, 1994

HON. YOLANDA MA. L. DE LEON

Assistant Secretary

Dept. of the Interior and Local Government

MR. MASATOSHI MOMOSE

Team Leader, Study Team

Japan Int'l Cooperation Agency

Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, dispatched the Study Team to the Republic of the Philippines on August 31, 1994 to conduct "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" (hereinafter referred to as "the Study") in accordance with the Implementing Arrangement for the Study between the JICA and the Department of the Interior and Local Government (hereinafter referred to as "DILG") on November 19, 1993.

A series of discussions was made on the Inception Report for the Study between the Study Team and officials of DILG. In the course of discussions, both parties have agreed to the main items described in the Inception Report. The list of attendants in the series of discussions is presented in Appendix A.

1. Objectives and Scope of Work for the Study

- (1) Formulation of long-term provincial development plan for water supply, sewerage and sanitation sector to the year 2010 through technical assistance to the provincial staff; and
- (2) Preparation of medium-term (five year) sector investment plan based on the long-term development plan.

The Study will be conducted in two stages for the two batches.

2. Study Area

The study area covers the following nine (9) provinces and are grouped as follows:

BATCH No. 1	BATCH No. 2
(1) Zambales	(1) Abra
(2) Rizal	(2) Ilocos Norte
(3) Mindoro Oriental	(3) Ilocos Sur
(4) Mindoro Occidental	(4) Nueva Vizcaya
	(5) Batanes

For Rizal province, four (4) municipalities covered by the MWSS will be excluded in the future plan. The conduct of the Study for Batch No. 2 shall be finally determined after ascertaining the peace and order conditions in the subject provinces by the end of the Batch No. 1 Study.



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3. General Approach and Methodology to the Study

(1) Planning framework for future sector development

- a. Base years shall be determined after discussion with NEDA to conform with national plans and programs.
- b. The PW4SP shall be prepared within the context of existing plans and projects. However some modifications may be made where appropriate to reflect the updated information.
- c. Conformity and consistency of the Study with the national plans and programs such as the NEDA Board Resolutions Nos. 4 and 5 - Series 1994; the Water Sector Reforms Study and the National Urban Sewerage and Sanitation Strategy Plan for the Philippines.

(2) Establishment of data base

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To maintain consistency and compatibility with the existing data base of previously developed PW4SPs, the Study will adopt the same in principle and will be modified if needed.

(3) Water source development

Water Availability Maps will be developed through update of the NWRB's Rapid Assessment Report and other studies.

(4) Community development and training

Training needs assessment will be undertaken to guide the Study in identifying manpower development strategies and programs. Existing local training resources and activities will be evaluated. A community development study will be undertaken entailing model studies for each of the three service levels in every province.

(5) Technology Transfer

Capacity building and technology transfer are important elements of the Study. To the extent possible, counterpart staff at the local and national levels shall participate actively in data collection and analysis, formulation of strategic recommendations, and the preparation of the PW4SP.



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4. Implementation Set-Up for the Study

In accordance with the Implementing Arrangements between the DILG and the JICA, the DILG shall:

- (1) secure the safety of the JICA Study Team;
- (2) assign DILG counterpart staff members who will coordinate and assist PSPTs at the provincial level;
- (3) Set-up PSPTs by respective provincial governments in the study area and secure budget to carry out the Study;
- (4) through PSPT in each study area province; facilitate and coordinate in data gathering with municipal government and other agencies concerned, and participate in workshops and preparation of PW4SP.
- (5) facilitate coordination with concerned agencies like DPWH, DOH, NEDA, LWUA and with appropriate bodies such as PCC (FW4SP) and the like.

The JICA shall:

- (1) pursue technology transfer to the Philippine counterpart personnel in the course of the Study and;
- (2) assist PSPTs in the preparation of the PW4SP.

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Appendix A

LIST OF ATTENDANTS IN THE SERIES OF DISCUSSIONS

ATTENDANTS

DESIGNATION

A. DILG

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2. MR. ORVILLE M. ROQUE

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5. MR. WILFRIDO C. BARREIRO

6. MR. ALLEN M. LOWE

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Team Leader

Water Supply Engr.

Hydrogeologist

Sanitary Engr.

Institutional/CD/T Specialist

System Engr.

Coordinator

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MINUTES OF DISCUSSIONS

ON

THE PROGRESS REPORT I

FOR

STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

IN

THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN

THE DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT

AND

STUDY TEAM OF

JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, DECEMBER 20, 1994

HON. YÓLANDA MA. L. DE LEON

Assistant Secretary

Dept. of the Interior and Local Government

MR. MASATOSHI MOMOSE Team Leader, Study Team Japan Int'l. Cooperation Agency The Stage I field work for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" (hereinafter referred to as "the Study") started on August 31, 1994 and completed on December 28, 1994.

A series of discussions was held, through the course of the Study, between JICA Study Team and officials concerned including DILG, NEDA, DPWH, LWUA, other central agencies and provinces. General approach and methodologies, as presented in the Inception Report, have been employed for the planning work.

Progress Report I, which covers all outputs during the work period, was prepared entailing part of PW4SP for respective provinces. The contents of the report were basically agreed upon on December 20, 1994 between JICA Study Team and officials concerned in the Philippine side. The list of attendees to the meeting is presented in Appendix A. The following were confirmed and/or agreed upon by both parties.

Study Area Coverage

For Rizal province, four (4) municipalities covered by the MWSS were initially agreed to be excluded from the sector plan. However, inclusion of the Talim Island, part of Binangonan (rural area) which is one of the four municipalities, has been reconsidered upon request by the Governor.

2. Planning Conditions

(1) Table of Contents for PW4SP: referring to previous PW4SPs, some modifications were made.

(2) Planning Conditions:

- a. Conformity and consistency of the Study shall be ensured especially with "Medium-Term Philippine Development Plan 1993-1998."
- b. Planning base year is 1994, while target years are 2000 and 2010 for medium-term and long-term purposes, respectively. The start year of 5-year medium-term development is set to be 1996.



Spil

- c. Population projection: NSO projection was basically adopted. However, some modifications on urban and rural population by municipality were made with reference to re-classification of barangays reviewed by respective PSPTs.
- d. Data management: outputs in tables and graphics are prepared in EXCEL spreadsheets for final analysis and presentation.
- e. Sector arrangements and institutional capacity: previous arrangements adopted and experiences learned by the central government agencies are discussed in detail for reference/basis of LGUs in coming up with sector plan.

(3) Future Arrangements by DILG

- a. Further arrangements with PSPTs will be done by DILG to catch up with the schedule to complete PW4SP within one month during February, 1995 after holding workshop at respective provinces.
- b. Arrangements with Batch No. 2 provinces will be initiated based on the experience in Batch No. 1 study, ascertaining the peace and order in the provinces.
- the LGUs and other agencies in getting the comments and recommendations on the Draft Plans.
- d. Adoption of the Plans by the Provincial Council (Sangguniang Panlalawigan) shall also be facilitated by DILG.



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LIST OF ATTENDANTS

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Designation

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- 6. MS. JOSEPHINE RAMOS
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Chief, Planning Div., PMO

Chief, Admin. Div., PMO

Chief, Operations Div., PMO

PW4SP Overall Coordinator, PMO

DILG Coordinator, Oriental Mindoro

DILG Coordinator, Occidental Mindoro

DILG Coordinator, Rizal

DILG Coordinator, Zambales

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- 2. MR. VIRGILIO GACUSANA
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Director, PMO-RWS, DPWH

Chief, Planning Division, PMO, DPWR

Chief, Environmental Health Division, DOH

Sanitary Engineer II, DOH

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Asst. Resident Representative, Philippine Office

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MINUTES OF DISCUSSIONS

ON

THE PROGRESS REPORT II

FOR

STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

IN

THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN

THE DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT

AND

STUDY TEAM OF

JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, MARCH 8, 1995

HON. YÓLANDA MA. L. DE LEON

Assistant Secretary

Dept. of the Interior and Local Government

MIRAMASATOSHI MOMOSE

Team Leader, Study Team

Japan Int'l. Cooperation Agency

The Stage II field work for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" (hereinafter referred to as "the Study") resumed on January 14, 1995 and completed on March 14, 1995.

Conditions and assumptions for development of Medium-Term and Long-Term sector plans were discussed and finalized between respective PSPTs and JICA Study Team through the conduct of Workshop No. 3.

Progress Report II, as a draft of PW4SP, was prepared. In this connection, contents of the report were basically agreed upon on March 8, 1995 between JICA Study Team and officials concerned in the Philippine side. The list of attendees to the meeting is presented in Appendix A.

The following are future arrangements required by both parties:

1

- (1) DILG will follow-up Batch No. 2 provinces for implementation of the PW4SPs, ascertaining the peace and order situation in the provinces.
- (2) The starting date of the third field work by HCA Study Team for Batch No. 2 will be informed to DILG through HCA Philippine Office.



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LIST OF ATTENDEES

Attendees

Designation

A. DILG

1. MR. ORVILLE M. ROQUE	Project Manager, PMO
2. MS. ELLEN I. PASCUA	Assistant Project Manager, PMO
3. MR. ROGELIO B. OCAMPO	Chief, Planning Div., PMO
4. MS. FE CRISILLA M. BANLUTA	PW4SP Overall Coordinator, PMO
5. MS. JOSEPHINE RAMOS	DILG Coordinator, Oriental Mindoro
6. MS. LINA GRIEGO	DILG Coordinator, Occidental Mindoro
7. MS. MA. CONTESSA NAVARRO	DILG Coordinator, Rizal
8. MS. VIVIAN BIALA	DILG Coordinator, Zambales

B. OTHER AGENCIES

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C. JICA

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Asst. Resident Representative,
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2. MR. NOBUAKI MIYATA
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Social Development Study Dept.

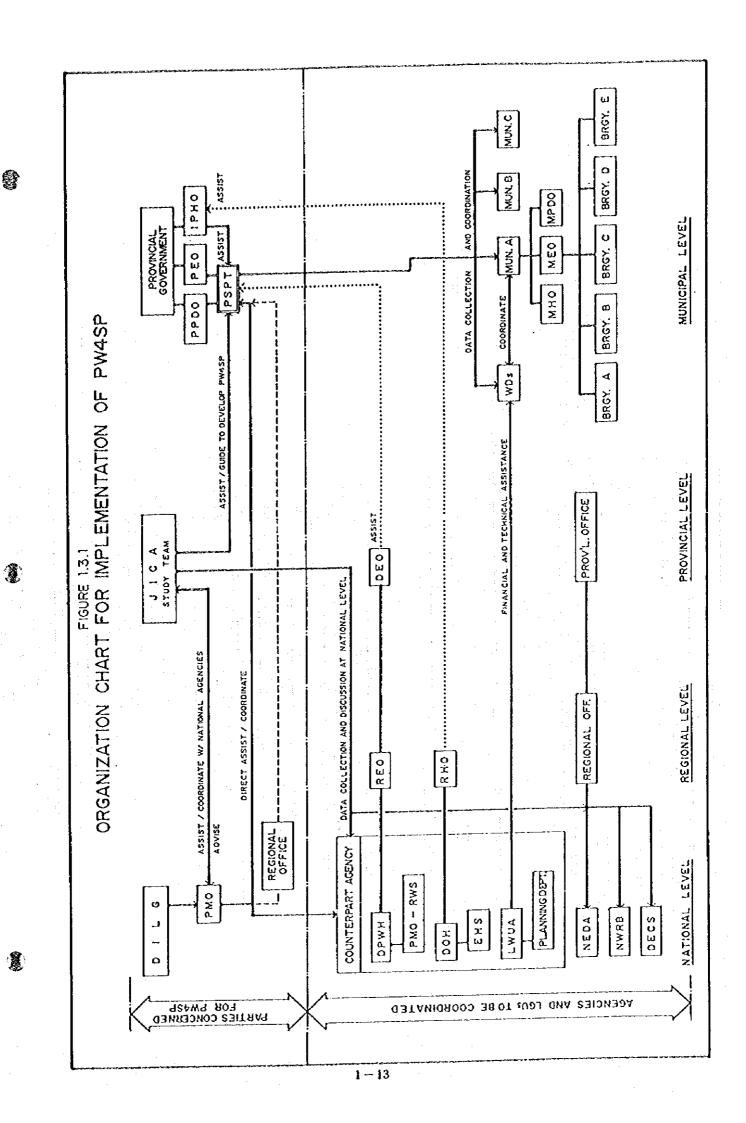
D. JICA Study Team

I. MR. MASATOSHI MOMOSE	Team Leader
2. MR. MASUOMI HIROYAMA	Water Supply Engineer
3. MS. YOLANDA M. MINGOA	Sanitary Engineer
4. MR. WILFREDO C. BARREIRO	Institutional/CD/T Specialist
5. MR. MANABU FUJIKAWA	Financial Specialist
6. MR. ALLEN LOWE	System Engineer









MINUTES OF DISCUSSIONS

ON

THE DRAFT FINAL REPORT

FOR

STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

IN

THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN

THE DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT

AND

STUDY TEAM OF

JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, DECEMBER 7, 1995

HON. YOLANDA MA. L. DE LEON

Assistant Secretary

Dept. of the Interior and Local Government

MR. MASATOSHI MOMOSE

Team Leader, Study Team

Japan Int'l. Cooperation Agency

The Stage III field work for Batch II for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" (hereinafter referred to as "the Study") started on May 22, 1995 and will be completed on December 15, 1995.

Major conditions and assumptions for the development of Medium-Term and Long Term sector plans for the remaining five (5) provinces under Batch II were discussed and finalized between respective PSPTs and IICA Study Team through the conduct of Workshop No. 3.

The Draft Final Reports for the nine (9) provinces, which cover all outputs during the study period, were prepared for respective provinces. The contents of the report were basically agreed upon on December 7, 1995 between JICA Study Team and officials concerned in the Philippine side. The list of attendees to the meeting is presented in Appendix A. The following were confirmed and/or agreed upon by both parties.

- Correction of typographical errors of the Draft Final Report will be undertaken by the Study Team prior to printing of the Final Report.
- 2. Adoption of the Plans (Batch II) by the Provincial Council (Sangguniang Panlalawigan) shall be facilitated by DILG in the same manner as Batch I.
- 3. Inclusion of the Message of the Governor in the Main Report of respective PW4SPs.

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LIST OF ATTENDEES

Attendees

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Asst. Program Manager, PMO
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PW4SP Overall & Ilocos Norte Coordinator
DILG Coordinator, Abra & Or. Mindoro
DILG Coordinator, Batanes & Occ. Mindoro
DILG Coordinator, Nueva Vizcaya & Rizal
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5. MR. ALLEN LOWE

Team Leader Water Supply Engineer Sanitary Engineer Institutional/CD/T Specialist System Engineer

D





2. PLANNING APPROACH FOR FUTURE SECTOR DEVELOPMENT

- 2.6 Planning Principles and Data Management
- 2.6.2 Data Management

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(1) Computer-based System

The data management system was established to support the Provincial Sector Planning Team (PSPT) in the preparation of the Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP). An essential task of data management is to organize various kind of data into an effective and efficient information base.

A computer-based system was applied as a viable solution to process large amount of data and to minimize the human-error in calculation. For this particular project, a dynamic system is designed to allow the planner to adjust planning factors and update the information when further data becomes available.

It is viable and economical to choose the microcomputer with software suitable for the average skills of the common user. In this connection, of the two types of software package available, database and spreadsheet, the latter method was selected. Among the available spreadsheet-type software, EXCEL was used. EXCEL supports file conversion (opening and saving), multiple file opening, graphic presentation of data, What-You-See-Is-What-You-Get (WYSIWYG) formatting, scaleable font and view, etc. The following are the advantages and disadvantages of the spreadsheet method with reference to database method.

Advantage

- 1. Minimum programming skills
- 2. Friendly environment to users
- 3. Graphic presentation of data at user's option
- 4. Execution of data linkage at formula level entry
- 5. Guided formula creation using function wizard

Disadvantage

- 1. Repeated entry of same formula
- 2. Sorting or indexing is done manually
- 3. All data are loaded in memory, which require huge amount of memory
- 4. Limited to static data linkages

Data management task starts from the collection of data using the questionnaire forms. The existence and accuracy of data are major concern at this stage to prepare main information bases. Using the microcomputer provided with EXCEL spreadsheet, data in the questionnaire forms are transferred into the forms constructed in EXCEL. Applicable policy, criteria and assumptions are entered into key parameter tables. These data are then processed and finally consolidated into target forms. These final forms provide a map of provincial profile, service coverage, future requirements, cost estimates for future sector development, and funding requirements.

Table 2.6.1 Key Parameter

No.			Description of Key Parameter	Unit	Values
i.	<u> </u>	Wate	r Supply		
	Service Level		Number of household to be served by Level I Facility	HH/Facility	
	1	ļ	Water Consumption Rate for Level III System	Liter/capita/day	
	2	Sanit	ation		
	ž		Std. number of student to be served by a unit of sanitary toilet	Student/Toilet	
		<u> </u>	Standard number of toilets for a public utility	Totlet/Public Facility	
3			Water Supply		
			Urban Water Supply	% of Population	
			Rural Water Supply Sanitation	% of Population	
		_ 1			
		1 5	Household Toilet Urban Household Toiles	% of Household	
		2	Flush	% of Household	
-		E	Pour Flush	% of Household	
		F	VIP Latrine	% of Household	
	1	5	Rural Household Toilet	A Of Hoosehold	
	1	Medium Term Plan	Flosh	% of Household	
	5	🗵	Pour Flush	% of Household	
	Provincial Sector Target		VIP Latrine	% of Household	
	[<u>-</u> -		School Toilet	% of Public Student	
	i o		Public Toiles	% of Public Utility	
	3		Solid Waste	% of Population	
	3.		Water Supply		
	3		UrbanWater Supply	% of Population	i
	Ě	(Rural Water Supply	% of Population	
	8	1	Sanitation		·
:	4	_ [Household Toilet	ୟ of Household	
		Plan	Urban Household Toilet		
		6.	Flush	% of Household	
		Ę	Pour Hush	% of Household	
		Long Term	VIP Latrine	% of Household	
	1	ŭ	Rural Household Toiles		
		يد	Flush	% of Household	
	1		Pour Flush	% of Household	
			VIP Latrine	% of Household	
		,	School Toilet	% of Public Student	
Ė	ļ		Public Toilet	% of Public Utility	
	0	1	Urban Sewerage	% of Urban Population	· · · · · · · · · · · · · · · · · · ·
1			f Level I Wells for Rehabilitation	<u>%</u>	
• .	, tittin		Sector Management Cost to Construction Cost bility and Detail Design	C. of Construction Cons	
.	1.		truction Supervision	% of Construction Cost	
5.	Conting			% of Construction Cost	
•	[ical Contingency	% of Construction Cost	
	1.	- 7	Contingency	Percent per annum	
5	Соппа		Development and Training Cost	· steeth per matern	
		Level		% of Construction Cost	
			Hand II	% of Construction Cost	
7.	¥		III System (Operating Cost)	Pesos/HH/year	
			III System (Spare Parts/Equipment)	% of Construction Cost	
2	Ĕ	Leve	111 System (Spare Parts/Equipment)	Pesos/HH/year	
	Ę		11 System (Spare Parts/Equipment)	Pesos/HH/year	
	35		c School Toilet Maintenance Cost	Pesos/Toilet/year	
·			e Utility Toilet Maintenance Cost	Pesos/Toilet/year	
.	Allocati		ctors/Percentages of IRA		
			Provincial	%	
	ļ		Municipality and Brgy.	%	
٠	Fundin		els/Percenatges for Different Financing Scenarios		
			cenario	% Funding Available	
	1		Seenario	% Funding Available.	
	i		cenario	% Funding Available	
	1	4th S	cenario	% Funding Available	







Table 2.6.2 Composition of Well Sources and Specific Capacity

			1		tandard Spec	ification
Municipality	Area	Source	Proportion (%)	Depth (m)	SWL (m)	Specific Capacity (lit/sec/m)
	Rural	Shallow Well	1 (20)	(111)	(111)	(Hesterin)
	Valar		-			
	-	Deep Well	-			
	Urban	Shallow Well			 	
	- 	Deep Weli	· 	 		
	Rural	Shallow Well			 	
	}	Deep Well	 		<u> </u>	
•	Urban	Shallow Well	 			
		Deep Well			 	
	Rural	Shallow Well	 			
	<u> </u>	Deep Well			<u> </u>	
	Urban	Shallow Well			<u> </u>	
		Deep Well	 			
	Rural	Shallow Well			ļ	
		Deep Well			-	
	Urban	Shallow Well				
· · · · · · · · · · · · · · · · · · ·	_	Deep Well	<u> </u>		<u> </u>	
	Rural	Shallow Well				
	· <u> </u>	Deep Well	<u> </u>	·		
	Urban	Shallow Well			 	
		Deep Well			<u> </u>	
* * * * * * * * * * * * * * * * * * *	Rural	Shallow Well	· ·			
		Deep Well			ļ	
;	Urban	Shallow Well				
<u> </u>		Deep Well				
	Rural	Shallow Well			<u> </u>	
		Deep Well	1			
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well				
,		Deep Well			<u> </u>	
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well			1	<u> </u>
		Deep Well			<u> </u>	<u> </u>
	Urban	Shallow Well			<u></u>	<u> </u>
		Deep Well				<u> </u>
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well			L	
· · · · · · · · · · · · · · · · · · ·	Rural	Shallow Well				
		Deep Well				
	Urban					<u> </u>
	.	Deep Weil	1		1	
	Rural	Shallow Well	1			
		Deep Well	1			
	Urban					ļ
	Orvail	Deep Well		}- -	 	

Table 2.6.3 Annual Distribution of Investment Cost Required by Sub-sector for Medium-Term Development Plan

				C = 1		Unit: Per	cent
Sub-Sector	Component	1996	1997	1998	1999	2000	Tota
	Level III System	57701	V.		### £		MA
Urban Water Supply	Feasibility Study and Detail Design					4-3-1-4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	
. \$ ₹ ₹	Construction & Supervision		.	1			
~	Community Development & Training			l			
•	Level I Facility	67. W.	-93.42	3339-3	9919	AND ME	. 12 · 4
<u></u>	Detail Design			T		- Medical Spheroca	
y ate	Construction & Supervision		l		Ĭ		
≱ 🐔	Community Development & Training				I		
Rural Water Supply	Level II System						
i S	Detail Design						
PS4	Construction & Supervision						
•	Community Development & Training						
	Urban Household Toilet						
	Rural Household Toilet					,	
<u>စ</u> ိ	Public School Toilet	l					
Ę	Public Toilet	1					
Sanitation	Disinfection of Level I Wells						
S	Detail Design						
	Construction & Supervision						
	Community Development & Training						

Table 2.6.4 Level I Safe and Unsafe Percentage

Municipality	Safe Source (%)	Unsafe Source (%)
		<u> </u>
		Į
		
		
	·	
		
		
		
		<u> </u>
		ļ
	 	
	ļ	
	ļ	<u> </u>
Provincial Average	1	<u> </u>

Table 2.6.5 Unit Construction Cost of Different Facilities

	Unit	Service (Service Coverage	Unit	Unit Cost
Description	Construction	Served	Served	Pesos/	Pesos/
	Cost (Pesos)	Population	Household	Person	Honsehold
Water Supply	emplying business				57777
Level III • New System			· · · · · · · · · · · · · · · · · · ·		
For 5000 Population		1			
For 10000 Population		:	:		
For 15000 Population				:	•
Level III - Expansion					
For 5000 Population				•	
For 10000 Population		:		·	
For 15000 Population				:	
LevelII					
Level					
Deep Well - 30 meter depth					
Deep Well - 50 meter depth					
Deep Well - 70 meter depth					
Shallow Well					
Spring Development					
Rehabilitation Cost for Level I Deep Well					-
Disinfection of Level I Wells					The state of the s
Sanitation			S. C.		
Flush					
Pour Flush		 			
VIP Latrine					
School Toilet					
Public Toilet				-	:
Triban Sewerage					

Table 2.6.6 Scoring Factor for Municipal Investment Ranking for Urban Water Supply

Unit: Percent

	Underserved and	Underserved and	Population
Score	Unserved Population in Base	Unserved Unserved Unserved by Level Population in Base Population in Phase III Systems in Base	Unserved by Level III Systems in Base
	Year	*	Year
1.0	%>	< %	%>
0.8	>%>	>%>	>%>
9.0	>%>	>%>	>%>
6.0	>%>	>%>	>%>
0.2	>%	> %	>%
Weight Allocation			
Score			

Table 2.6.7 Scoring Factor for Municipal Comprehensive Investment Ranking

Unit: Percent

Score	Urban Water Supply	Rural Water Supply Urban Sanitation	Urban Sanitation	Rural Sanitation
1.0	N.A.	% >	%>	%>
0.8	N.A.	>%>	>%>	>%>
9.0	N.A.	>%>	>%>	>%>
6.4	N.A.	>%>	>%>	>%>
0.2	N.A.	>%	>%	>%
Weight Allocation				
Score				

3. PROVINCIAL PROFILE

3.3 Socio-economic Conditions

3.3.1 Economic Activities and Household Income

Table 3.3.1 Distribution of Household by Income Class

		<u> </u>	Ilocos Sur		Reg	gion I
Income Class	Total Fa	milies ²	Annual	Income	Total Number	1
	Number	Share	Total (P 1,000)	Average (Pesos)	of Families	Average (Pesos)
Under 15,000	9,241	8.72	112,528	12,177	39,905	- 11,560
15,000 - 19,999	5,746	5.42	102,004	17,753	44,018	17,628
20,000 - 29,999	23,619	22.29	608,148	25,748	134,728	25,13.
30.000 - 39.999	15,005	15,005 14.15 505,444	33,684	114,843	34,50	
40,000 - 59,999	24,654	23.27	1,189,928	48,264	143,584	48,92
60,000 - 99,999	13,552	13,552 12.79 1,052,709	77,677	122,295	76.11	
100,000 - 249,999	12,100	12,100 11.42 1,845,2	1,845,203	152,502	62,116	142,51
250,000 and over	2,051	1.94	810,615	395,152	10,038	427,30
Total/Average	105,968	100.00	6,226,579	30,576	671,527	58.75
Median			<u> </u>	39,050		40,25

Source: 1991 Family Income and Expenditures Survey, NSO

Note:

(1) Based on NEDA and other agencies, poverty threshold in Region I in 1991 was estimated at P 48,700. Proportion of families below poverty level was 62 % in the same year.

(2) For purposes of the survey, a family is defined as a group of persons usually living together and composed of the head and other persons related to the head by blood, marriage or adoption. A single person living alone is considered as a separate family.

Table 3.3.2 Gainful Workers by Occupation Group and Major Industry Group

	Gainful		MAJOR	INDUSTRY	GROUP	
Major Occupation Group	Workers 15 Years Old and Over	Agriculture, Fishery and Forestry	Mining and Quarrying	Manu- facturing	Electricity, Gas and Water	Construction
Total	174,251	87,793	245	8,588	386	7,035
Official of Gov't. & Special Interest Org., Corp. Executives, Managers, Managing Prod. & Supervisors	3,222	11	9	95	19	160
Professional	8,245	-	-	22	19	107
Technicians and Associated Professional	2,237	. 19	-	31	20	41
Clerks	3,780	11	-	124	89	21
Service & Shop Market Sales Workers	4,612		11	71		1 1
Farmers, Forestry Workers & Fishermen	78,956	78.402	-		9	-
Craft and Related Workers	13,373	20	123	5,436	189	6,045
Plant & Machine Operators and Assemblers	7,860	29		915	20	63
Elementary Occupations	30,543	8,606	61	360		320
Other Occupations	11,818	695	41	1,534	21	267
Occupation Not Stated	9,605	-	-	<u>.</u>		

		MAJ	OR INDUST	RY GROUP		
Major Occupation Group	Wholesale and Retail Trade	Transportation and Communication	Financing, Insurance, Real Estate and Business Services	Community, Social and Personal Services	Activities Not Adequately Defined	Not Stated
Total Total	12,128	8,055		29,157	9,913	9,595
Official of Gov't. & Special Interest Org., Corp. Executives, Managers, Managing Prod. & Supervisors	1,514		46			
Professional	. 19	25	252	6,745	1,056	: ·
Technicians and Associated Professional	568	101	210	968	279	
Clerks	973	174	285	1,408	695	
Service & Shop Market Sales Workers	1,098	580	383	2,133	325	
Farmers, Forestry Workers & Fishermen	87	-	11	18	429	-
Craft and Related Workers	- 88	. 113		881	478	
Plant & Machine Operators and Assemblers	71	6,188	21	350	203	-
Elementary Occupations	6,861	644	21	12,370	1,300	-
Other Occupations	849	187	127	3,150	4,917	
Occupation Not Stated					10	9,595

Source: NSO Census 1990

3.3.3 Education

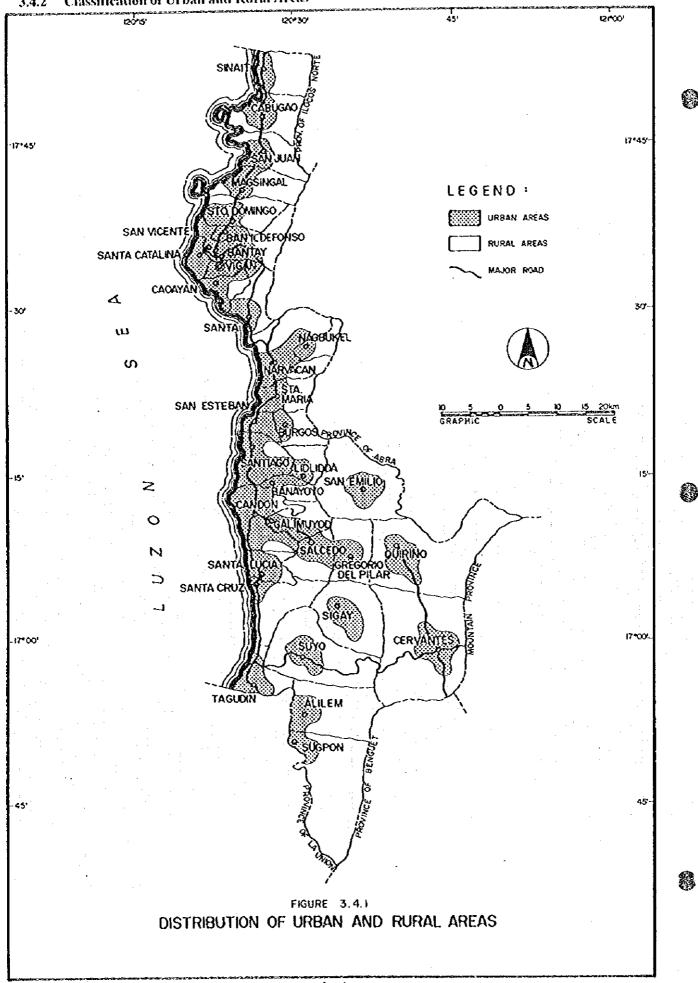


Table 3.3.3 Household Population by Highest Educational Attainment

Highest Educational	Household Population				ge Group			
Attainment	7 Years Old and Over	Below 20	20-24	25-29	30-34	35-39	40-44	45 & Ove
Total	434,462	154,069	47,926	41,484	34,196	29,153	23,526	104.10
No Grade	19,949	4,619	360	380	396	461	473	13.26
Pre-School	3,739	3,441	23	23	19	13	11	20
Elementary	220,470	90,581	10,435	11,714	13,229	13,837	13,222	67.45
1st - 4th Grade	104,568	56,987	2,240	2,379	2,889	3,390	3,345	33,33
5th - 7th Grade	115,902	33,594	8,195	9,335	10	10,447	9,877	34,11
High School	118.701	45,629	20,008	14,698	11,074	8.130	5,320	13.84
Undergraduate	57,473	31,671	6,430	4,431	3,606	2.795	2,168	6.37
Graduate	61,228	13,958	13,578	10,267	7,468	5,335	3.152	7,47
Post Secondary	11.020	1,128	2,934	2,409	1,772	1.067	454	1.25
Undergraduate	2,222	380	552	446	279	205	102	25
Graduate	8,798	748	2,382	1,963	1,493	862	352	99
College Undergraduate	31,235	7,954	8,503	5,273	3,212	2,370	1.435	2.45
Academic Degree Holder	27,408	157	54,808	6,753	4,316	3,145	2,52	5,10
Not Stated	1,940	560	255	234	178	130	- 81	4

Source: NSO Census 1990

3.4.2 Classification of Urban and Rural Areas



3.5 Health Status

3.5.3 Health Facilities and Practitioners

Table 3.5.1 Number and Ratio to Population of Health Facilities and/or Medical Pracitioners

	llocos	s Sur	Philij	pines
Health Facilities	Number	Ratio	Number	Ratio
Hospitals	23	1:24,501	1,733	1:35,017
RHUs	34	1:16,574	2,295	1:26,442
BHSs	157	1:3,589	10,151	1:5,978
Practitioners				
Doctors	206	1:2,736	7,431	1:8,166
Nurses	189	1:2,982	10,270	1:5,909
Midwives	305	1:1,848	11,604	1:5,230
Dentists	107	1:5,267	1,550	1:39,152

3.6 Environmental Conditions

3.6.2 Water Pollution

Table 3.6.1 DENR Water Quality Criteria/Water Usage and Classification for Fresh Water

PARAMETER	UNIT	CLASS AA	CLASS A	CLASS B	CLASS C	CLASS D
Color	PCU	15	50	(C)	(C)	(C)
Temperature (D) (max. rise in deg. Celsius)	°C rise	 ·	3	3	3	3
pH (range)		6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.0-9.0
Dissolved Oxygen (B)	%satn	70	70	70	60	40
(Minimum)	mg/L	5.0	5.0	5.0	5.0	3.0
5-Day 20°C BOD	mg/L	1	5	5	7(10)	10(15)
Total Suspended Solids	mg/L	25	50		·	
Total Dissolved Solids	mg/L	500	1,000		: 	1,000
Surfactants (MBAS)	mg/L	nil	0.2(0.5)	0.3(0.5)	0.5	<u></u> - 1
Oil/Grease (Petroleum Ether Extract) Nitrate as Nitrogen	mg/L mg/L	nil 1	1 10	l NR	2 10	5
Phosphate as Phosporous	mg/L	ກຳໄ	0.1	0.2	0.4	
Phenolic Substances as	mg/L	nil	0.002	0.005	0.02	
Phenols Total Coliforms	MPN/100mL	50	1,000	1,000	5,000	
or Fecal Coliforms	MPN/100mL	20	100	200		
Chloride as Cl	mg∕l	250	250		350	
Copper	mg/L	1	1	'	0.05	 ,

Notes:

Class AA - Public Water Supply Class I. Intended for waters having watersheds which are uninhabited and otherwise protected and which require only approved disinfection in order to meet the national standards for drinking water.

Class A - Public Water Supply Class II. Sources of water supply that will require complete treatment (coagulation, sedimentation, filtration and disinfection) in order to meet drinking water standards.

Class B - Recreational Water Class I. For primary contect recreation such as bathing, swimming, skin diving, etc. (particularly for tourism purposes).

Class C - Pishery Water for the propagation and growth of fish and other agnatic resources; recreational (for boating, etc.); industrial water supply class I for manufacturing processes after treatment.

Class D - For agriculture, irrigation, livestock watering, etc.; for industrial water supply class II (cooling, etc.); other inland waters by their quality, belong to this specification.

- 4. EXISTING FACILITIES AND SERVICE COVERÂGE
- 4.1 Water Supply
- 4.1.3 Level III Systems

Table 4.1.1 Details on Existing Level III Systems

NED	Ā			T			Leve	III Set	vices			
Geog	ş. ,	1:	Name of System	1 -	omber			umber		•	umber	
graph	1	oanty	(Operating Body)		ngays S Rural			holds S Rural			Rural	
Cod	e			Orosu							,	 -
0129	03 Bantay		Metro Vigan W.D	6	9	15	230	520	750	<u> </u>		ļ
0129	OS Cabugao		Cabugao Waterworks System	5	11	16	970	342	1,312	850	1,710	2,560
0129	07 Caoayan		Metro Vigan W.D	7	2	9	214	126	340	630	1,700	2,330
0129	10 G. del Pilo	- -	Barangay Alfonso W.S	0	ı	ı	0	108	108	0	540	540
			Barangay Dapdapig W.S	0	ı	1	0	-52	52	U	260	260
			Barangay Concepcion W.S	ı	0	1	120	0	120	600	. 0	600
			Municipal Total	ī	2	3	120	160	280	600	800	1,400
0129	14 Narvacan	· · · · · · · · · · · · · · · · · · ·	Narvacan W.D	2	0	2	168	0	168	840	0	840
0129	22 Santa		Santa W.D	4	5	9	151	19	170	755	9,5	850
0129	25 Santa Luc	ia	Santa Lucia W.D	3	2	5	184	129	313	920	645	1,565
0129	26 Santa Mai	-ia	Nalvo Water System	0	1	1	0	50	50	0	250	250
0129	27 Santiago	i +	Santiago Water System	2	0	2	67	0	67	335	0	335
0129	28 Santo Dor	ningo	Sto. Domingo Water System	1	1	2	5	- 2	7	25	01	35
0129	30 Sinait		Sinait Waterworks	4	0	4	199	0	. 199	995	0	995
0129	33 Tagudin		Tagudin W.D	5	18	23	532	511	1,043	2,660	2,555	5,215
0129	34 Vigan		Metro Vigan W.D	12	0	12	1,260	. 0	1,260	6,300	0	6,300
		Provi	ncial Total	52	51	103	4,100	1,859	5,959	16,060	11.515	27,575

NEDA	1	l e				Leve	i II Ser	vices			
Gco	Municipality	Name of System	1	ber of P			umber e sholds S			umber of lation So	
graphic Code	Mancipani	(Operating Body)		Faucets Rural					Urban		
0)2903	Bantay	Metro Vigan W.D	0	0	0	0	0	Û		0	; O
012905	Cabugao	Cabugao Waterworks System	0	0	0	О	: 0	0	0	0	0
012907	Caoayan	Metro Vigan W.D	О	0	- ,0	0	υ	()	0	0	0
012910	G. del Pilar	Barangay Alfonso W.S	0	0	0	0	0	0	()	. 0	.0
		Barangay Dopdopig W.S	0	. 0	0	0	0	0	0	0	0
		Barangay Concepcion W.S	0	0	0	0	0	0	0	0	0
		Municipal Total	0	. 0	0	0	0	: 0	0	. 0	0
012914	Narvacan	Narwacan W.D	0	0	. 0	0	0	0	0	0	0
012922	Santa	Santa W.D	0	- 0	Ö	Ó	0	- 0	. 0	0	. 0
012925	Santa Lucia	Santa Lucia W.D	0	0	0	0	0	0	0	0	0
012926	Santa Maria	Nalvo Water System	0	0	0	0	0	0	. 0	0	0
012927	Santiago	Santiago Water System	i	0	+	15	О	15	75	0	7.5
012928	Santo Domingo	Sto. Domingo Water System	0	2	2	O	70	70	0	350	350
012930	Sìnait	Sinait Waterworks	. 0	0	- 0	0	0	0	0	0	()
012933	Tagodin	Tagudin W D	0	0	0	0	0	()	0	0	()
012934	Vigan	Metro Vigan W.D	0	0	0	0	0	0	0	0	(
	Prov	ncial Total	1	2	3	15	70	85	75	350	425

Table 4.1.1 Details on Existing Level III Systems (Cont.)

NEDA				Water Sou	rces		Const	mption	
Geo- graphic	Municipality	Name of System (Operating Body)	Type	Number	Production	Domestic	Institutional	1	Industrial
Code			<u> </u>	<u> </u>	(cu.m/day)	ļ	(ςυ, ι	n√day)	
012903	Bantay	Metro Vigan W.D	SP		1,406.29	0	0	(()
012905	Cabugao	Cabugao Waterworks Sys.	SP	!	272.52	0	0	(
012907	Caoayan	Metro Vigan W.D	ĐW	1	N.A.	0	0	(•
012910	G. del Pilar	Barangay Alfonso W.S	SP	3	360	0	0	(0
		Barangay Dapdapig W.S	SP	2	194.4	0	0	((
		Barangay Concepcion W.S	SP	l	172.80	0	0	((
		lunicipal Total		6	727.20	0	0	. (
012914	Narvacan	Narvacan W.D	DW	ı	600	70	26	18	0
012922	Santa	Santa W.D	SP	1	864	260	0	. ((
012925	Santa Lucia	Santa Lucia W.D	SW	3	442	0	0	(
012926	Santa Maria	Nalvo Water System	DW	3	29	0	0	() f
012927	Santiago	Santiago Water System	ĐW	ı	N.A.	70	40	. () (
012928	Sto. Domingo	Sto. Domingo Water Sys.	SP	ı	981	0	0	() (
012930	Sinait	Sinait Waterworks	DW	2	1,764	103	0	() (
012933	Tagudin	Taguđin W.D	DW	1	1,000	30	.0	50) (
012934	Vigan	Metro Vigan W.D	DW	1	2,023.68	0	0	. () (
	Provin	cial Total		23	10,949.69	533	66	68	(

Note: 1. Type of Water Source: DW - Deep Well, DgW - Dug Well, Surf. - Surface Water (River), Sp - Spring, IG - Infiltration Gallery.

	<u> </u>			1. 2						ORSHUM	n .						
NEDA				nestic H onnectic		Domest	ic Eubli	c Faucets	Į,	stitutio	nal	C	OMBE	ial		Industri	a)
Geo- graphic	Municipality	Name of System (Operating Body)	Conne	ction	Con- somption	Conne	rtion	Con- sumption	Connec	tion	Con- sumption	Conne	ction	Con- sumption	Conne	ction	Con- samption
Code			Metered	t'nine- tered	(cu.m/ day)	Metered	L'nme- tered	(cu.m/ day)	Metered	Unme- tered	(cd.nv មិនមូ)	Metered	Unine- k red	(cum/ day)	Metered	Unme- tered	(cu.m/ day)
012803	Bantay	Meiro Vigan W D	250	- 0	4)	0	Û	0	0	ti	0	50	0	. 0	2	0	. 6
012905	Cabugan	Cabugao Waterwerks System	1.312	. 0	0	Ð	0	0	0	o	0	D	0	. 0	0	o	(1
032907	Casing an	Metro Vigan W.D	340	0	0	0	- 0	0	0	O	e	34	. 0	. 0	0	0	- 0
012910	G. del Inlar	Brgy Alfonso W.S.		108	0	0	O	b	Đ	0	ŋ	0	С	0	0	ø	0
		Brgy Daptipig W.S		52	.0	6	€	Ð	b	0	0	Ü	. 0	0	. 0	ø	0
		Brgy Concepcion W.S.		120	. 0	6	6)	1,	6	Đ	C r	0	()	- 0	0	G	
	Mur	icipal Total	0	280	0	, 0	(1)	n	. Ω	. 0	o	ø	· 0		0	t,	. 0
012914	Sarvacan	Narvacan W D	168	e	70	- 0	- b	0	2	. 0	26	4	. 0	(8	0	. 0	. 1
012922	Santa	Santa W. D	170	6	260	0	; P	. 0	0	- 6	0	0	0	t)	: {;	4.	. 0
912925	Šanta Lucia	Santa Lucia W Đ	313	1)	0	0	ю	6	2	. 6	()	×	O	0	0	- 0	0
012926	Santa Maria	Nalvo Water System	ø	50	0	o	0	- 0	Ü	. 0	0	0	0	0	0	Ð	: 0
012927	Sartiago	Santiago Water System	67	0	70	3	6	50	*	: 0	40	O	0	+,	0	. 0	ρ
012928	Sto. Domingo	Sto. Domingo Water Sys.	0	3	0	()	0	O	0	0	()	ь	. 6	Б	0	0	()
012930	Simili	Smait Waterworks	199	0	103	0	e	0	6	6	()	60	0	0	ð	6	fi
012933	Fagedor	Tugudin W.D	1.043	1)	30.24	0	e	0	e	e	0	103	O	50,4	()	0	ţı
012934	Vig.m	Metro Vigan W.D	1,260	. 0	0	ŧ	0	()	- 0	0	. 0	101	0	Đ	1	()	ti
	Provincia	d Total	5,622	337	533.24	,	0	50	11	o	66	300	()	68.4	6	()	(1



Table 4.1.2 Existing Level II Systems

NEDA Geo- Municipality graphic Code Code 012904 Burgos		_	.)					
Burgo	Name of System	Water Source	er s	Length of	Rese	Reservoir	Length of Distribution Line	Number of Public Faucets
1	(Operating System)	\vdash	Number	ransmission Line (meter)	Number	(cn.m)	(meter)	
	2 / N =		6				1,500	
			-				000'1	
	WESSEN W	as	6				1,200	
		43	1				3,200	
			- -				1,500	
	Brgy, Mapanit W.S	2 8					1,500	
		September 1999			0	C	0066	
	Municipal Total		7	002.7				
Candon	(Brgy, Bugnay	i e	- (TOUR!			\$	
G. del Pilar	Brey, Matue-Butaray) E	7				2005	
Nagbukel	Brgv, Taleb	d G					2.550	
Narvacan	Brgv, Marozo	<u>}</u>	7	907			000 \$1	
	Municipal W.S	dS	14	1,400				
San Esteban	Poblacion W.S.	ΩM						
	Brgy, Villa Quirino	MΩ	=					
	Municipal Total	神のからな	2	0	2			
San Juan	San Juan Waterworks	SP	2				000'01	
	Barasibis W.S.	SP	7	82			000'/	
	Bapan W.S.	WCNAS	1/1	200				
	Vimicioal Total	The second second	2/1	300	0	0	00X-6	
0:2924 Santa Ceiz	Brev. Bugbuga W.S	dS			_			
	Brev. Daliga W.S	dS	1					
	Brov. Paratone W.S	ds		1,250				
	Brov. Pidnid W.S.	dS.	11					
	Municipal Total		4	1.250	4	0		
Section 1	Barragay W.S.	dS:	-				2,000	
Т	Brow Luccoc	dS		005	1	1 27	1,350	
7	Municipal W.S	dS	4.	15,200		7.		
1	Municipal W.S	dS	6				5,500	
П	Brev Baringcucurone W.S	dS	1			-	3,570	
	See Cabron W.S.	ds	•		-	1	3,000	
	Bray Man-Alone W.S.	dS	S			8	5,250	
	Para Prince Ac W. C.	dy				-	2.510	
	Break Doklamon W.S.	a's	8			5	2,570	
	Bras. Hadazan W. C	d.	2			2	3,570	
	Bern Hea W.	dS				11	3,750	
	Ministrate There	THE PARTY OF THE P	191) 0) 91	24,220	
	With the Comment	dy	6				2.500	
O 17975 Lavagin		CONTRACTOR OF THE	ξ.	1 22.950	9	_	7XL 06 0E	

Table 4.1.2 Existing Level II Systems

Code Name of System (Code) Name of System (Code) Unibate of Population Served (Code) Number of Popul						7						
Votation NEDA Geographic		Name of System	Number	of Barangay	's Served	Number	of Househole	k Served	Number	of Population	Served	
Full Problems Engr. Labergo W.S. 1 1 2 25 25 25 25 25	Code		(Operating Body	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
ENGINEERING WAS 1 1 45 45 45 45 45 45	012904		Brgy. Balugang W.S		1	1		40	102		200	2007
Elegy, Amanboe WS 1 1 4.0 4.0 5.0 5.0 Elegy, Amanboe WS 1 1 1 4.0 5.0 5.0 Elegy, Amanboe WS 1 1 1 4.0 5.0 5.0 Elegy, Amanboe WS 1 1 1 1.0 5.0 Candon Municipal Total 1 1 1.0 1.0 5.0 Candon Elegy, Elegant WS 1 1 1.0 1.0 5.0 Candon Elegy, Mance Jentracy 1 1 1.0 1.0 5.0 Candon Elegy, Mance Jentracy 1 1 1.0 1.0 5.0 Candon Elegy, Mance Jentracy 1 1 1.0 1.0 5.0 Candon Elegy, Mance Jentracy 1 1 1.0 1.0 5.0 Candon Elegy, Mance Jentracy 1 1 1.0 1.0 5.0 Candon Numeripal Total 1 1 5.0 5.0 5.0 Candon San Juan Warvecce 4 6 6.0 6.0 5.0 Candon Elegy, Lastec 1 1 1 5.0 5.0 5.0 Candon Elegy, Lastec 1 1 1 5.0 5.0 5.0 Candon Elegy, Lastec 1 1 1 5.0 5.0 5.0 Candon Elegy, Lastec 1 1 1 5.0 5.0 5.0 Candon Elegy, Lastec 1 1 1 1 5.0 5.0 5.0 Candon Elegy, Lastec 1 1 1 1 5.0 5.0 5.0 Candon Elegy, Lastec 1 1 1 1 1 5.0 5.0 Candon Elegy, Lastec 1 1 1 1 1 5.0 5.0 Candon Elegy, Lastec 1 1 1 1 1 5.0 5.0 Candon Elegy, Lastec 1 1 1 1 1 1 5.0 5.0 Candon Elegy, Lastec 1 1 1 1 1 1 1 1 1	=,=:		Brgy. Bessang W.S		1	I		25	25		125	125
BERGY, Nationaley W.S. 1 1 15 150 15		-	Ergy, Lubing W.S		1	1		45	45		225	225
Biggy, Augustin W.S. 1 1 1 1 1 1 1 1 1			Brgy, Manaboc W.S		1	IT		040	40		200	200
Santa Lucina Birgy, Libalpian W.S 1 1 1 1 1 1 1 1 1			Brgy. Mapanit W.S		7	7		15		-	75	7.5
Candoon			Brgy, Taliao W.S			1		30			150	150
Candon Erry, Baggary 1 1 1 110 110 550 Narvacan Erry, Marco		V	funicipal Total	0	9	9	0	195		ō	975	978
G. Gel Pilat Begy, Name-Butany 1 1 1 1 1 1 1 1 1	012906		Brgy. Bugnay		7	7		110	110		550	550
Nagebuck Begy, Taleb 1 1 1 1 1 1 1 1 1	012910	ar	Brgy. Mame-Butaray		1	1		110	011		550	550
San Saceba Regy, Man-Atong W.S 1 1 1 1 1 1 1 1 1	012913		Brgy, Taleb		1	1		10	101		9	Ş
San Sierban Numerigal W.S. 1 6 7 200 420 620 1,070 2,226	012914		Brgy. Marozo		1	1		06	8		450	450
San Description Paggy Villa Quinno San Date Paggy Villa Quinno San Date San	012915		Municipal W.S	1	9.	7	200	420	620	1,020	2,226	3.246
Santa Begy, Villa Querno 1 1 1 1 1 1 1 1 1	012918		Poblacion W.S	1		1	50		50	255		255
Sanita Manacipal Total 1 1 2 50 30 80 255 169			Brgy, Villa Quinno		1	1		30	301		1491	45
Santa San Juan Waterworks 4 6 65 65 325		Z		1	1	2	20	30	တ္တ	255	149	40.
Santa Banasubus W.S. 1 1 1 60 60 512 Santa Cruz Brgy, Bugbuga W.S. 1 1 1 1 565 555 Brgy, Dabigan W.S. 1 1 1 25 25 25 125 Brgy, Dabigan W.S. 1 1 1 25 25 25 125 Brgy, Dabigan W.S. 1 1 25 25 25 25 Brgy, Dabigan W.S. 1 1 25 25 25 25 Brgy, Dabigan W.S. 1 1 25 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Banagay W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Dabigan W.S. 1 1 2 25 25 25 Brgy, Udazan W.S. 1 1 2 25 25 25 Brgy, Udazan W.S. 1 1 2 25 25 25 Brgy, Udazan W.S. 1 1 2 25 25 25 Brgy, Udazan W.S. 1 2 2 2 2 2 Brgy, Dabigan W.S. 2 2 2 2 2 2 Brgy, Udazan W.S. 3 3 3 3 3 3 3 3 3	012920	ner	San Juan Waterworks		4	4		99	59		325	325
Hamari W.S. Hamari W.S. Hamari W.S. Hamari W.S. Santa Cruz Hary, Dagbuga W.S. Hary Hamari W.S. Hary, Dagbuga W.S. Hary, Baragay W.S. Hary, Poblacian W.S. Hary, Dalama W.S. Hary, Da	012922		Barasibis W.S		1	[· · · · · · · · ·		09			312	312
Santa Cruz Ergy, Bagologa W.S 1 1 25 25 55 155 Ergy, Pictor of Municipal W.S 1 1 1 25 25 25 1325 Ergy, Pictor of W.S 1 1 1 25 25 25 1325 Ergy, Pictor of W.S 1 1 1 25 25 25 1325 Santa Lucia Bray, Lussoc Municipal W.S 1 1 1 25 25 25 1325 Sugoo					1	13		35			182	182
Santa Cruz Biggy, Bugbugga W.S 1 1 065 655 325 325 Biggy, Datacanow W.S 1 1 065 655 325 325 Biggy, Datacanow W.S 1 1 065 655 325 475 Santa Lucia Barangay W.S 1 1 0 0 215 215 0 1,075 Suppon Municipal W.S 1 2 2 2 2 2 2 2 2 1,275 Sugpon Municipal W.S 1 2 2 2 2 2 2 2 2 2			funicipal Total	0	2	2	0	65		0	494	484
Brgy, Daligan W.S 1 1 65 65 65 325 Brgy, Padigan W.S 1 1 2 25 25 125 Sand Lucia Municipal Total 0 4 4 0 215 25 1.075 Sand Lucia Barangay W.S 2	012924		Brgy, Bugbuga W.S		~4	1		30			150	150
Brgy. Paratong W.S			Brgy, Daligan W.S	į	1	1		92			325	325
Biggy, Pidghed W.S. 1 1 95 95 475 Santa Lucta			Brgy, Paratong W.S		1	1		25			125	125
Santa Lucia Municipal Total 0 4 4 0 215 215 0 1.075 Santa Lucia Barangay W.S. 2 2 25 25 1.25 Sto. Domingo Brgy. Lussoc 1 1 2 25 25 1.175 Sugay Municipal W.S. 1 2 2 2 2 2 2 2 2 Sugay Municipal W.S. 1 2 2 2 2 2 2 2 2 Sugon Municipal W.S. 1 1 1 1 1 1 2 2 2 2			Brgy, Pidpid W.S		1	1		95			475	475
Santa Lucia Barangay W.S. 2 2 2 25 25 25 125 <t< td=""><td></td><td></td><td>funicipal Total</td><td>0</td><td>4</td><td>4</td><td>0</td><td>215</td><td></td><td>Ö</td><td>1.075</td><td>1.075</td></t<>			funicipal Total	0	4	4	0	215		Ö	1.075	1.075
Sign	012925		Barangay W.S		2	2		25		-	52;	125
Sigay Municipal W.S 1 7 7 325 325 1,625 1,1 Sugpon Municipal W.S 1 5 6 45 235 280 225 1,175 1,		omingo	Brgy. Lussoc		1	1		. 25			125	125
Suggoo Munderpal W.S 1 5 6 45 235 280 225 1,175 1 Suyo Brgy. Barngeuceurong W.S 1 1 1 190 190 950 1750 Brgy. Cabugao W.S 1 1 1 150 150 750 1 Brgy. Man-Atong W.S 1 1 1 260 260 1,300 1 Brgy. Potlacion W.S 1 1 225 85 1275 1 Brgy. Udzan W.S 1 1 225 1,275 1,275 1,1 Brgy. Udzan W.S 1 1 1 260 1,175 1,1 Brgy. Udzan W.S 1 1 1 265 1,275 4,50 Brgy. Udzan W.S 1 1 6 7 225 940 1,165 1,275 4,50 Municipal Total 4 51 55 520 3,023 3,545 2,775 18			Municipal W.S		7	7		325			1,625	1.625
Suyo Brgy. Barngcuctoring W.S 1 1 1 190 190 950 Brgy. Cabugao W.S 1 1 150 150 750 1.300	i	ç	Municipal W.S	1	5	9	45	235		225	1.175	3
Brgy. Cabugao W.S. 1 1 150 150 750 Brgy. Man-Atong W.S. 1 1 260 260 260 1,300 1,1300 1			Brgy. Baringcucurong W.S		1	[7		190	061	-	056	950
Brgy, Man-Atong W.S 1 1 260 260 1300 Brgy, Patics-Ao W.S 1 1 85 85 425 Brgy, Poblacion W.S 1 1 225 225 1.275 450 Brgy, Udazan W.S 1 1 1 90 90 450 450 Brgy, Udazan W.S 1 1 1 6 90 90 450 825 Mumicipal Total 1 6 7 225 940 1,165 1,275 4,700 3 Inguish Batangay W.S 3 3 3 135 135 675 15,269 18			Brgy. Cabugao W.S		11	1		150	150		750	1 <u>8</u> 2
Brgy. Patoc-Ao W.S 1 1 225 85 85 425 1.25 1.25 1.25 1.25 1.25 1.275 1.1 1.25 1.275 1.25 1.275 1.275 1.275 1.275 1.25 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.225 1.275 1.225 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.275			Brgy. Man-Atong W.S		1	1 [260	260	-	1300	1.300
Brgy. Poblacion W.S. 1 1 225 225 1.275 1.275 1.2			Brgy. Patoc-Ao W.S		1	}1		\$8	85		425	425
Brgy, Udazan W.S 1 1 90 90 450			Brgy. Poblacion W.S	.		11	225		225	1.275		1,275
Brey, Uso W.S 1 1 165 165 825			Brgy, Udazan W.S		7	1	}	06	06	Ì	450	450
Municipal Total			Brgy, Uso W.S			1		165	165		828	825
Jagudan Barangay W.S 3 3 135 1			funicipal Total	1	9	7	225	076	1,165	1.275	4.700	5.975
4 51 55	012933		Barangay W.S		3	8		135	135		675	675
		Provinci	al Total	7	15	55	520	3.025	3.545	2.775	15,2691	18,04

0

Table 4.1.2 Existing Level II Systems

_		_			Š	Service Conditions During Dry Season	During Dry oc	ason		
	Name of System	,	2	-	Sup	ply Interruptic	on (number/mos	nth)	Supply Water Pressure (% of Tota	ssure (% of Te
Municipality	(Operating Body	Supply (Hrs/day)	Vater Water	1.	ower Failure	Fump Breakdown	Pipe Burst	Others	Adequate	Inadequate
	Brev. Balugang W.S.	24		_ ၂						
	Brev. Bessang W.S.	24		U						
	Brev. Lubing W.S.	22		D						
	Brov. Manaboe W.S.	2,4		0						
	Brey, Mapanit W.S	22		b						
-4	Brgy, Taliao W.S	24		9						,
×	funicipal Total	2,4	0		0	0	0	٥	0	5
Candon	Brgy, Bugnay	24	٥	٥						
	ΙĒ	24		Ö						
		24		O						
Narvacan	Brgy, Marozo	24	0	U						
Oning	Municipal W.S	24		Ü						
San Esteban	Poblacion W.S	24		O						
	Brgy, Villa Quirino	24		ი ნ						
2	Aunicipal Total	24		古が変える						
San Juan	San Juan Waterworks	24		<u>၂</u>						
Santa	Barasibis W.S	75		U						
	Banari W.S	24		5						
	Municipal Total	24								
Santa Cruz	Brgy. Bugbuga W.S.	22		S						
	Brey, Daligan W.S.	24		9						
	Brgy, Paratong W.S.	24		9						
	Brgy, Pidpid W.S	24		3						ľ
	Viunicipal Total	24	٥		0	٥	0	0	0	3
	Barangay W.S	24		ن						
1	Brgy, Lursoc	24	0	O			-			
1	Municipal W.S	24		Ü						
1	Municipal W.S			٠ ن						
1	Brgy, Baringcucurong W.S.			o						
	Brev. Caburao W.S.			5						
	Brgv. Man-Atong W.S			ڻ د						
	Brgy, Patoc-Ao W.S.			O						
	Brgy, Poblacion W.S	_		O						
	Brgy, Udazan W.S	_		S						
	Brgy, Uso W.S			ت ن						
	Municipal Total	22	0	Second Second	0	٥	٥			>
j'agudin	Barangay W.S	24		ب د						\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	cual fotal	27	0		0	0	2	>	>	,
012928 012928 012928 012928 012928 012928 012933 012933	Municipality Burgos Candon G. del Pilar Nagbukei Nagbukei Nazvacan Outrino San Esteban Nashar Sana Lucia Sana Lucia Sana Lucia Sana Lucia Santa Lucia Santa Lucia Surpon Surpon Surpon Surpon Suryo Suryo Frowin	Hurgos Brgy, Balugang V Brgy, Balugang V Brgy, Manaboe V Brgy, Manaboe V Brgy, Manaboe V Brgy, Jalao W.S. Condon Brgy, Jaleo W.S. Condon Brgy, Jaleo W.S. Nagbukei Brgy, Taleo W.S. San Juan Brgy, Valleo Quinton Outnoo Municipal Total San Juan Brgy, Valleo Quinton San Juan Brgy, Jaleo Deningo W.S. Sana Lucia Brgy, Brgy, Brgy, Brgy, Bulgan W.S. Brgy, B	Hurgos Berg, Balugang W.S Berg, Balugang W.S Berg, Maraboce W.S Berg, Taliao W.S Berg, Taliao W.S Berg, Matte-Butary G de Pilar Berg, Matte-Butary G de Pilar Berg, Matte-Butary Nagbukei Namicipal Total San Juan Municipal Total Santa Lucia Berg, Paratong W.S Berg, Daligan W.S Berg, Daligan W.S Berg, Lussoc Sigay Municipal W.S Berg, Lussoc Berg, Lussoc Sigay Municipal W.S Berg, Lussoc Berg, Lussoc Sigay Municipal W.S Berg, Padoid W.S Berg, Padoid W.S Berg, Padoid W.S Berg, Padoid W.S Berg, Poblecion W.S Berg	Municipality Name of System Supply D Burges Brgy, Balugang W.S. 24 24 Brgy, Manaboe W.S. 24 24 Gondon Brgy, Manaboe W.S. 24 Amidchel Tokal 24 24 Nagbukel Brgy, Manaboe W.S. 24 Nagbukel Brgy, Manaboe W.S. 24 Nagbukel Brgy, Manaboe W.S. 24 San Berban Brgy, Manaboe W.S. 24 San Berban Brgy, Manaboe W.S. 24 San Juan Brgy, Manaboe W.S. 24 San Juan Brgy, Villa Quinoo 24 San Juan Brgy, Marchong W.S. 24 San Juan Brgy, Julia Quinoo 24 San Juan Brgy, Paratong W.S. 24 Brgy, Daligan W.S. 24 Brgy, Paratong W.S. 24 Brgy, Paratong W.S. 24 <td>Municipality (Operating Body) Supply Dirry Taste Bugges Brgy, Balugang W.S. 24 G G Brgy, Balugang W.S. 24 G G Brgy, Lessing W.S. 24 G G Brgy, Lababac W.S. 24 G G Brgy, Lababac W.S. 24 G G Candon Brgy, Manaboc W.S. 24 G G Cade Pilar Brgy, Manaboc W.S. 24 G G Cade Pilar Brgy, Manac-Butarny 24 G G San Esteban Brgy, Manac-Butarny 24 G G San Barashba Municipal W.S. 24 G G San Barashba Brgy, Daligan W.S. 24 G G Santa</td> <td>Municipality Coperating Body (Repday) Ditry Traste Burgos Brgy, Balugang W.S. 24 G G Brgy, Balugang W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Manaboe W.S. 24 G G Narrada Brgy, Manaboe W.S. 24 G G Narrada Brgy, Talee 24 G G Narrada Brgy, Mane-Surary 24 G G San Esteban Pobliscios W.S. 24 G G San Esteban Pobliscios W.S. 24 G G San Esteban Brgy, Brgtyliga W.S. 24 G G San Juan San Juan Waterworks 24 G G Santa Locia <t< td=""><td>Municipality Operating Body (Applet) Ditry Traste Burgos Brgy, Balugang W.S. 24 G G Brgy, Balugang W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Mane-Sutary 24 G G Narvana Brgy, Mane-Sutary 24 G G Narvana Brgy, Talen 24 G G Narvana Brgy, Mane-Sutary 24 G G San Esteban Poblacion W.S. 24 G G San Latena Brgy, Mane-Sutary 24 G G San Latena Branashis W.S. 24 G G Santa Lucia Branashis W.S. 24 G G Santa Lucia Brgy, Popi</td><td>Municipality Operating Body (Applet) Ditry Traste Burgos Brgy, Balugang W.S. 24 G G Brgy, Balugang W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Mane-Sutary 24 G G Narvana Brgy, Mane-Sutary 24 G G Narvana Brgy, Talen 24 G G Narvana Brgy, Mane-Sutary 24 G G San Esteban Poblacion W.S. 24 G G San Latena Brgy, Mane-Sutary 24 G G San Latena Branashis W.S. 24 G G Santa Lucia Branashis W.S. 24 G G Santa Lucia Brgy, Popi</td><td>Municipality Charte of System Supply Ditry Taste Temp Plop Burst burges Sigg, Bessang W.S. 22 G G From P Plop Burst burges Sigg, Bessang W.S. 24 G G G G Burge, Manaboe W.S. 24 G G G G G Sandon Burge, Manaboe W.S. 24 G G G G Candon Burge, Manaboe W.S. 24 G G G G Candon Miniscipal Total 24 G G G G Outco Burge, Manaboe W.S. 24 G G G G Outco Municipal Total 24 G G G G Santa Burge, Macron 24 G G G G Santa Burge, Manabota 24 G G G G Santa Burge, Manabota 24 <t< td=""><td>Municipality Operating Body (Personne of Yasker) Ripply (Personne of Yasker) Ditry (Personne of Yasker) Table (Personne of Yasker) Table (Personne of Yasker) Ditry (Personne of Yasker) Table (Personne of Yasker) Ditry (Personne of Yasker) Dit</td></t<></td></t<></td>	Municipality (Operating Body) Supply Dirry Taste Bugges Brgy, Balugang W.S. 24 G G Brgy, Balugang W.S. 24 G G Brgy, Lessing W.S. 24 G G Brgy, Lababac W.S. 24 G G Brgy, Lababac W.S. 24 G G Candon Brgy, Manaboc W.S. 24 G G Cade Pilar Brgy, Manaboc W.S. 24 G G Cade Pilar Brgy, Manac-Butarny 24 G G San Esteban Brgy, Manac-Butarny 24 G G San Barashba Municipal W.S. 24 G G San Barashba Brgy, Daligan W.S. 24 G G Santa	Municipality Coperating Body (Repday) Ditry Traste Burgos Brgy, Balugang W.S. 24 G G Brgy, Balugang W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Manaboe W.S. 24 G G Narrada Brgy, Manaboe W.S. 24 G G Narrada Brgy, Talee 24 G G Narrada Brgy, Mane-Surary 24 G G San Esteban Pobliscios W.S. 24 G G San Esteban Pobliscios W.S. 24 G G San Esteban Brgy, Brgtyliga W.S. 24 G G San Juan San Juan Waterworks 24 G G Santa Locia <t< td=""><td>Municipality Operating Body (Applet) Ditry Traste Burgos Brgy, Balugang W.S. 24 G G Brgy, Balugang W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Mane-Sutary 24 G G Narvana Brgy, Mane-Sutary 24 G G Narvana Brgy, Talen 24 G G Narvana Brgy, Mane-Sutary 24 G G San Esteban Poblacion W.S. 24 G G San Latena Brgy, Mane-Sutary 24 G G San Latena Branashis W.S. 24 G G Santa Lucia Branashis W.S. 24 G G Santa Lucia Brgy, Popi</td><td>Municipality Operating Body (Applet) Ditry Traste Burgos Brgy, Balugang W.S. 24 G G Brgy, Balugang W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Mane-Sutary 24 G G Narvana Brgy, Mane-Sutary 24 G G Narvana Brgy, Talen 24 G G Narvana Brgy, Mane-Sutary 24 G G San Esteban Poblacion W.S. 24 G G San Latena Brgy, Mane-Sutary 24 G G San Latena Branashis W.S. 24 G G Santa Lucia Branashis W.S. 24 G G Santa Lucia Brgy, Popi</td><td>Municipality Charte of System Supply Ditry Taste Temp Plop Burst burges Sigg, Bessang W.S. 22 G G From P Plop Burst burges Sigg, Bessang W.S. 24 G G G G Burge, Manaboe W.S. 24 G G G G G Sandon Burge, Manaboe W.S. 24 G G G G Candon Burge, Manaboe W.S. 24 G G G G Candon Miniscipal Total 24 G G G G Outco Burge, Manaboe W.S. 24 G G G G Outco Municipal Total 24 G G G G Santa Burge, Macron 24 G G G G Santa Burge, Manabota 24 G G G G Santa Burge, Manabota 24 <t< td=""><td>Municipality Operating Body (Personne of Yasker) Ripply (Personne of Yasker) Ditry (Personne of Yasker) Table (Personne of Yasker) Table (Personne of Yasker) Ditry (Personne of Yasker) Table (Personne of Yasker) Ditry (Personne of Yasker) Dit</td></t<></td></t<>	Municipality Operating Body (Applet) Ditry Traste Burgos Brgy, Balugang W.S. 24 G G Brgy, Balugang W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Mane-Sutary 24 G G Narvana Brgy, Mane-Sutary 24 G G Narvana Brgy, Talen 24 G G Narvana Brgy, Mane-Sutary 24 G G San Esteban Poblacion W.S. 24 G G San Latena Brgy, Mane-Sutary 24 G G San Latena Branashis W.S. 24 G G Santa Lucia Branashis W.S. 24 G G Santa Lucia Brgy, Popi	Municipality Operating Body (Applet) Ditry Traste Burgos Brgy, Balugang W.S. 24 G G Brgy, Balugang W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Manaboe W.S. 24 G G Cole Pilar Brgy, Mane-Sutary 24 G G Narvana Brgy, Mane-Sutary 24 G G Narvana Brgy, Talen 24 G G Narvana Brgy, Mane-Sutary 24 G G San Esteban Poblacion W.S. 24 G G San Latena Brgy, Mane-Sutary 24 G G San Latena Branashis W.S. 24 G G Santa Lucia Branashis W.S. 24 G G Santa Lucia Brgy, Popi	Municipality Charte of System Supply Ditry Taste Temp Plop Burst burges Sigg, Bessang W.S. 22 G G From P Plop Burst burges Sigg, Bessang W.S. 24 G G G G Burge, Manaboe W.S. 24 G G G G G Sandon Burge, Manaboe W.S. 24 G G G G Candon Burge, Manaboe W.S. 24 G G G G Candon Miniscipal Total 24 G G G G Outco Burge, Manaboe W.S. 24 G G G G Outco Municipal Total 24 G G G G Santa Burge, Macron 24 G G G G Santa Burge, Manabota 24 G G G G Santa Burge, Manabota 24 <t< td=""><td>Municipality Operating Body (Personne of Yasker) Ripply (Personne of Yasker) Ditry (Personne of Yasker) Table (Personne of Yasker) Table (Personne of Yasker) Ditry (Personne of Yasker) Table (Personne of Yasker) Ditry (Personne of Yasker) Dit</td></t<>	Municipality Operating Body (Personne of Yasker) Ripply (Personne of Yasker) Ditry (Personne of Yasker) Table (Personne of Yasker) Table (Personne of Yasker) Ditry (Personne of Yasker) Table (Personne of Yasker) Ditry (Personne of Yasker) Dit

Note: 1. Dirty Water: E - Everyday, OW - Once a week, OM - Once a month, O - Occassional.

2. Taste/Smell: G - Good taste, S - Saity, W - Wood taste, M - Metallic taste, O - Others.

Table 4.1.2 Existing Level II Systems
Sheet 4

				Sheet 4					
				-		Number of Staff			
NEDA Geo-	Municipality	Name of System	Technical	Administrative		Total Number	1	Repair Work	
graphic Code	Autoritation	(Operating Body)	Professional	Staff	Collector	of Staff	Local Trademan	MEO/CEO	DEO
012304	Burgos	Brgy. Balugang W.S							
		Brgy, Bessang W.S							
		Brgy, Lubing W.S							
		Brgy, Manaboc W.S							
		Brgy, Mapanit W.S							
		Brgy. Taliao W.S							
	W	Municipal Total	0	0	0	O			
012906	Candon	Brgy, Bugnay							
012310	G. del Pilar	Brgy, Matue-Butaray							
012913	Nagbukel	Brgy. Taleb							
012914		Brgy. Marozo							
012915		Municipal W.S							
012918	San Esteban	Poblacion W.S							
		Brgy, Villa Quinno							
	W	Municipal Total	0	0	0	0			
012920		San Juan Waterworks							
012922	Santa	Barasibis W.S						-	
		Banan W.S							
	Wn	Municipal Total	0	0	0	0	0.5		10 10 10 10 10 10 10 10 10 10 10 10 10 1
012924	Santa Cruz	Srgv, Bugbuga W.S							
-		Brgy. Daligan W.S							
		Brgy, Paratong W.S							
		Brgy, Pidpid W.S							
	W	Municipal Total	0	0	0	0		をなると	
012925	Santa Lucia	Barangay W.S							
012928	Santo Domingo	Brgy, Lussoc							
012929	Signy	Municipal W.S	· 						
012931	Sugpon								
012932	Suyo	Brgy, Baringcucurong W.S							
		Brgy, Cabugao W.S							
		Brgy, Man-Atong W.S					-		
=-2-		Brgy, Patoc-Ao W.S							
		Brgy, Poblacion W.S							
		Brgy, Udazan W.S.							
		Brgy. Uso W.S							
 -	W	Municipal Total	0	0	0	0	を対すると		
012933	Tagudin	Barangay W.S							
	K	Total	0	0	0	٥	0	0	8
	1100001			,					

Table 4.1.2 Existing Level II Systems

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NEW New Control New Control New Control New Control Cont														W 4 W		
Municipality Name of System Assault Mages Cheek Ch						Ä	xpenditures						Ta	riff		
Engryo Engry Raisanage W. S Engry Raisa	NEDA Geo- graphic		Name of System (Operating Body)	Annual	Wages		Transport	Repairs	Loan Repayment	L	Consumer Payment	Cost per Pail	Cost per Cubic Meter	Cost Per Household	Other	Average Collection Efficiency
Elegy Editionary W.S. Elegy Automatic	ğ					(Thous	and of Pesos	/vear)	1		(Year)	:	(Pe	208)		(%)
ENGL MISSING WAS ENGL WA	X8210	и-	Brgv. Balugang W.S													
BEGY_LUMBER W.S. BEGY_LUMBE W.S. BEGY			Brgv. Bessang W.S						1							
Biggs, Antonnoce W.S. Bigg		-	Brgv. Lubing W.S													
Eggy, Magneth W.S. Eggy, M			Brey, Manaboc W.S													
Figg. Table W S Figg. Tabl			Brgy, Mapanit W.S.													
Candon Manadopal Treat		-	Brgy, Taliao W.S									·	Ĭ,			
Canadom Bigg: Bugger Bigg: Bugger Navadard Bigg: Tuble Bigg: Tuble Navadard Bigg: Tuble Bigg: Mannesbuttey Navadard Bigg: Tuble Bigg: Mannesbuttey San Fateban Brownesh W.S. Bigg: Mannesbuttey San Fateban Brownesh W.S. Brownesh W.S. San Juan Waterworks Brownesh W.S. Brownesh W.S. Santa Lean Brange W. S. Brownesh W.S. Santa Lean Brange W.S. Brange W.S. Santa Lean Brange W.S. Brownesh W.S. Santa Lean Brange W.S. Brownesh W.S. Suppy Municipal W.S. Brownesh W.S. Suppy Municipal W.S. Brownesh W.S. Brownesh W.S. Brownesh W.S.		Σ	funicipal Total	0							O	0	0			
Nagoulet Bergy, Manoc Bullary Nagoulet Bergy, Manoc Bullary Nagoulet Bergy, Manoc Bullary Nagoulet Bergy, Manoc Bullary Namoc Bergy, Manoc Bullary Namoc San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana San Lana	012906	Candon	Brgy. Bugnay													
National Sary, Table National Nation	012910	1	Brgy, Matue-Butaray													
National Regy, Macrool Americal Regy, Macrool Americal Regy, Macrool Americal Ameri	012913	1	Brgy, Taleb													
San Factorn Manicipal W-S San Esterbul Surgivina Cuarmo Manicipal W-S San Esterbul Surgivina Cuarmo Surgivina C	012914	_	Brgy, Marozo									Ì				
San Esteban Poblication W.S. San Lateron Poblication W.S. San Juan Mandighal Total 0	012915	1-	Municipal W.S													
Elegy Villa Ourmoo Elegy Villa Ourmoo O O O O O O O O O	012918	т	Poblacion W.S													ļ
Namicipal Total Namicipal Man-Along W.S. Namicipal Man-Along			Brgy, Villa Quinno	1									ľ			
San Juan San Juan Waterworks San Juan Waterworks	:	ž	funicipal Total	0							ō	٦	٥		Ì	
Santa Barachis W.S Santa Croz Ergy, Bagebaga W.S Santa Croz Ergy, Bagebaga W.S Santa Croz Ergy, Bagebaga W.S Sergy, Darlong W.S Sergy, Parlong W.S Sergy, Parlong W.S Santo Loca Santa Lucia S	012920	San Juan	San Juan Waterworks													
Santa Croz Espain W.S. Santa Croz Espain W.S. Santa Croz Espain W.S. Santa Croz Espain M.S. Sepain W.S. Sepain W.S. Sepain W.S. Sepain W.S. Sepain W.S. Sepain Municipal W.S. Sepain W.S. Sepain Municipal W.S. Sepain Municipal W.S. Sepain Municipal Total Sepain W.S.	012922	1	Barasibis W.S													
Santa Cruz Ergy, Jeaglouga W.S Ergy, Jeaglouga W.S Ergy, Jeaglouga W.S Ergy, Paralong W.S Ergy, Change W.S Ergy, Change W.S Ergy, Paracocko W.S Ergy, Change W.S Ergy, Paracocko W.S Ergy, Change W.S Ergy,			Banan W.S													
Santa Gruz Strgy, Bagbuga W.S Santa Gruz Strgy, Bagbuga W.S Santa Gruz Strgy, Bagbuga W.S Strgy, Daligan W.S Strgy Stranger, Cartago Braza, Cartag		2	Junicipal Total	0							O		0			
Ergy. Daligan W.S Ergy. Paratong W.S Ergy. Lussoc Er	012924	Santa Cruz	Brgy. Bugbuga W.S													
Birgy, Paratong W.S. Birgy, Paratong W.S. Birgy, Paratong W.S. Birgy, Paratong W.S. Birgy, Udszen W.S.			Brgy. Daligan W.S	_												
Strip Pedpid W.S. Strip Pedpid W.S. Strip Lucia Barangay W.S. Suna Lucia Barangay W.S. Santa Lucia Barangay W.S. Santa Domingo Barangay W.S. Santa Domingo Municipal W.S. Suppor Municipal W.S. Suppor Municipal W.S. Suppor Municipal W.S. Suppor Brgy. Barangcucurong W.S. Suppor Brgy. Cablacton W.S. Brgy. Problacton W.S. Brgy. Poblacton W.S. Brgy. Uso W.S. Brgy. U			Brgy, Paratong W.S													
Santa Lucta Barangay W-S 0			Brgy, Pidpid W.S.													
Santa Lucia Barangay W.S Admicipal W		2	Aunicipal Total	0							0		٥			
Sartio Domingo brgy. Lussoc Sigay Municipal W.S Suyo Brgy. Barngeueurong W.S Brgy. Parioc-Ao W.S Brgy. Parioc-Ao W.S Brgy. Delaction W.S Brgy. Udazan W.S Brgy. Udazan W.S Brgy. Udazan W.S Brgy. Udazan W.S Brgy. Udazan W.S Aunicipal Total 0 0 0 0 0 Tagudin Provincial Total 0 0 0 0 0 0	012925	Santa Lucia	Barangay W.S													
Sigay Municipal W.S. Surport Municipal W.S. Administration of the control of the	012928		Brgy, Lussoc						_							
Support Municipal W.S. Municipal W.S. Activity Cabugao W.S. </td <td>012923</td> <td></td> <td>Municipal W.S</td> <td>-+-</td> <td></td> <td></td> <td>:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	012923		Municipal W.S	-+-			:									
Suyo Ergy, Cabugao W.S Ergy, Man-Atong W.S Ergy, Patoc-Ao W.S Ergy, Patoc-Ao W.S Ergy, Poblacion W.S Ergy, Udazan W.S Ergy, Ud	012931		Municipal W.S								٠					
Brgy, Cabugao W.S Brgy, Man-Atong W.S Brgy, Man-Atong W.S Brgy, Patoc-Ao W.S Brgy, Patoc-Ao W.S Brgy, Udazan W.S	012932		Brgv. Banngcucurong W.S.	 -												
Brgy, Man-Atong W.S Brgy, Patoc-Ao W.S Brgy, Patoc-Ao W.S Brgy, Patoc-Ao W.S Brgy, Udazan W.S D D D D D D D D D			Brgy. Cabugao W.S												_	
Brgy, Paroc-Ao W.S Brgy, Odazan W.S Brgy, Udazan W.S Brgy, Uso W.S D D D D D D D D D		-	Brev. Man-Atong W.S	٠						-						
Brgy, Udazan W.S Brgy, Uso W.S			Brzy, Patoc-Ao W.S			-										
Brgy, Udazan W.S			Brev. Poblacion W.S													_
Brey, Uso W.S.			Brov Udazan W.S													
Lagudin Municipal Total 0 0 0 0 0 0 0 0 0			Brov. Uso W.S		L											
Tagudin Barangay W.S 0 0 0 0 0 0 0 0 0 0 0 0			Wunicipal Total								0					
Provincial Total 0 0 0 0 0 0 0 0 0 0 0	5.62.10	Laguain	Barangay W.S		:											
			Total Total)	0	2	0	0	þ	0			

Table 4.1.2 Existing Level II Systems
Sheet 6

NEDA Geo- graphic										State		
Geo-					cămma					Vevenues		
graphic		Name of System	Annual	Public	House	Expected		Annual	Payment by	Payment by Kouse		
- 200	Municipality	(Operating Body)	Billing	Feucet	Consumers	Subsidies	Cipers	Income	Public Faucet Consumers	Connection Consumer	Sapsons	C C C C C C C C C C C C C C C C C C C
1			(Number)				D)	nousand of	(Thousand of Pesos/Year)			
705210	Burgos	Brgy, Balugang W.S										
	-	Brgy, Bessang W.S										
		Brgy, Lubing W.S										
		Brgy, Manaboc W.S										
		Brgy, Mapanit W.S										
		Brgy, Taliao W.S										
		Municipal Total	0	0	0	0	0	o	O	0	ō	3
012909		Bugnay										
015210	G. del Pilar	Brgy, Matto-Butaray					-					
012913	Nagbukel	Brgy, Taleb										
ŧ	Narvacan	Brgy. Marozo										
012915	Ournio	Municipal W.S										
1	San Esteban	Poblacion W.S					†- 	-				
	: !	Brgy. Villa Omnno										
		Vimicina) Total	Ĉ	O	10	Č	Ö	†ē	0			Ĩ
- 1		TOTAL AND A				7	*	3	?	>	5	1
012920	San Juan	San Juan Waterworks	1									
	Santa	Barasibis W.S	:				***				_	
		Banari W.S					1					
	X	Municipal Total	io oi	0	jo	0	0	90	0	0	ō	3
012924	Santa Cruz	Brgy. Bugbuga W.S						-				
		Brgy, Daligan W.S				•	-					
	٠	Brgy. Paratong W.S										
		Brgy. Pidpid W.S	:					-				
	X.	Municipal Total	ō	0	0	Ó	ō	ö	Ö	0	٥	O
012925	Santa Lucra	Barangay W.S					rubote.					
012928	Santo Domingo	Brgy, Lussoc										
	Signy	Municipal W.S										
	Sugpon	Municipal W.S										
0:2932 8	Suyo	Brgy. Baringcucurong W.S						-				
	ı	Brgy. Cabugao W.S										
		Brgy, Man-Atong W.S										
		Brgv. Patoc-Ao W.S						-				
		Brry, Poblacion W.S		- A								
		Brev. Udazan W.S.	 									Ī
		Brgy. Uso W.S					-					Ī
	*	Municipal Total	٥	0	5	Ö	te	O	0	0	10	ľ
1 156710	Tagodin	Burangay W.S					-	,	,			
					Ĭ							
	rroving	Provincial Cotal	10	Ö	o	ō	ੋ	<u>ි</u>	O	0	Ô	9

4.1.5 Level I Facilities

N

Safe and Unsafe Classification of Level I Facilities

The PHO conducted water quality analysis of samples collected from public and private Level I wells and classified into safe and unsafe sources/facilities as shown in Table 4.1.3.

The results of water quality analysis indicate that about 35% of existing wells in a provincial average are classified unsafe sources. Since the total number of shallow wells (28,049) occupies 96% of the total number of Level I wells (29,136) and the deep well is rarely exposed to contamination by seepage of wastewater, PHO analysis results (unsafe percentages) were applied to classify all shallow wells (drilled and driven) into safe and unsafe sources.

The unsafe percentage of provincial average is applied common to urban and rural areas both for public and private shallow wells. While, those sources other than shallow wells are processed as classified in the questionnaire. Table 4.1.4 presents number of Level I facilities by safe and unsafe classification.

4.1.6 Water Supply Service Coverage

Estimation of Service Coverage in Terms of Safe, Unsafe and Unserved Classification

Through the quick review of the number of water supply systems/facilities and the number of households derived from questionnaire, it was found that a great number of unserved population would be figured out as a balance between the total population and population with any levels of services (including unsafe facilities) in application of the service level standard for Level I and II. To come up with more realistic service coverage, the unserved population in 1995 was prefixed referring to the profile in 1990 population census data, "Households by Main Source of Drinking Water and City/Municipality." Of the rest of the population those who are not served by Level III and/or II systems were considered to be covered by shared or own use of Level I facilities. The calculation procedure is as follows:

- Service percentage/population of Level III and Level II systems was estimated based on the questionnaire survey results.
- Percentage of unserved population (using undeveloped spring, lake, river, peddler, etc.)
 reported in the 1990 population census was assumed to have unchanged up to present.



Table 4.1.3 Percentage of Unsafe Water Sources by PHO

Municipality	No. of Level I Sources	No. of Unsafe	Percentage of Unsafe Sources
and the second s	Sampled	Sources	* 35.0
Alilem	2	<u> </u>	
Валауоуо	7	1	14.3
Bantay	63	23	36.5
Burgos	95	37	38.9
Cabugao	27	8	23.6
Candon	101	38	37.6
Caoayan	67	27	40.3
Cervantes	0	0	* 35.0
Galimuyod	6	1	16.7
G. del Pilar	0	0	* 35.0
Lidlidda	8	1	12.5
Magsingal	37	10	27.0
Nagbukel	45	18	40.0
Narvacan	105	47	44.8
Quirino	0	0	* 35.0
Salcedo	4	1	25.0
San Emilio	18	6	33.3
San Esteban	84	30	35.7
San Ildelfonso	11	2	18.2
San Juan	16	4	25.0
San Vicente	58	18	31.0
Santa	SI	20	39.2
Santa Catalina	60	16	26.7
Santa Cruz	30	9	30.0
Santa Lucia	69	23	33.3
Santa Maria	102	45	47.1
Santiago	99	31	31.3
Santo Domingo	10	2	20.0
Sigay	0	0	* 35.0
Sinait	18	6	33.3
Sugpon	3	0	* 35.0
Suyo	10	2	20.0
Tagudin	49	11	22.4
Vigan (Capital)	117	40	34.2
Provincial Total	1,372	477	34.8

Note: * - Applied provincial average

Table 4.1.4 Number of Level I Facilities by Safe and Unsafe Classification

1

							Safe Sources	65				-				Unsafe Sources	hources				-	Γ
VEDV					Public		-		Private	ate				Public				Private			{	`
graphic Code	Municipality	Type	Deep	Shallow Well	Covered/ Improved Dug Well	Developed Spring	Sub- f	Deep S	Shallow In	Covered/ Improved Dug Weil	Sub-	Total	Shallow	Open Dug dev Well S	Un- developed Spring	Sub- Si total	Shallow C	Open H Dug W Well Col	Rain Sub- Water total	Ĭ,		Total
045201	Alucm	Urban	0	5	L	Ō		্		0	0	<u>۱۷,</u>	7	0	0	7	Ö	0	0	0	2	~
		Kural	0	13	0	15		0	F.	ö	۳.	31	1/	0	0	2	1	0	0	1	8	\$
		Total	0	18		151		o	-	o	-	9	0	0	0	6	1	0	0	-	10	₹
045207	Banayoyo	Urban	0	7	0	0		0	8	ō	8	45		0	0	11	18	31	0		19	1.6
		Rural	٥		o	ō		o	446	0	446	991	Ė	ő	0	۴.	74	121			68	\$55
	1.	Total	Ó	2.2		٥		ā	536	ō	536	563	⋾	ö	0	4	58	15	٥		OX.	671
045203	Bantay	Urban	7	16				7.	222	: \$1	234	262	o	ō	0	6	127	0	0		36	308
		Rural	01	16	6	0		×	448	17	473	583	52.	o	ō	:25	257	0			300	×92
		Total	17	107	14	Ô		15	670	22	707	X45	61	0	0	61	38.4	0			145 1	280
\$25st	Burgos	Urban	0					၁	82	٥	255	Ą	4	0	o	7	13	0			22	Š
		Rural	7	26	0	9	36	9	426	0	432	471	16	0	0	91	272	0		272	288	759
		Toxal	4					9	157	0	460	505	20	0	0	0.0	290	io.	0		10	815
045205	Cabugao	Urban	0					0	1.1	10	27	4	7	10	0	71	5	Ś			24	38
٠.		Rumi	13	1				1	67	10	3	210	3	10	0	20	15]	- 14 -			72	282
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Table 4.1.4 Number of Level I Facilities by Safe and Unsafe Classification (Cont'd.)

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Table 4.1.4 Number of Level I Facilities by Safe and Unsafe Classification (Cont'd.)

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raptic Code			Neil Veli	Shaflow	Improved	Developed Spring	total	og Ne	Well	Improved Due Well	total			Dug developed Well Spring				Dug Water Well Collector	3			<u>1</u>
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- Population covered by Level I facilities were calculated as a balance figure between the total population, and the population served by Level III & II systems and the unserved population.
- Level I population coverage was estimated in assumption that 50% of the private facilities were shared by neighbors.

Unserved population and the population covered by Level I facilities are presented in Table 4.1.5. Table 4.1.6 presents overall population covered by Level I facilities and number of households.

Number of households per shared public/private facility ranges from 1 to 15 households, which are considered within the reasonable level, as more or less equivalent to the service level standard of Level I public facility (15 households/facility) and Level II system (5 household/public faucet).

Table 4.1.5 Estimation of Unserved Population by Municipality

NEWA			Population	ation					Unserved Population	ulation		Population
See-		8	and	כדי	Serve	Served Population	non	Unserv	Unserved Percentage (1990)	ĝ.	Unserved	Covered by
graphic	Municipality		Households	polds	Level	Level		Total No.	Number of	ţ	Population	Level I
Code			Number	HHs Size	ID	п	Total	of HHs	Unserved HHs	<i>o</i> ,	(1995)	Facilities
045201	Alilem	Urban	1,411	5.3	0	0	0	265	27	10.2	144	1.267
		Rural	4.307	9.6	0	0.	0	773	377	48.8	2,101	2,206
		Totai	5,718	5.5	0	0	0	1,038	404	38.9	2,245	3,473
045202	Banayoyo	Urban	818	5.0	0	0	0	163	0	0.0	0	818
		Rural	5,510	5.6	ĺo	0	0	166	0	0.0	0	5,510
		Total	6,328	5.5	0	0	0	1.154	0	0.0	0	6,328
045203	Bantay	Urban	10,098	5.2	1,150	0	1.150	1,927	1	0.1	S	8,943
		Rural	18,037	5.4	3,750	0	3,750	3,340	18	0.5	76	14,190
		Total	28.135	5.3	4,900	0	4,900	5.267	61	0.4	102	23,133
045204	Burgos	Urban	1,494	5.1	ļo	0	0	295	2	0.7		1,484
		Rural	8,793	5.2	0	975	975	1,678	34	2.0	178	7.640
user -		Total	10.287	5.2	0	975	526	1,973	36	1.8	188	9.124
045205	Cabugao	Urban	1,904	5.0	850	0	850	1,568	68 36	2.5	761 197	6,857
		Rurai	160.22	5.3	1.710	0	1.710	4,152	136	3.3	724	19.657
		Total	29,995	5.2	2.560	0	2,560	5,720	175	3.1	921	26.514
045206	Candon	Urban	7,229	5.2	0	0	0	1,398	. 3	0.2	16	7.213
200	. :	Rural	40.042	5.4	0.	250	550	7,484	20	0.7	268	39.224
		Total	47.271	5.3	0	550	250	8.882	53	0.0	284	46,437
045207	Caoayan	Urban	6.787	5.0	630	0	630	1,344	0	0.0	0	6,157
		Rural	9.700	5.1	1.700	0	1,700	1.895	0	0.0	0	8.000
		Total	16,487	5.1	2,330	0	2,330	3,239	0	0.0	0	14.157
045208	Cervantes	Urban	2.608	5.7	0	0	0	454	22	4.8	126	2.482
		Rural	11,603	5.4	0	0	0	2,145	313	14.6	1,693	9,910
	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Total	14,211	5.5	0	0	0	2,599	335	12.9	1.819	12,392
045209	Galímuyod	Urban	430	5.3	0	jo	0	18	0	0.0	0	430
	:	Rural	8,298	5.4	0	0	0	1,528	0	0.0	0	8.298
		Tota!	8,728	5.4	0	0	0	1,609	0 (0.0	0	8,728

Table 4.1.5 Estimation of Unserved Population by Municipality (Cont'd.)

												,
. 400.			Population	tion		7			Unserved Population	mlation		Population
NEDA Ger	73		and		Serve	Served Population	uea	Unserved	ed Percentage (1990)	ĝ	Unserved	Covered by
graphic	Municipality	JAbo	Households	holds	Level	Level	Total	Total No.	Number of	88	Population (1005)	Level
ညီ Code		7	Number	HHs Size	Ħ	11		of HHs	Unserved HHs			rachutes
045210	G. dei Pilar	Urban	607	5.1	009	0	009	119	0	00	0	
)))		Rural	2,992	5.5	008	550	1.350	541	0	0.0	0	1,642
		Total	3,599	5.5	1,400	550	1.950	099	0	0.0	0	
045211	T idlidds	Urban	1.247	5.1	0	0	0	245	-	1.6	20	
		Rural	2.739	5.3	o	0	Õ	519	54	10.4	285	
		Total	3,986	5.2	ō	0	0	764	58	7.6	305	
075212	Mageinen	Urban	5.278	6.4	0	0	Ó	1,082	0	0.0	0	5.278
		Rural	18,723	5.3	0	0	0	3,539	0	0.0	0	18,723
·		Total	24,001	5.2	0	0	0	4,621	o	0.0	0	7.7
0.45213	Nachukel	Crban	732	5.1	0	0	o	143	1	0.7	\$	
<u>;</u>	9	Rural	3.216	5.2	0	SO	50	624	23	3.7	119	3.047
*****		Total	3,948	5.1	0	20	50	767	24	3.1	124	
A16550	Namacan	Urban	2.816	5.2	874	0	874	542	17	3.1	88	1,854
		Rural	34.821	5.1	0	450	450	6.801	234	3.4	1,198	33.173
		Total	37.637	5.1	874	450	1,324	7.343	251	3.4	1,286	35.027
210270	Ouirino	Urban	1.381	5.1	ō	1.020	1.020	569	7	2.6	36	325
3))	Rural	6.034	5.3	0	2,226	2,226	1.132	107	9.5	570	3,238
<u>=:::::</u>	:	Total	7.415	Ì	0	3.246	3,246	1,401	114	8.1	909	3,563
0.45716	Salcedo	Urban	1.344	4	0	ō	0	273	0	0.0	0	1,342
		Rural	8.655	5.1	0	0	0	1,707	10	0.6	15	8.604
		Total	666.6	5.1	0	0	0	086.1	10	0.5	5.1	9.948
0.45317	Can Emilio	Urban	2.303		0	0	0	416	33	0.7	17	2.286
		Rural	4,194		0	0	0	. 766	40	5.2	214	3.890
		Total	6.407	<u> </u>	0	0	0	1.182	43	3.6	231	6.176
81.027	San Esteban	Urban	752		0	255	255	148	0	0.0		0 497
) }		Rural	6.033		ō	149	149	1.22.1	0	0.0		0 5,884
-		Total	6.785	<u> </u>	0	104	404	1369	0	0.0		0 6,381

Table 4.1.5 Estimation of Unserved Population by Municipality (Cont'd.)

			4	10,0					Treesmod Donnlation	mhatian		Population
NEDA			ropusaton	anon .	Serve	Served Population	non		01 Par 1900	1		Contomod by
હું		,	pue	/ 'G				Unserv	Unserved Percentage (1990)	ĵ	Cuserved	Covered ov
graphic	Municipality) A A	Households	holds	Level	Level	Total	Total No.	Number of	12	Population (1995)	Level I
8 2			Number	HHS Size	Ħ	Ħ		of HHS	Unserved HHS		(6224)	Facilities
045219	San Ildelfonso	Urban	1,024	5.2	0	0	0	198	0	0.0	0	1.024
-		Rural	4.046	5.4	0	0	0	753	5	0.7	27	4,019
		Total	5.070	5.3	0	0	0	951	5	0.5	27	5,043
045220	San Juan	Urban	3.400	8.4	0	0	0	707	0	0.0	0	3,400
12-74-07		Rural	. 18,565	5.1	ō	325	325	3,612	0	0.0	0	18.240
	:	Total	21,965	5.!	[o	325	325	4,319	0	0.0	0	21.640
045221	San Vicente	Urban	1.193	5.4	O	0	0	219	0	0.0	0	1,193
		Rural	9,643	5.0	0	0	0	1,913	0	0.0	0	9.643
		Total	10,836	5.1	0	0	0	2,132	0	0.0	0	10,836
045222	Santa	Urban	1.731	4.8	755	0	755	363	0	0.0	0	926
		Rural	11,497	5.2	95	464	685	2,194	0	0.0	0	10,908
		Total	13,228	5.2	850	464	1.344	2.557	0	0.0	٥	11,884
045223	Santa Catalina	Urban	1.242	5.3	0	0.	0	233	0	0.0	0	1.242
		Rural	11,068	5.4	·	o.	0	2.031	0	0.0	0	11.068
		Total	12,310	5.4	ō	0	0	2,264	0	0.0	0	12,310
045224	Santa Cruz	Urban	4,461	5.1	ō	0	0	898	3	0.3	15	4,446
		Rural	27.697	5.4	0	1.075	1.075	5.101	45	6.0	244	26.378
		Total	32.158	5.4	0	1.075	1.075	696'\$	87	0.8	259	30.824
045225	Santa Lucia	Urban	2.256	5.2	920	0	920	431	0	0.0	0	1,336
		Rural	20,045	5.5	645	125	770	3,651	0	0.0	0	19.275
		Total	22,301	5.5	1,565	125	1.690	4.082	0	0.0	0	20.611
045226	Santa Maria	Urban	3,644	5.0	0	0	0	732	3	0.4	15	3,629
		Rural	21,543	5.2	250	0	250	4,175	52	1.2	268	21,025
		Total	25,187	5.1	250	0	250	4,907	55	1.1	283	24.654
045227	Santiago	Urban	2.385	5,4	335	7.5	410	442		2.5	89	1.916
•		Rural	13,543	5.4	0	0	0	2,485	61	0.8	104	13,439
		Total	15.928	5.4	335	75	410	2,927	30	0.1	163	15,355
		-										

Table 4.1.5 Estimation of Unserved Population by Municipality (Cont'd.)

Municipality Type Anderscholds Level Lev	VEDA			Population	ation		-			Unserved Population	pulation		Population
Mumberpality 1784 Households Level Total Total No. Number of Libban Total No. Number of Libban Population Samio Dominigo Urban 2,450 5.1 11 11 11 10 475 1287 0 0 0 Sigay Urban 12,450 5.2 3.5 475 510 4.282 0 0 0 0 Sigay Urban 2,086 5.8 0 1,625 361 1,03 0	ફુ	,	1		~~·	Serve	ed Popula	uou	Unserv	ed Percentage (19	(06	Unserved	Covered by
Santo Domingo Urban 2.951 5.1 25 10 475 485 3.705 0 0 0 Sigay Hural 19,436 5.2 10 475 485 3.705 0	graphic Code	Municipality	od v	E	holds HHs Size	Level	Level	Total	Total No. of HRs	Number of Unserved HHs	22	Population (1995)	Level I
Rural 19,450 S.2 10 475 485 3,705 0 0 Sigay Total 22,401 5.2 35 475 510 4,282 0 0 Sigay Urban 2,086 5.8 0 1,625 361 1 0.3 Sinait Urban 2,086 5.8 0 1,625 361 1 0.3 Sugpon Urban 2,881 2 995 0 95 4,811 76 1,6 Sugpon Urban 976 5.1 0 0 225 1,25 1,7 1,1 <	045228	Santo Domingo	Urban	i II	5.1		1	25	577	0	0.0	0	2.926
Sigay Urban 22,401 S.2 35 475 510 4,282 0 <th></th> <th>,</th> <th>Rural</th> <th>19,450</th> <th>5.2</th> <th>01</th> <th>475</th> <th>485</th> <th>3,705</th> <th>0</th> <th>0.0</th> <th>0</th> <th>18,965</th>		,	Rural	19,450	5.2	01	475	485	3,705	0	0.0	0	18,965
Sigay Urban 0			Total	22,401	5.2	35	475	510	4,282	0	0.0	0	21,891
Sinait Lorai 2,086 5.8 0 1,625 361 1 0.3 Sinait Totai 2,086 5.8 0 1,625 361 1 0.3 Sinait Urban 2,891 5.2 995 0 995 561 5 0.9 Sugpon Urban 27,620 4.8 995 0 995 4.811 76 1.7 Sugpon Urban 27,62 4.8 995 0 995 4.811 76 1.6 Sugpon Urban 976 5.1 0 2.25 2.25 1.75 1.17 1.17 1.17 1.17 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.2 1.	045229	Sigay	Urban	0	0.0	0	0	0	0	0	0.0	0	0
Sinait Urban 2,881 5.8 0 1,625 361 5.1 0.3 Sinait Urban 2,891 5.2 995 5.61 5.0 9.0 Sugpon Urban 2,891 5.2 995 6 0 4,250 71 1.7 Sugpon Urban 976 5.1 0 0 2,25 1,95 7.1 1.7 Sugpon Urban 976 5.1 0 1,450 1,450 1,450 1,450 1,450 1,63 1.6 1.6 Suppon Urban 1,780 5.4 0 1,450 4,81 7.6 1.6 1.7 1,17 3.2 1.7 1.1 1.7 Suyo Urban 1,700 5.8 0 1,400 4,700 1,400 5.8 1.1 1.2 Tagudin Urban 4,1403 5.6 2,555 6.75 5,890 5,898 1.1 1.2			Rural	2,086	5.8	0	1,625	1.625	361	1	0.3	9	455
Sinait Urban 2,891 5.2 995 6 995 561 995 995 995 995 995 71 1.7			Total	2,086	5.8	0	1,625	1.625	361	1	0.3	9	455
Sugpon Urban 976 4.8 995 4.811 76 1.6 Sugpon Urban 976 5.1 0 925 4.811 76 1.6 Sugpon Urban 976 5.1 0 225 225 192 6.3 Suyo Urban 1.780 5.6 0 1.75 1.175 323 164 50.8 Suyo Urban 1.790 5.8 0 1.275 1.275 309 2.3 1.6 8.1 Tagudin Urban 4.853 5.4 0 4.700 4.700 1.335 375 28.1 Vigan (Capital) Urban 4.853 5.5 2.660 0 2.660 889 111 1.2 Vigan (Capital) Urban 41.403 5.3 2.560 5.890 5.896 5.89 1.7 0 0 Vigan (Capital) Urban 41.403 5.3 0 0 0 <	045230	Sinait	Urban	2,891	5.2	995	0	966	561	\$	6.0	26	1.870
Sugpon Urban 976 4.8 995 0 995 4,811 76 1.6 Sugpon Urban 976 5.1 0 222 225 192 1.6 5.8 Suyo Urban 1.780 5.4 0 1.775 1.175 323 164 5.08 Suyo Urban 1.790 5.8 0 1.470 4.700 4.700 2.75 3.9 2.7 8.7 Suyo Urban 7.047 5.3 0 4.700 4.700 1.355 3.7 8.7 Tagudin Urban 4.853 5.5 2.660 889 1.1 1.2 Yigan (Capital) Urban 41.403 5.6 2.555 675 5.890 5.890 5.89 1.1 1.2 Vigan (Capital) Urban 41.403 5.3 0 0 0 0 0 0 0 0 Total Aural 41.403			Rural	20,401	4.8	0	0	0	4,250	1.1	1.7	341	20.060
Sugpon Urban 976 5.1 0 225 225 192 12 6.3 Suyo Rural 1.810 5.6 0 1.175 1.175 323 164 50.8 Suyo Urban 1.700 5.8 0 1.400 1.375 309 27 8.7 Tagudin Urban 8.837 5.4 0 5.975 5.975 1.644 402 2.4.5 Tagudin Urban 4.853 5.5 2.660 0 2.660 889 11 1.2 Yigan (Capital) Urban 4.853 5.5 2.660 675 3.230 5.890 1.89 1.6 2.8 Yigan (Capital) Urban 41.403 5.3 0			Tota!	23,292	4.8	566	0	995	4,811	92		367	21,930
Suyo Urban 1.810 5.6 0 1.175 323 164 50.8 Suyo Urban 1.790 5.8 0 1.275 1.275 309 27 8.7 Rural 7.047 5.3 0 4.700 4.700 1.335 375 28.1 Tagudin Urban 4.853 5.5 2.660 0 2.660 889 11 1.2 Yigan (Capital) Urban 4.853 5.6 2.555 675 3.230 5.09 153 3.1 Yigan (Capital) Urban 41.403 5.6 5.215 675 5.890 5.898 164 2.8 Yigan (Capital) Urban 41.403 5.3 0 </td <td>045231</td> <td>Sugpon</td> <td>Urban</td> <td>926</td> <td></td> <td>0</td> <td>225</td> <td>225</td> <td>192</td> <td>12</td> <td></td> <td>19</td> <td>069</td>	045231	Sugpon	Urban	926		0	225	225	192	12		19	069
Suyo Urban 1.704 5.4 0 1.400 1.405 515 176 34.2 Suyo Urban 1.704 5.8 0 1.275 1.275 309 27 8.7 Tagudin Urban 4.853 5.4 0 5.975 5.975 1.644 402 24.5 Tagudin Urban 4.883 5.5 2.660 0 2.660 889 11 1.2 Yigan (Capital) Urban 41.403 5.6 2.555 675 5.890 5.898 164 2.8 Vigan (Capital) Urban 41.403 5.3 0	=		Rural	1,810	5.6	0	1.175	1.175	323	164	8.08	635	0
Suyo Urban 1,790 5.8 0 1,275 1,275 309 27 8.7 Tagudin Rural 7,047 5.3 0 4,700 4,700 1,335 375 28.1 Tagudin Urban 4,853 5.5 2,660 889 11 1,2 Yigan (Capital) Urban 41,403 5.6 5,215 675 5,890 5,898 1164 2.8 Yigan (Capital) Urban 41,403 5.3 0			Total	2.786	5.4	0	1.400	1,400	515	176		969	069
Rural 7,047 5.3 0 4,700 1,335 375 28.1 Tagudin Urban 4,853 5.4 0 5,975 1,644 402 24.5 Rural 27,951 5.6 2,566 0 2,660 889 11 1.2 Vigan (Capital) Urban 41,403 5.6 5,215 675 5,890 5,898 164 2.8 Vigan (Capital) Urban 41,403 5.3 0 <t< td=""><td>045232</td><td>Suyo</td><td>Urban</td><td>1.790</td><td>5.8</td><td>0</td><td>1,275</td><td>1.275</td><td>309</td><td>72</td><td>8.7</td><td>156</td><td>955</td></t<>	045232	Suyo	Urban	1.790	5.8	0	1,275	1.275	309	72	8.7	156	955
Tagudin Urban 4.853 5.4 0 5.975 5.975 1.644 402 24.5 Tagudin Urban 4.853 5.5 2.660 0 2.660 889 11 1.2 Rural 27.951 5.6 2.555 675 3.230 5.099 153 3.1 Vigan (Capital) Urban 41.403 5.3 0 0 0 7.768 17 0.2 Vigan (Capital) Urban 41.403 5.3 0			Rural	7,047	5.3	0	4,700	4,700	1,335	375		1,979	368
Tagudin Urban 4.853 5.5 2.660 0 2.660 889 11 1.2 Rural 27.951 5.6 2.555 675 3.230 5.009 153 3.1 Vigan (Capital) Urban 41.403 5.3 0<			Total	8,837	5.4	0	5.975	5.975	1,644	402	24.5	2,135	727
Vigan (Capital) Total 27,951 5.6 2,555 675 3,230 5.009 153 3.1 Vigan (Capital) Total 41,403 5.6 5,215 675 5,890 5,898 164 2.8 Vigan (Capital) Urban 41,403 5.3 0	045233	Tagudin	Urban	4.853	5.5	2,660	0	2,660	688	11	1.2	09	2,133
Vigan (Capital) Total 32.804 5.6 5.215 675 5.890 5.898 164 2.8 Vigan (Capital) Urban 41.403 5.3 0 0 0 7.768 17 0.2 Total 41.403 5.3 0 <td< td=""><td></td><td></td><td>Rural</td><td>27.951</td><td>5.6</td><td>2,555</td><td>675</td><td>3.230</td><td>\$,009</td><td></td><td></td><td>854</td><td>23,867</td></td<>			Rural	27.951	5.6	2,555	675	3.230	\$,009			854	23,867
Vigan (Capital) Urban 41.403 5.3 0 0 0 7.768 17 0.2 Rural 0 0.0 0			Total	32.804	5.6	5,215	675	5,890	5,898		2.8	516	26,000
Rural 0 <td>045234</td> <td>Vigan (Capital)</td> <td>Urban</td> <td>41.403</td> <td>5.3</td> <td>0 .</td> <td>0</td> <td>0</td> <td>7,768</td> <td>17</td> <td></td> <td>16</td> <td>41,312</td>	045234	Vigan (Capital)	Urban	41.403	5.3	0 .	0	0	7,768	17		16	41,312
Total 41,403 5.3 0 0 7,768 17 0.2 Urban 131,439 5.2 9,794 2,850 12,644 25,221 215 0.9 Rural 432,090 5.3 11,515 15,619 27,134 81,734 2.231 2.8 Total 563,529 5.3 21,309 18,469 39,778 106,955 2,496 2.3			Rural	0	0.0	0	0	0	0	0	0.0	0	o
Urban 131.439 5.2 9.794 2.850 12.644 25.221 215 0.9 Rural 432.090 5.3 11.515 15.619 27.134 81,734 2.281 2.8 Total 563.529 5.3 21,309 18,469 39,778 106,955 2,496 2.3			Total	41,403	5.3	0	0	0	7.768	17	0.2	16	41.312
Rural 432,090 5.3 11,515 15,619 27,134 81,734 2,231 2.8 Total 563,529 5.3 21,309 18,469 39,778 106,955 2,496 2.3			Urban	131,439	5.2	9.794	2.850	12.644	25.221	215		1.147	117.648
563.529 5.3 [21.309] 18,469 39.778 106,955 2,496 2.3	Pro	vincial Total	Rural	432,090	5.3	11,515	15,619	27,134	81,734	2,281	2.8	11.956	393,000
			Total	563.529	5.3	21,309	18,469	39.778	106,955	2,496		13,103	\$10,648

Table 4.1.6 Estimation of Population Covered by Safe and Unsafe Source by Municipality

1

						Sp	Sheet 1								
NEDA						Number of Facilities	Facilities					Coverage of	f Own Use		
98	Municipality	Type S	Pop. Covered by Level I	Z	Public Facilities	85	Priv	Private Facilities	×a	Number of Private Facilities	Private F	acilities	(1) Po	(1) Population Covered	ered
grapme		:	Facilities	Safe	Unsafe	Total	Safe	Unvafe	Total	Safe	Uncafe	Total	Safe	Unsafe	Yotal
045201	Altiem	Urban	1,267	8	7	7	li 💮	Э	ð	0	0	O			5
		Rurai	2,206	85	1-	35	3	-	Þ	7	-	3	8	3	
		Total	3,473	33	0	24	3	-	4	7		3			
045202	Banavovo	Crban	818	2	-	200	06	81	801	45	6				270
		Rural	5.510	ន	.3	23	446	86	532	223	43	266	-		1 490
		Total	6.328	27	3	31	536	ड़	3	268	52		I	982	1.760
045203	Bantav	Urban	8,943	22,	á	37	453	127	361	117	3				Ì
	<u></u>	Rural	14.190	110	\$2	162	473	257	730	237	129			694	
		Total	23,133	138	61			384	160.1	354	163				2,300
2025204	Burgos	Urban	1.484	9	¥			31	\$		6		71		
		Rural	7,640	39	91			272	\$	'	136				_
		Total	9,124	45	8			290	750		145				2
\$02570	Caburao	Urban	6.857	1.7	4			9			5				\$
		Rural	19,657	150	OS.			22			11		•		217
		Total	26.514	167	Z			32			16			83	
0.5206	Candon	Urban	7,213	45	27		116	8	182		33	91	302		
;		Rum	39,224	202	108						340				
:		Total	46,437	249	135			745	1,997		373			15	5.374
045207	Caoavan	Urban	6,157	3	25						33		158		
<u>}</u>		Rurai	000 x	43	28	:					151	30€			·
		Total	14,157	83	53	136	372	33	740		184			6	1.881
8055208	Cervantes	Urban	2.482	63							0		9		5
: : :		Rural	016'6	37	4	14				11	1	12		3	
		Total	12.392	39	\ 	4			52		1	13			88
0045200	Galimuvod	Urban	430	8	0						2				
		Kuraj	8,298	12.	=			E			16			86	
		Total	8.728	76	-					87	18	105	467		561
048210	G. del Pilar	Orban	10	0	0			0			0	٥			٥
; ; ;		Rura	1.13.	12			o	0			0				ō
		Total	1,649	12		4	0		0	0	0				0
045211	Lidlidda	Urban	1,227	(4		3					0		3		\$
: ! !		Rural	2,454	261	0			0		21	0	121			=
		Total	3,681	20	-	ī.					٥				•
0.45217	Massnaal	Urban	5,278		9	33		102	385		S				ĺ
1	1 To 1 To 1 To 1 To 1 To 1 To 1 To 1 To	Rura	18.723	121	*	168					136	967	1.905		5.623
		Tota	24,001		47	Ì	000.1				881			3 97.	3.500
			\$1000 miles				*********								

Table 4.1.6 Estimation of Population Covered by Safe and Unsafe Source by Municipality (Cont'd.)

NATION (Graph of Companies) Nation (Graph of Companies) Number of Leadings Prop. Covered (Graph of Companies) Number of Leadings Prop. Covered (Graph of Companies) Number of Leadings			.				100	Spect 1	:						-	
Monitopality Type by Loof I Theolite Pacities Prevale Residues Preva	NEDA			Pop. Covered			Number of	Facilities					Coverage of	f Own Use		
Negletides National Control Negletides National Control Total Control National Control <t< th=""><th>Geo.</th><th>Municipality</th><th>3,75</th><th>by Level I</th><th>ស</th><th>ıblic Facilitie</th><th></th><th>Ē</th><th>vate Facilitie</th><th></th><th>Number</th><th>of Private F</th><th>icilities</th><th>(I) Pos</th><th>outation Cove</th><th>red</th></t<>	Geo.	Municipality	3,75	by Level I	ស	ıblic Facilitie		Ē	vate Facilitie		Number	of Private F	icilities	(I) Pos	outation Cove	red
Name that the control of the	1 80			Facilities	Safe	Unsafe	Total	Safe	Unsafe	Total		Unsafe	Total	Safe	Unsafe	Totai
Name State 10.5 15	045213	Nagbuke	Croan	121	9	0	9	75	28	70	21	14	35	102	71	178
Year 3774 22 3 226 117 78 117 78 106 60 406 Narvacan Rual 33,773 47 22 117 399 112 78 200 450 100 60 <t< td=""><td></td><td></td><td>Rura</td><td>3.047</td><td>16</td><td>3</td><td>61</td><td>[261</td><td>129</td><td>321</td><td>96</td><td>. 65</td><td>161</td><td>667</td><td>335</td><td>\$3.5 \$3.5 \$3.5 \$3.5 \$3.5 \$3.5 \$3.5 \$3.5</td></t<>			Rura	3.047	16	3	61	[261	129	321	96	. 65	161	667	335	\$3.5 \$3.5 \$3.5 \$3.5 \$3.5 \$3.5 \$3.5 \$3.5
Victoria Utben 1,854 7 8 13 2,26 175 399 175 899 175 399 175 399 175 399 175 4,947 1 4,947 1 4,947 1 4,947 1 4,947 1 4,947 1 4,947 1 4,947 1 4,947 1 4,947 1 4,947 1 4,947 1 4,947 1 4,947 4 4 4 4 4,947 1 4 4 4 1 4 4 4 1 4 4 4 1 4 4 4 4 1 4 4 4 1 4 4 4 1 4 4 4 1 4 4 4 1 4 4 4 4 4 1 4 4 4 4 4 4 4 4 4 4 4 4 </td <td></td> <td></td> <td>Total</td> <td>3,774</td> <td>22</td> <td>3</td> <td>25</td> <td>234</td> <td>157</td> <td>391</td> <td>117</td> <td>42</td> <td>961</td> <td>909</td> <td>404</td> <td>1.012</td>			Total	3,774	22	3	25	234	157	391	117	42	961	909	404	1.012
Runal 331733 47 38 85 2,400 1,490 43440 1,200 67,100	045214	Narvacan	Urban	1,854	7	Ó	13	224	175	399	112	88	200	582	455	1,037
Outmind Total SSGZPS Set 44 98 2.024 2.115 4.739 1.312 1.028 2.700 6.702 5.402 1.0 0			Rural	33.173	47	38	\$8	2,400		4,340	1.200	026	2.170	6.120	4,947	11.067
Quanto Unturn Rate 3.25 0 1 1 0			Total	35.027	4	,	86	2.624		4.739	1,312	1.058	2,370		5.402	15. 1 <u>6</u>
Salzecto Urban 3,228 0 11 11 0	045215	Ourno	Urban	325	0		1	0		0	0	0	0		8	व
Sandedo Todal 3,560 12			Rural	3,238	0	. 11	111	ļo		0	0		0		0	ै
San Enriço Urban 1 3-44 18 5 23 25 3 13 4 17 61 20 San Enriço Venal 9,044 61 1 4 75 68 35 13 4 17 61 20 San Enriço Urban 2,226 6 0 6 7 1 4 7 18 65 22 8 San Enriço Urban 6,176 13 1 4 1 8 3 1 4 1 8 3 1 4 1 8 3 1 4 1 8 3 1 4 6 1 1 4 6 1 1 4 6 1 1 4 6 1 1 4 6 1 4 6 1 1 4 6 1 6 1 1 4 6 1 1 <			Total	3,563	0	12	12	0		0	0		0		ਠ	٥
San Emilio Wural 8,694 45 9 27 95 34 14 45 17 69 San Emilio Urban 2,344 61 14 75 13 13 45 13 69 234 89 San Esteban Urban 2,386 7 0 13 1 4 21 1 3 89 50 89 31 14 4 1 3 89 96 31 11 4 1 3 89 96 31 18 4 2 1 4 2 1 4 2 1 4 2 1 4 2 1 4 2 1 4 1 3 8 9 8 9 9 9 31 1 4 6 1 4 6 1 3 8 9 9 9 31 1 4 2 2 <	045216	Salcedo	Urban	1,344	18		23	25		. 33	13		171		20	81
San Emilio Focal 9948 61 14 75 93 35 128 47 18 65 24 89 San Emilio Rurba 2,236 6 0 7 1 1 4 1 5 24 89 Rurba 6,170 13 0 13 1 4 1 5 22 5 Rurba 6,170 13 0 13 1 4 1 5 22 5 Rurba 6,170 13 1 4 1 2 1 1 5 66 San lideflows 1,024 2 1 4 1 5 6 5 5 6 6 7 1 6 7 1 6 2 1 6 1 1 6 1 1 6 1 1 1 6 1 1 1 6 1 1			Rural	8,604	43		25	38		જ	34		48		69	242
San Entilo Urban 2,286 6 0 6 3 1 4 2 1 5 1 5 1 4 2 1 5 2 3 3 San Exeban Todal 6,170 13 11 4 61 35 96 31 18 30 8 30 San Exeban Urban 497 32 11 4 61 35 96 31 18 30 18 30 18 30 30 11 60 22 30 31 18 30 30 31 18 30 30 31 30 31 30 31 30 31 30 31 30 31 30 31 30 31 40 22 30 31 31 30 31 30 31 30 31 30 31 30 31 30 31 30 31			Total	9,948	61		75	93		128	47		65		86	323
Runal 3.890 7 6 7 8 2 10 4 1 5 22 8 San Esteban Urban 497 13 11 4 61 35 14 6 13 14 8 22 8 15 8 30 18 8 30 15 18 49 156 89 80 15 18 49 156 89 80 15 18 49 156 80 151 18 49 15 18 49 17 18 49 15 18 49 17 18 49 17 18 49 17 19 49 19 18 49 17 19 41 25 26 18 49 11 60 17 49 49 17 17 49 41 17 49 11 60 11 60 11 60 11	0452.7	San Emilio	Urban	2,286	8		9	3	:	4	7	1	3		3	11
San Exteban Topal 6,176 13 6,176 13 6,176 13 6,176 13 6,176 13 6,176 13 6,176 13 6,176 13 6,176 13 6,176 13 8 30 89 San Exteban Urban 6,581 35 1,1 4 667 254 731 18 95 561 Tomal 6,581 35 1,8 467 264 731 234 13 367 1,151 650 San Hidelfores Urban 1,022 4 5 264 78 12 1,1 60 25 501 San Juan Urban 3,400 13 48 190 451 147 458 176 179 450 170 450 170 450 170 450 170 450 170 450 170 450 170 450 170 450 170 450			Rural	3.890	7		7			0.	7	1	\$		5	27
San Estebon Urbar 497 3 1 4 61 35 96 31 18 49 156 89 San Fieldinso Rural 5.384 32 17 49 406 229 635 203 115 367 367 115 367 367 158 367 367 115 369 367 367 115 367 367 367 115 367 368 367 367 367 368 367 368 367 368 367 368 367 368 367 368 367 368 367 368 368 368 368 3			Total	6.176	13		[3]	Ξ		4	9	2	8		8	38
Rumal S.884 32 17 49 406 229 633 203 115 318 995 561 Tonal Tonal 6.3811 35 467 224 731 234 133 367 1.131 567 1.131 567 1.131 569 361 1.131 567 1.131 567 1.131 567 1.131 567 1.131 567 1.131 567 1.131 567 1.131 567 1.131 567 1.131 567 1.131 567 1.131 567 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 1.141 568 <	045218	(San Esteban	Urban	497	3		4	19		8	31		49		68	245
San Marietionso Urban 6,381 35 18 55 467 264 731 234 133 367 1,151 650 San Marietionso Urban 1,024 4 5 9 98 22 120 49 111 60 255 57 Rural 5,013 26 18 44 22 120 49 111 60 255 57 57 17 49 41 19 264 410 19 255 56 37 19 49 110 40 25 154 41 19 46 170 459 41 19 46 41 19 46 41 19 46 41 19 46 41 19 46 41 41 48 48 49 110 460 115 30 41 48 48 48 48 48 48 48 48 48 <t< td=""><td>,</td><td></td><td>Rural</td><td>5,884</td><td>32</td><td></td><td>49</td><td>406</td><td></td><td>635</td><td>203</td><td></td><td>318</td><td></td><td>195</td><td>1.556</td></t<>	,		Rural	5,884	32		49	406		635	203		318		195	1.556
San lide from San lide from San lide from San lide from San lide from San lide from San lide from San lide from San lide from San lide from San lide from San lide from San lide s		-	Total	6,381	35		53	467		731	234		367	1	650	1.801
San Juan Rural 4,019 22 13 35 154 34 18 77 17 19 44 55 36 308 176 28 416 92 San Juan Uchan 5,043 26 18 44 252 56 308 170 55 225 86 66 30 1,193 37 10 451 147 549 170 55 225 186 659 173 264 671 149 264 87 170 47 100 173 48 679 171 47 40 201 173 48 679 173 40 173 40 173 48 679 173 40 173 40 471 472 174 40 201 173 473 173 473 473 473 473 473 473 473 473 473 473 473 473 473<	045219	San Ildelfonso	Urban	1,024	4		6	86		120	49	11	09		57	312
San Juan Urbain 5.043 2.6 18 44 252 56 308 126 28 154 671 149 San Juan Urbain 3.400 15 3 18 340 110 450 170 55 225 156 671 149 San Vicente Urbain 11,193 9 7 16 79 421 120 265 126 673 113 San Vicente Urbain 9,103 17 16 79 421 120 26 120 79 421 420 120 525 156 639 Santa Vicente Urbain 9,103 87 103 342 170 512 421 120 422 170 421 421 422 170 872 872 873 873 873 873 873 873 873 873 873 873 874 873 874 873	· · · · · · · · · · · · · · · · · · ·		Rural	4,019	22		35	Ž.		188	77		76		26	208
San Juan Urban 3,400 15 3 18 340 110 450 170 450 254 254 255 252 252 816 264 Rural 18,240 142 48 190 451 147 598 226 74 300 1,150 375 San Vicence Urban 1,193 9 7 16 79 42 121 40 251 1,204 375 113 Santa Urban 976 3 37 103 342 17 59 12 80 17 435 17 435 17 443 435 435 436 436 436 436 36 436<			Total	5.0431	97		3	252		308	126		152		611	820
Rural 18,240 142 48 190 451 147 598 226 74 300 1,150 375 San Vicente Urban 1,193 9 7 16 79 42 121 40 21 61 213 113 San Vicente Urban 1,193 9 7 16 79 42 121 40 21 61 213 113 San Vicente Urban 9,643 57 10 79 42 121 40 21 61 79 658 320 113 40 21 61 79 658 320 113 40 80	045220	San Juan	Urban	3,400	15		81	340		450	170		225			1.080
San Vicente Urban 1,193 9 7 16 79 42 121 40 21 61 213 113 San Vicente Urban 1,193 9 7 16 79 42 121 40 21 61 213 113 Santa Urban 9,643 57 37 163 124 120 64 196 658 320 Santa Urban 976 37 163 17 36 12 60 154 486 350 Santa Caulina Urban 11,884 69 38 106 19 36 12 60 154 486 350 Santa Cruz Urban 11,884 69 38 107 223 112 30 12 40 154 451 451 457 167 624 229 84 31 1234 451 451 457 167 624	,		Rutal	18,240	142		81	451		398	226		300			1,525
Santa Cruzi Urban 1,193 9 7 16 79 42 121 40 21 61 213 133 Rural 9,643 57 30 87 263 128 391 132 64 196 658 320 Total 10,836 66 37 503 342 170 512 172 85 257 871 453 Santa Urban 976 1 36 13 12 36 18 12 36 18 12 36 86 55 Santa Caudina Urban 1,242 9 38 106 18 36 12 60 18 36 18 36 48 36 36 Santa Cruz Urban 1,242 9 457 167 624 229 84 313 1,234 451 Santa Cruz Urban 4,446 19 2 2			Total	21.640	157		208	1167		- S48	396		\$28			2.605
Rural 9,643 57 30 87 263 128 391 132 64 196 658 320 Total Total 10,836 66 37 10,83 10,83 10,83 10,83 10,83 10,83 10,83 10,83 10,83 10,83 10,83 10,83 10,93 10,83 10,93 10,83 10,93 10,84 257 871 453 309 Santa Caulina Urban 1,242 9 38 10,6 187 112 36 12 40 15 40 15 309 Santa Caulina Urban 1,242 9 38 10,6 19 79 30 10 40 15 30 Santa Cruz Urban 4,446 19 71 110 30 45 10 40 15 30 40 40 40 40 40 40 40 40 40 40 40	045221	San Vicente	Urban	1,193	٥		91	70		121	40		61	٠		326
Santa Total 10,836 66 37 103 342 170 512 172 85 257 871 453 Santa Urban 976 1 0 1 36 23 18 12 30 86 55 Santa Caulina Urban 1,242 9 38 106 187 119 365 112 72 184 486 309 Santa Caulina Urban 1,242 9 3 12 60 19 79 30 10 40 159 50 Santa Caulina Urban 1,242 9 3 457 167 624 229 84 313 1,234 451 Total 12,310 52 19 457 167 624 259 94 353 1,393 501 Santa Cruz Urban 4,446 19 8 27 198 39 153 158			Rural	9,643	57		28	263		391	132		196			878
Santa Urban 976 1 6 187 19 36 18 12 30 86 55 Rural 10,908 68 38 106 187 119 306 94 60 154 486 309 Santa Caulina Urban 1,242 9 3 10 60 19 79 30 10 40 159 304 Santa Caulina Urban 1,242 9 3 12 60 19 79 30 10 40 159 304 Santa Cruz Urban 4,446 19 71 186 703 229 94 353 1,394 451 451 Santa Cruz Urban 4,446 19 8 27 198 30 103 349 153 164 239 1,031 Santa Cruz Rural 26,378 150 70 240 159 448 158			Total	10.836	8		103	342		512	172		257		433	1.304
Rural 10,908 68 38 106 187 119 306 94 60 154 486 309 Santa Caulina Urban 1,242 9 38 107 223 142 365 112 72 184 572 364 Santa Caulina Urban 1,242 9 3 12 60 19 79 30 10 40 159 50 Total 11,068 43 16 59 457 167 624 229 84 313 1,234 451 Total 12,310 52 19 70 167 62 94 353 1,393 501 Santa Cruz Urban 4,446 19 8 27 198 39 287 99 45 144 505 227 Santa Cruz Rural 26,378 151 62 304 153 458 188 824	045222	Santa	Urban	976	-			36		\$	81		30		25	141
Santa Cruz Total 11.884 69 38 197 223 142 365 112 72 184 572 364 Santa Caulina Urban 1.242 9 3 12 60 19 79 30 10 40 159 50 Total 11.068 43 16 59 457 167 624 229 84 313 1.234 451 451 451 451 451 451 451 451 451 451 451 451 451 451 451 501 <			Rural	10,908	89		90:	187		306	इ		154			262
Santa Cruzi Urban 1,242 9 3 12 60 19 79 30 10 40 159 SO Rural 11,068 43 16 59 457 167 624 229 84 313 1,234 451 Total 12,310 52 19 45 703 259 94 353 1,393 501 Santa Cruz Urban 4,446 19 8 27 198 89 287 99 45 1,44 505 227 Santa Cruz Rural 26,378 151 62 213 69x 305 1,603 349 153 502 1,885 824 Total 30,824 170 70 240 894 1,290 448 198 646 2,390 1,081			Total	11.884	\$		101	223		365	112		3 ₹			936
Rumal 11,068 43 16 59 457 167 624 229 84 313 1,234 451 Total 12,310 52 19 71 517 186 703 259 94 353 1,393 501 Santa Cruz Urban 4,446 19 8 27 198 89 287 99 45 144 505 227 Rural 26,378 151 62 213 69x 305 1,003 349 153 802 1,885 824 Total 30,824 170 70 240 894 1,290 448 198 646 2,390 1,081	045223	Santa Catalina	Lega-	1,242	١		5	9		79	S		40		05	309
Total 12,310 \$2 19 71 186 703 259 94 353 1,393 501 Santa Cruz Urban 4,446 19 8 27 198 89 287 99 45 144 505 227 Rural 26,378 151 62 213 698 305 1,003 349 153 802 1,885 824 Total 30,824 170 70 240 894 1,290 448 198 646 2,390 1,081	: :		Rural	11.068	43		65	457		624	229		313			1.685
Santa Cruz Urban 4,446 19 8 27 198 89 287 99 45 144 SOS 227 Rural 26,378 1,51 62 213 698 305 1,003 349 153 502 1,885 824 Total 30,824 170 70 240 896 394 1,290 448 198 646 2,390 1,081	· .		Total	12,310	\$2		71	517		703	259		353			1.894
Rural 26.378 151 62 213 698 305 1,003 349 153 502 1,885 824 Total 30.824 170 70 240 896 394 1,290 448 198 646 2,390 1,051	045224	Santa Cruz	Urban	4,446	61		27	861		787	66		144			732
30.824 170 70 240 896 394 1.290 448 198 646 2.390 1.051]			Rura	26.378	1\$1	;	- 213	869		1.003	349		203			2,709
	:		Total	30.824	021	70	240	896		1.296	448		646		150'1	144.

Table 4.1.6 Estimation of Population Covered by Safe and Unsafe Source by Municipality (Cont'd.)

						Sp	Sheet 1								
NEDA			Pop Coverage			Number of Facilines	Facilities					Coverage of Own Use	Own Use		
Geo-	Municipality	Type	by Level I	æ	Public Facilities	'n	Priv	Private Facilities	vo	Number	Number of Private Facilities	cilities	(1) Pop	(1) Population Covered	para
Code			Facilities	Safe	Unsafe	Total	Safe	Unsafe	Total	Safe	Cosafe	Total	Safe	Unsafe	Total
045225	Santa Lucia	Urban	1.336	7	77	6	111	04	117	39	જ્	65	200	104	304
		Rural	19,275	125	99	185	249	125	374	125	63	188	685	344	1,029
		Total	20,611	132	62	194	326	165	167	\$	83	247	885	448	1.333
045226	Santa Maria	Urban	3,629	16	4.	30	115	66	214	88	80	108	288	248	536
		Rura	21.025	88	69	157	738	652	1,390	369	326	969	1.919	1.695	3.614
	-:-	Total	24,654	102	. 83	187	853	751	1.604	427	376	803	2,207	1,943	4,150
045227	Santiago	Urban	9161		0	£ 4	38	17.	55	61	6	28	103	46	149
		Rural	13,439	. 67	12	6/	909	272	877	303	136	439	1.634	734	2,368
		Total	15,355	\$	12	ž	£3	289	932	322	145	795	1.737	180	2.517
045228	Santo Domingo	Urban	2:926	14	3	1.1	214	54	268	101	27	134	546	138	684
		Rural	18,965	117	62	146	908	226	1.131	453	113	995	2,353	588	2,941
		Total	168'12	131	32	163	1.119	280	1.399	260	071	700	2.899	726	3.625
045229	Sigay	Urban	0	0	o	o	Ó	ō	0	ō	0	0	0	0	Ö
		Rural	455	0	0	0	4	Ö	4	7	0	2	12	0	12
		Total	455	0	0	0	₩	ō	4	<u>c :</u>	0	2	12	0	12
045230	Sinait	Urban	1.870	10		4	92	49	141	\$	2.5	71	239	127	366
		Rural	20,060	8		135	- 44	520	1.564	522	260	782	2.506	1.248	3.754
		Total	21.930	8	65	149	1.136	569	1,705	268	285	823	2,745	1,375	4.120
045231	Sugpon	Urban	069	٤.		3	0	0	0	0	0	0	0	0	Ò
		Rural	0	0		9	13	7	10	9	4	101	0	0	\$
		Total	069	3		6	121	7	161	ę	4	10	0	o	\$
045232	Suyo	Urban	329	0	0	O	0	0	0	0	0	Ó	0	0	5
		Rural	368	35		7	721	18	06	36	6	І	161	48	239
		Total	727	38	6	44	72	181	06	36	6	45	191	48	239
045233	Tagudin	Urban	2,133	6	Cł	 - -	851	44	202	6.4	22	101	435	121	929
	-	Rural	23,867	152	39	161	727	206	876	361	103	464	2.022	577	2.599
		Total	26.000	191	41	202	088	250	1.130	440	125	595	2,457	869	3.155
045234	Vigan (Capital)	Urban	41.312	233	117	350	493	248	741	247	124	371	1.306	657	1.963
		Rural	0	0 .	0	0	0	0	બ	0	0	0	0	0	Ö
	,	Total	41,312	233	211	350	493	248	741	247	124	371	1.306	653	1.963
		Urban	117,648	\$78	172	846	3.224	1,515	4.739	1,617	763	2.380	8,269	3.891	12.160
Pro	Provincial Total	Rural	393.000	2.161	876	3.037	13,438	7.176	20.614	6.725	3.595	10.320	35.141	18.635	53,776
		Total	\$10,648	2,736	1.147	3,883	16,662	169.8	25.353	8,342	4.358	12.700	43.410	22.526	65.9.10

Table 4.1.6 Estimation of Population Covered by Safe and Unsafe Source by Municipality sheet 2

							444						The second secon			
NEDA						Cover	Coverage of Shared Use	ed Use				7	Level I Coverage	ozero,		<u> </u>
ફુ			Pop. Covered	(2) Popu	Population Covered by	red by		1	34.	No. of HDEs			(1) + (2)	(2)		¥
graphic	àmadismun's	Type	By Level 1	Publ	Public and Private	ate	Numos	Number of reducinosas	oras	per Shared	Safe		Unsafe		Total	
3				Safe	Unsafe	Total	Safe	Unsafe	Total	Facility	Pop.	88	Pop.	2,6	Pop.	%
045201	Ahlem	Urban	1,267	505	362	1.267	171	89	239	34	905	\$	362	97	1.267	3
		Rural	2.206	1.750	2.4	2,195	313	46	392	11	1.758	41	448	2	2.206	2
		Total	3.473	2,655	807	3,462	484	147	1631	7:1	2.663	47.	810	14	3,4731	ŝ
045202	Banavovo	Urban	818	460	88	S+8	92	181	110	23	589	84	133	16	818	Š
		Rural	5.510	3.380	640	4.020	\$08	114	718	23	4.629	X	881	91	5.510	Š
		Total	6.328	3,840	728	4,568	969	132	828	£3	5,314	84	1,014	91	6,328	8
045203	Bantay	Crban	8,943	5.337	2.668	8.005	1,026	513	1,539	7	5,945	65	2.998	30	8.943	œ
		Rural	14,190		4,185	12,219	1,488	775	2.263	4	9.311	22	4,879	27	14,190	Š.
		Total	23.133	_	6.853	20.224	2,514	1.288	3.802	5	15.256	54	7.877	28	23.133	£2
045204	Burgos	Urban	1,484		539	1.367	291	106	268	8	668	09	285	36	1.484	8
	·	Rural	7,640,	er,	2.170	5.810	700	417	1,117	3	4.763	54	2.877	33	7.640	87
	:	Total	9,124		2,709	7.177	862	\$23	1,385	3	5.662	55	3,462	ž	9.124	6%
045205	Cabugao	Urban	6.857	4,168	2,596	6.764	834	519	1,353	27	4,236	54	2.621	331	6.857	×7
	3	Rural	19.657	Γ	4.920	19,440	2,740	826	3,668	15	14.679	99	4.978	231	19,657	6×
		Total	26,514		7.516	26.204	3.574	1.447	5.021	17	18,915	63	7.599	25	26.514	88
045206	Candon	Urban	7,213	l	2.481	6 739	819	477	1.296	8	4.560	63	2,653	37	7.213	100
		Rural	39,224	Γ`	12.595	74.324	4.024	2,332	6.356	5	24.796	62	14,428	36	39.224	86
		Total	46,437	l	15.076	41.063	4,843	2.809	7.652	9	29,356	62	17,081	36	46.437	86
045207	Caoayan	Urban	6,157	L	2,613	5.834	\$	\$23	1.167	6	3.379	05	2.778	41	6.157	91
		Rural	000.8	١	3.063	6.442	663	109	1,264	3	4,167	43	3.833	07	8,000	83
•		Total	14,157	l	5.676	12.276	1.307	421.1	2.431	S	7.546	97	6,611	10+	14.157	Ž
045208	Cervantes	Urban	2,482	l	619	2.476	326	1001	435	109	1.863	71	619	24	2.482	56
		Rural	9,910		844	9.848	1,667	951	1,823	35	6,063	78	847	7	9.910	85
		Total	12,392		1,463	12,324	1,993	365	2,258	40	10.926	77	1.466	01	12,392	87
045209	Galimuyod	Urban	430	343	47	360	59	6	74	9	375	87	55	13	430	8
		Rural	867'8	109'9	1,176	7.777	1,222	318	1,440	8	7.036	82	1.262	15	8,298	3
-		Total	8.728	6.944	1.223	8.167	1.287		1.514	80	7.411	85	1.317	151	8,728	8
045210	G. del Pilar	Urban	4	Ö	7	1-	ō	 	-	0	0	0	7		7	
		Rural	1.642	1.407	235	1,642	256	43	565	21	1.407	47	235	8	1.642	\$5
		Total	1.649	1.407	342	1.649	256	4	300	124	1,407	36	242	7	1,649	\$
045211	Lidhdda	Urban	1,22,1	1,083	86	1.181	212	61	127	61	1.129	16	86	20	1.227	8
		Rural	2,454	2.343	0	2.343	442	0	442	11	2,454	06	0	01	2,454	\$
		Total	3,681	3,426	86	3.524	654	6.	673	13	3,583	06	86	2	3.681	92
045212	Magsingal	Urban	\$,278	3.220	1,115	1333	657	822	885	. 4	3.908	74	1.370	135	5.278	8
		Rural	18.723	11.814	4,286	16.100	2.229	60%	3.038	Ş	13.719	73	5,004	27	18.723	2
		Total	24.001	15,034	5.401	20.435	2.886	1.037	3.923	43	17.627	73	6.374	2.7	24.001	100
		-														

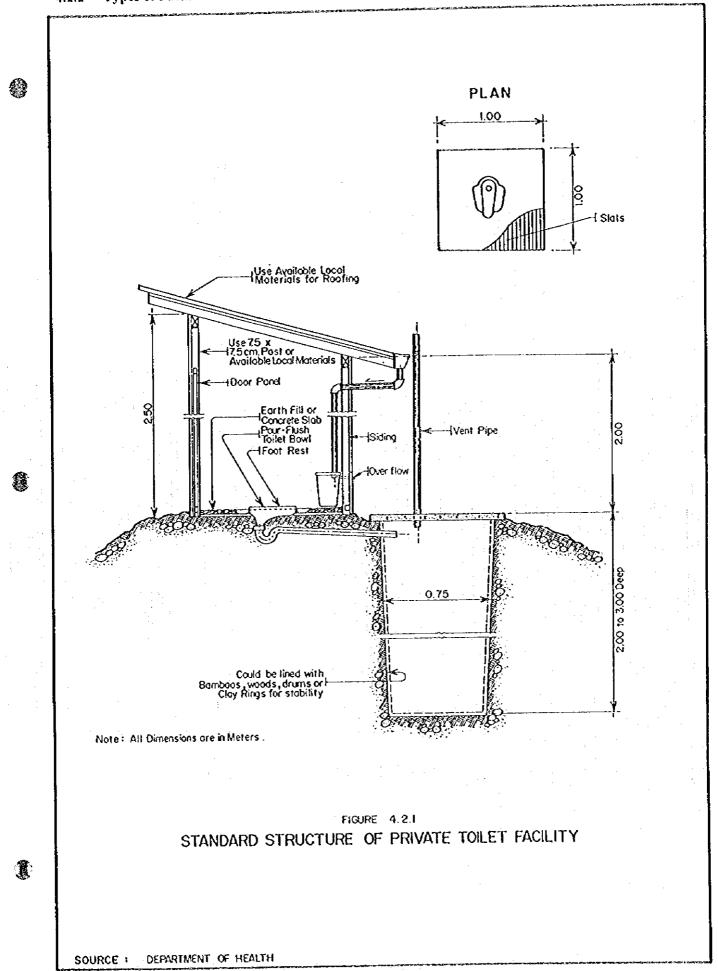
Table 4.1.6 Estimation of Population Covered by Safe and Unsafe Source by Municipality (Cont'd.)

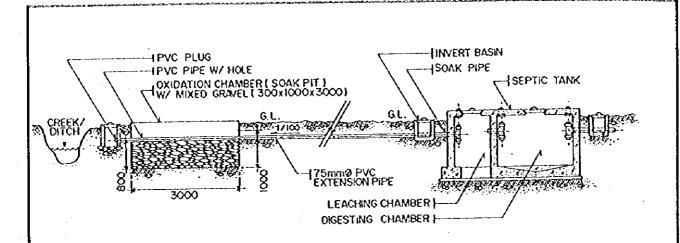
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ſ	<u></u>	1	Ī	٦	\$	95	8	ş	Š	93	ह्य	Ϋ́	Ş.	8	ङ्ग	8	8	8	8	8	8	द्र	8	\$	\$	3	86	8	3	8	ड़ा	\$	Š.	ጵ	8	8	100	100	95	8
				Pop.	727	3,047	3,774	1.854	33,173	35.027	325	3.238	3.563	1.344	8.604 4.604	9.948	2.286	3.890	6,176	497	5.884	6.381	1.024	4.019	5,043	3,400	18.240	21,640	1.193	9.643	10,836	926	10.908	11.884	1,242	11.068	12.310	4.446	26.378	30.824
	erage		1		35	36	36		-		ž	24	ž	23	23	2	9	∞	r~	24	35	34	22	22	22	24	24	24	36	33	ġ,	717	36	34	24	27	27	31	29	291
	Level I Coverage	(E)	Unsafe	Pop.	258	1,167	1.425	-814	14,829	15,643	325	3.238	3.563	308	1.960	2.268	145	327	472	179	2,114	2.293	222	606	1.131	818	4,528	5.346	430	3,203	3.633	370	4,116	4,486	301	2 967	3.268	1.371	7.930	9.301
	រុំ		-		\$	58	59				٥	0	o	77	77	7	93	8.7	68	42	62	9	78	11	77	3,6	74	74	2	29	99	35	59.	195	26	73.	73	69	42	67
			Safe	Pop.	469	1.880	2,349	1.040	18.344	19.384	0	ö	0	1,036	6,644	7.680	2,141	3,563	5,704	318	3.770	4.088	802	3.110	3.912	2,582	13,712	16.294	763	6.440	7.203	909	6.792	7.398	1176	8,101	9,042	3.075	18,448	21.523
		No. of HHs	per Shared	Facility	3	2	7	1	۲,	74	3	£	56	1	16	14	52	06	57	_	٠,	17	(3	٧,	4	r3	 -	\$	2	9	S	9	8		-1	'n.	v	7	9	g
		No. 0	See .		108	426	534	157	4.335	4.492	2		675		040	1,898	414	716		50	883	933	137	950	787	483	3.277	3,760	191	.733	1.894	174	1.945	2,119	195	1,738	1,933	728	4,383	5.111[
		and the state of	Semons	Total	2.5	109		69			\$			65		'		ક		20.	317	335	32	151	183				65	577	636	8	732	798 2	47	997		L		0.5
	ired Use	A Company of the Comp	בר פו הוסת	Unsafe					1.9	2,007																													-	1
Sheet 2	Coverage of Shared Use	7	OHION.	Safe	11	266	337	88	2.397	2,485	0	0	0	661	1,269	1,468	388	655	450.1	33	366	88	105	667			ri	2.831	102	1,156	1.258	801	1.213	1,321		-		l	-	7.57
S	Cover	ed by	te	Total	£\$	2,213	2.762	817	22.106	22,923	325	3,238	3,563	1,263	8,362	9.625	2.275	3.863	6,138	252	4,328	4.580	712	3,511	4,223	2,320	16,715	19,035	867	8,665	9,532	835	10.113	10,948	1.033	9,383	10,416	3,714	23,669	27,383
		tion Cover	Public and Private	Unsafe	187	832	1,019	359	9,882	10,241	325	3,238	3,563	288	1.891	2.179	142	322	\$	8	1.553	1.643	165	817	286	554	4,153	4,707	317	2,883	3.200	315	3.807	4,122	251	2.516	2.767	4.1.1	7.18	8.250
		(2) Population Covered by	Public	Safe	.95	1.88	1.743	458	12.224	12.682	0	0	0	975	6.471	7,446	2,133	3.541	5.674	162	2,775	2.937	<u>r</u>	2,694	3.241	1.766	12,562	14,328	550	5.782	6,332	520	905.9	6,826	787	6,867	2,519	2.570	16.563	19.133
		Pop. Covered	Facilities	L	127	3.047	3,774	1,854	33,173	35.027	325	3,238	3,563	44.1	¥09.8	9.948	2.286	3.890	6.176	497	5,884	6.381	1.024	4.019	5.043	3,400	18,240	21.640	1,193	9.643	10,836	926	806.01	11,884	C4C.1	11,068	12,310	377	26.378	30,824
		- 1	žd.	· -	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rurai	Total	Urban	Rural	Total	Urban	Rurai	Total	Urban	Rural	Total	Urban	Kural	Total	Urban	Rural	Total	Urban	Rural	Total	Crban	Rural	Total	Urban	Rural	Tota!
		Manustrainelists	in the state of th		Nagbukel	•	•	Narvacan			Quinno			Salcedo			San Emilio			San Esieban			San Edeironso			San Juan			San Vicente			Santa			Santa Catalina			Santa Cruz	:	
	NEDA	હું	graphic	Š	045213		_	045214			045215			045216			045217			045218			045219			045220			045221			045222		-	045223			045234	 	

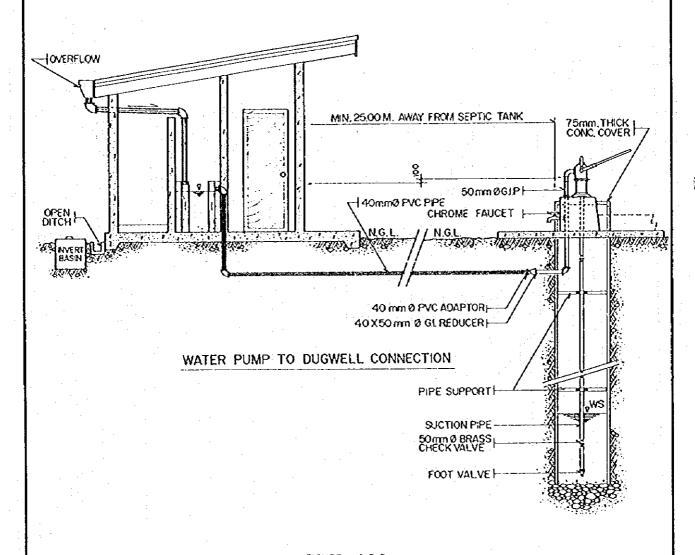
Table 4.1.6 Estimation of Population Covered by Safe and Unsafe Source by Municipality (Cont'd.)

OKENTAL METHOD AND TABLE AND LONGING TO TABLE AND LONGING TO TABLE AND LONGING TO TABLE AND LONGING TABLE AND LONG							,	Chan	A Theo					Cove I	0000000		
Samin Lucian Type Political project Numbre of Academical Port School Special School Special School Political project Type Type Type Political project Type <	VED. 8			Pop. Covered	(2) Popu	lation Cove	red by	Tree or Strate	360 26		No. of HHs			£ £	(2)		
Saketa Mirrary Chean	graphic	A) ITEC DIMOYAT	Ž,	Focilities Hacilities	Publ	ic and Priv	ate	Number	or Housen		per Shared	Sad	į.	Unsa	J.	Tota	73
Same Licia Use Licia Use Licia Licked Licia 11-24 All Licked Licia 11-24 All Licked Licia 11-24 All Licked Licia 11-24 All Licked Licia 11-24 All Licked Licia 11-24 All Licked Licia 11-24 All Licked Licia 11-24 All Licked Licia 11-24 All Licked Licia All Licked	Code				Safe	Unsafe	Total	Safe	Unsafe	Total	Facility	Pop.	%	Pop.		Pop.	%
Samp Figure 19.253 1.226 6.000 1.000 3.317 9 1.2953 0.001 3.3819 0.001 3.3819 0.001 3.3819 0.001 3.3819 0.001 3.3819 0.001 3.3819 0.001 3.3819 0.001 3.3819 0.001 3.3819 0.001 3.001	045225	Santa Lucia	Crban	1.336	969	336	1.032	134	65	661	3	968	40	044	20	1.336	65
Sample Troat 20.041 1.2.924 6.344 1.2.92 6.344 1.2.92 6.344 1.2.92 6.344 1.2.92 6.344 1.2.92 6.344 1.2.92 6.344 1.2.92 6.344 6.1 6.34 6.3 1.0.92 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 7.0 1.0.0			Rural	19,275	12,238	6.008	18.246	2,225	1.092	3.317	6	12.923	\$	6.352	32	19.275	8
Sample Manna Urban 3,629 1,659 1,644 3,619 5 1,647 5 1,675 4,67 5 1,675 4,67 5 1,675 4,67 1,675 1,675 1,675 4,67 1,675 4,675 1,675 1,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675 4,675 1,675			Total	20.611	12,934	6.344	19.278	2,359	1.157	3.516	8	13.819	62	6.792	30	20.611	22
Summingo Urban 1,040 1,070	045226	Santa Maria	Crban	3.629	1.659	1.434	3,093	332	287	619	5	1,947	. 53	1.682	97	3.629	38
Status Farma Total 24-654 10598 25.05 2.128 1.839 3.890 4 13.205 52.11449 45.05 25.05 45.05 25.05 45.05 <			Rural	21,025	6.339	8.072	17,411	1.796	1.552	3,348	4	11.258	52	9.767	45	21.025	88
Sample Graph Uppar 1.904 1.258 509 1.705 1.916 1.258 509 1.705 1.916 1.928 1.705 1.704 4.705 2.317 4 9.529 7.9 3.900 2.9 1.916 Simo Dominge Urban 1.5.355 9.165 1.1.071 1.464 880 2.377 4 9.529 70 3.900 29 1.3249 Simo Dominge Urban 1.5.355 9.165 1.1.071 1.464 880 2.377 4 9.529 20 1.9 1.509 1.5 1.			Total	24,654	10,998	9.506	20.504	2.128	1.839	3.967	4	13,205	52	11,449	45	24.654	98
Stand Domingo Figural 13,459 7,905 3,166 1,1071 1,464 586 2,004 4 9,559 70 3,900 20,475 Santo Domingo Urban 2,936 3,165 1,1238 1,627 6,27 1,233 1,233 1,249 3 70 3,500 2,526 Stav Urban 2,986 1,277 4,425 2,249 1,67 3 7 3,756 1,700 Stav Urban 2,986 1,278 1,620 2,249 3 2,243 6 0<	045227	Santiago	Urban	1,916	1.258	509	1.767	233	94	327	11	1.361	25	\$55	23	1.916	80
Total 15.356 9.165 3.675 1.28.38 1.697 6.80 2.377 4 10.000 665 4.455 22. 15.255 15.255 Santo Domingo Urban 12.956 1.797 1.465 2.222 2.85 1.282			Rural	13.439	7.905	3.166	11.071	1.464	286	2,050	4	9.539	707	3,900	29	13,439	ŝ
Signot Domingo Urban 2,926 1,7971 445 2,222 352 439 3 2,43 79 3583 20 2,926 Stand Domingo Urban 18,3046 1,2366 1,2366 1,2366 1,2179 78 3,786 10 1,806 Sigav Urban 455 443 1,8266 2,491 615 3,602 4 1,51752 78 4,366 20 1,806 Sigav Urban 455 443 0 6 0		•	Total	15,355	9.163	3.675	12.838	1.697	089	2,377	4	10.900	68	4.455	28	15,355	8
Sigav Runal 18.9e6 3.198 16.024 2.467 615 3.02 4 15.179 78 3.786 10 18.965 Sigav Urban 2.1891 14.622 3.623 18.266 2.819 70 0.521 4 17.372 78 4.369 20 2.1891 Sigav Urban 2.1891 14.622 3.620 18.266 2.819 76 3.621 4 17.372 78 4.56 2.1891 2.1891 Sigav Urban 455 44.3 0 44.3 76 0 76 36 45.3 2.260 0	045228	Santo Domingo	Urban	2.926	1.797	445	2,242	352	87	439	3	2.343	19	583	20	2,926	99
Total 21.899 14.623 3.645 18.206 2.819 702 3.531 4 17.52 78 4.369 20 21.891 Shaw Rural 455 443 0 443 76 0 76 38 455 22 0 0 455 Total 455 443 0 443 76 0 76 38 455 22 0 0 455 Sugara Urban 455 443 0 443 76 0 76 38 455 22 0 0 455 Sugara Urban 20.006 10.882 5.542 11.50 2.267 11.130 3.397 4 13.280 66 6.71 3.3 20.006 Sugara Urban 20.006 10.882 5.542 11.810 2.367 1.130 3.397 4 13.280 66 6.71 3.3 20.006 Sugara Urban 699 690 690 690 135 0 135 0 0 0 0 0 Sugara Urban 589 690 690 690 135 62 62 62 0 0 0 0 0 Sugara Urban 589 690 690 135 62 62 62 0 0 0 0 0 Sugara Urban 368 103 368 129 135 62 62 62 62 62 62 62 6		•	Rural	18 965	12,826	3.198	16.024	2.467	615	3.082	4	621.51	78	3.786	161	18,965	86
Sigay Urban 455 443 0 40 0	<u> </u>		Total	168.12	14.623	3,643	18,266	2,819	702	3.521	4	17.522	78	4.369	20	21.891	86
Numari Chean 455 443 0 443 76 0 76 38 455 22 0 0 455	045229	Sigav	Urban	0	Ö	0	0	0	0	0	0	0	0	0	0	0	Ō
Sugnon Urban 455 442 76 76 76 38 455 22 0 455 Sugnon Urban 1,870 997 1,504 192 98 290 3 1,236 43 634 22 1,870 Sugnon Urban 690 11,888 5,423 1,504 132 6,671 44 1,236 45 66 6671 33 2,006 Sugnon Urban 690 690 138 6,45 135 6 6 67 135 0 <			Rural	455	443	Ó	£43	76	0	76	38	455	22	0	0	455	22
Sumati Urban 1.570 997 5.672 1.504 192 98 290 3 1.236 43 6.34 22 1.870 Sumati Durban 20.0660 10.883 5.423 16.306 2.267 1.130 3.597 4 13.389 66 6671 33 20.060 Sugpon Urban 690 690 0			Total	455	443	ö	443	76	ō	2/2	38	455	22	0	0	455	22
Sugpon Furnal 20.060 10.883 5,423 16,306 2.267 1,130 3.397 4 13.389 66 6.671 33 20.060 Sugpon Total 21,930 17,810 2.459 1.228 3.687 4 14,625 65 7.305 31 21,930 Sugpon Rural 690 690 135 0 0 0 0 0 0 0 690 690 690 135 0	045230	Sinait	Urban	1.870	700	507	1.504	192	86	290	3	1,236	43	634	22	1.870	65
Sugpon Urban 21,930 11,880 5,930 17,810 2,459 1,228 3,687 4 14,625 63 7,305 31 21,930 Sugpon Urban 690 690 135 0		.	Rural	20,060	10.883	5,423	16.306	2,267	1.130	3.397	4	13,389	99	6.671	33	20.060	98
Sugpon Urban 690 690 690 135 65 45 690 71 0 0 690 Rural 690 690 690 135 0			Total	21.930	11.880	5.930	17.810	2.459	1.228	3.687	4	14.625	63	7.305	31	21,930	94
Runal 690 69 0<	l	Sugpon	Urban	069	069	0	069	135	jo	135	45	069	71	ō	٥	069	71
Suyo Urban 359 690 135 0 135 0 135 0 690 25 0 0 690 25 0 0 690 25 0 0 690 25 0 0 690 25 0 0 690 25 0 0 690 25 0 0 690 359 359 359 359 129 129 12 0 0 0 0 690 359 20 0 0 690 359 359 0 0 690 359 0 <t< td=""><td></td><td></td><td>Rura</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>Ю</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>٥</td></t<>			Rura	0	0	0	0	0	Ю	0	0	0	0	0	0	0	٥
Suyo Urban 359 0 62 62 62 62 62 62 63 359 20 359 359 359 359 359 368 359 20 359 20 359 20 359 20 359 20 359 20 359 20 358 358 488 19 524 0 294 3 433 727 10 286 3 1674 34 458 10 286 3 1674 34 458 10 286 3 1674 34 458 10 286 3 1674 34 458 10 286 3 1674 34 458 3 1238 3 3 3 3 3 3 3 4 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			Total	1069	069	0	069	135	0	135		069	25	0	0	9	25
Rural 368 103 26 129 5 24 0 294 4 74 1 368 Tagudin Urban 2,133 1,239 338 488 19 67 86 1 294 3 433 5 727 Tagudin Rural 2,133 1,239 338 1,577 22,5 61 286 3 1,674 34 4,53 9 2,133 Yigan (Capital) Rural 26,000 17,896 4,949 22,845 3,199 884 4,083 5 20,353 62 5,188 19 23,867 Vigan (Capital) Urban 41,312 26,187 13,162 39,349 4,941 2,483 7,424 10 27,493 66 13,819 33 41,312 1 6,000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Suyo	Urban	329	0	329	389	0	62	62	0	0	0	359	20	359	20
Total Tota			Rura	368	103	26	129	61	5.	24	0	294	4	4,	-	368	S
Tagudin Urban 2,133 1,239 338 1,577 2,25 61 286 3 1,674 34 459 9 2,133 1,239			Total	727	103	385	885	61	67	86		294	3	433	5	727	×
Fural 23,867 16,657 4,611 21,268 2,974 823 3,797 6 18,679 67 5,188 19 \cdot 23,867 Total 26,000 17,896 4,949 22,845 3,199 884 4,083 5 20,353 62 5,647 17 26,000 Vigan (Capital) Urban 41,312 26,187 13,162 39,349 4,941 2,483 7,424 10 27,493 66 13,819 33 41,312 13,162 Total 17,048 71,028 34,400 105,438 13,665 5,643 20,308 67 13,189 29 17,648 Total 17,048 71,028 34,400 19,788 64,248 5 270,302 63 122,098 28 393,000 Total 510,648 306,189 138,523 444,712 56,137 26,431 26,431 84,556 5 3,495,59 62 161,049 29 510,648 Total 510,648 306,189 138,523 444,712 26,431 84,556 5 3,495,59 62 161,049 29 510,648 Total 510,648 306,189 138,523 444,712 26,431 84,556 5 3,495,59 62 161,049 29 510,648 Total 510,648 306,189 138,523 444,712 56,431 84,556 5 3,495,59 62 161,049 29 510,648 Total 510,648 306,189 138,523 444,712 56,431 84,556 5 3,495,59 62 161,049 29 510,648 Total 510,648 306,189 138,523 444,712 56,431 84,556 5 3,495,59 62 161,049 29 510,648 Total 510,648 306,189 138,523 444,712 50,431 84,556 5 3,495,59 62 161,049 29 510,648 Total 510,648 50,643 50,643 50,643 50,643 50,643 50,643 50,643 50,644 50,	045233	Tagadin	Urban	2,133	1.239	338	1.577	225	19	286	3	1.674	8	65.5	6	2,133	44
Vigan (Capital) Total 26,000 17,896 4,949 22,845 3,199 884 4,083 \$ 20,353 62 5,647 17 26,000 Vigan (Capital) Urban 41,312 26,187 13,162 39,349 4,941 2,483 7,424 10 27,493 66 13,819 33 41,312 1 Yigan (Capital) Rural 0			Rural	23.867	16.657	4.611	21.268	2.974	823	3.797	9	629'81	67	5,188		. 23.867	85
Vigan (Capital) Urban 41,372 26,187 13,162 39,349 4,941 2,483 7,424 10 27,493 66 13,819 33 41,312 Kural Rural 0			Total	26,000	17.896	676.7	22,845	3,199	884	4.083	Ş	20,353	62	5.647	17	26.000	79
Rural 0 <td>045234</td> <td>Vigan (Capital)</td> <td>Urban</td> <td>41,312</td> <td>26.187</td> <td>13,162</td> <td>39.349</td> <td>4.941</td> <td>2,483</td> <td>7,424</td> <td>01</td> <td>27,493</td> <td>99</td> <td>13.819</td> <td>33</td> <td>41,312</td> <td>100</td>	045234	Vigan (Capital)	Urban	41,312	26.187	13,162	39.349	4.941	2,483	7,424	01	27,493	99	13.819	33	41,312	100
Total 41,312 26,187 13,162 39,349 4,941 2,483 7,424 10 27,493 66 13,819 33 41,312 Urban 117,648 71,028 34,460 10,548 13,665 6,643 20,303 6 79,297 60 38,351 29 117,648 Rural 393,000 235,161 104,063 339,224 44,460 19,788 64,248 5 270,302 63 122,698 28 393,000 Total 510,648 306,189 138,523 444,712 58,125 26,431 84,556 3,49,599 62 161,049 29 510,548			Rural	0	0	0	0 .	0 .	0	0	0	10	0	0	0	0	٥
Urban 117.648 71.028 34,460 105,488 13,665 6,643 20,308 6 79,297 60 38,351 29 117.648 17.648 18,000 235,161 164,063 39,2224 44,460 19,788 64,248 5 270,302 63 122,698 28 393,000 19,788 130,548 138,523 444,712 58,125 26,431 84,556 5 349,599 62 161,049 29 510,648			Total	41,312	26,187	13.162	39.349	4.941	2,483	7,424	10	27.493	99	13.819	33	41.312	001
Rural 393,000 235,161 104,063 339,224 44,460 19,788 64,248 5 270,302 63 122,698 28 393,000 10014			Urban	117,648	71.028	34,460	105.488	13.665	6,643	20.308	o	79.297		38,351	29	117.648	<u>ک</u>
10ml 510.648 306.189 13x,523 444,712 58,125 26,431 84,556 5 349,599 62 161,049 29 510,648	P. 0.7	vincial Total	Rural	393,000	235,161	101.083	339,224	44.460	19.788	64.248	ķ	270,302		122,698	28	393.000	16
			Total	\$10,64x	306,189	38.523	444,712	58.125	26.431	84.556	v.	365 345		161.049	۶2	510.648	2





LAYOUT PLAN OF HIGH GROUND WATER SITE



STANDARD STRUCTURE OF SCHOOL TOILET FACILITY

SOURCE : JICA - OPWH RURAL ENVIRONMENTAL SANITATION PROJECT

4.2.3 Sanitation Facilities and Service Coverage

Table 4.2.1 Sanitation Facilities and Service Coverage of Household Toilets by Type, by Municipality, Urban and Rural, 1995

					ouseholds S								Unserved I	
Municipality	Type	HHs No.	Flust		Poor 17		VIP		Tota		Unsani	tary %	No Faci Number	ility %
	L.,	1995	Number	%	Number	%	Number	%	Number	%c	Number			
Milem	Urban	265	7	. 3	145	55	59	22	211	80	0	t : !	54	
	Rural	773	0	0	1	53	199	26	610	79	0		163	
	Total	1,038	7	1	556	54	258	25	821	79	0		217	
Запауоуо	Urban	163	0	0	163	100	0	0	163	100	0		0	
	Rural	991	0	Ð	916	92	28	3	944	95	- 0	1		
	Total	1,154	. 0	0	1,079	94	28	2	1,107	96	0	_	47	
Bantay	Urban	1,927	562	29	1,064	55	276	14	1,902	99	0	1 1	1 '!	
	Rural	3,340	170	5	2,468	74	137	4	2,775	83	q		. 565	
	Total	5,267	732	14	3,532	67	413	8	4,677	89	0	+ -		
Burgos	Urban	295	4	3	136	46	146	49	286	97	0	0	9	
•	Rurat	1,678	49	3	1,358	81	73	4	1,480	88	0	0	198	
	Total	1,973	53	3	1,494	76	219	11	1,766	90	C	0	207	l
Cabugao	Urban	1,568	205	13	1,299	83	.39	2	1,543	98	C	. 0	25	
-	Rural	4,152	11	0	3,815	92	244	6	4,070	98	C	0	82	
	Total	5,720		4	1	89	283	5	5,613	98		0	197	L
Candon	Urban	1,398	74	.5	 -	t	 	2	1,377	98		0	21	
- Maria	Rurat	7,481	147	2	ŧ	Į.	į.	- 3		99	. 0	0	101	
	Total	8,882	221	2		91		3	8,757			0	125	L
Caoayan	Urban	1,344	172	13	+	66		14			.12	1	88	Γ
Cacalyan	Rural	1,895		5				0	1		92	1	654	
	Total	3,239		8		60	1	. 6	1	74	io	1		
C	Urban	454	180	40		45		15		99	: (3	Γ
Cervantes	l l	2,145	1	1.	1		1	36	i .	ŀ		1 .	213	1
	Reral	1	l .	1	t :	Į .		32	1		14	1 -	216	1 .
C.E	Total	2,599 81	384	 	+	80	1	20		100		t		1-
Galimuyod	Urban	ŀ				i		2		I	1			1
	Rural	1.528	1			1 1	1	I .				t .	1	1
	Total	1,609	·	(1		+		1
G. del Pilar 🦠 🦠	Urban	119	1		1.0				1] ;			
. *	Rural	541	2		3 5			1	1	1			i	
	Total	660	 					1		+	 	 		-
Lidhdda	Urban	245	ł					4	ł					
	Rural	519	1					1	I '		1	ł		
	Total	764				ļ		+	+	i - -				_
Magsingal	Urban	1,082	ì	: 9		1		8	1		1	i	1	1
	Rural	3,539	110			1	1 .	į.		1 .	ł		1	1
	Total	4,621	210		+	+	 	·	t		t	+	· · · · · · · · · · · · · · · · · · ·	-
Nagbokel	Urban	143	4	3	1	1			l .	l .	í	1		1
	Rural	624	0	(1	1	1	1			į.		251	
	Total	767	4		458	60	23	3		+		1	259	1
Narvacan	Urban	542	90	17	440	81	·] (C	530	98) C	ł .	1
	Roral	6,801	360	:	5,524	81	' (0	5,884	. 87	•	y c	1	1
	Total	7,343	450		5,964	8		C	6,414	87	<u> </u>	<u>'</u>	929	1
Quiriao	Urban	269)	(225	84	40	15	266	99) (1.
	Rural	1,132	e] o		640	57	414	37	1,054	93	1) C	78	1
	Total	1,401	Ł	(865	6.	454	32	1,320	94	19	1 0	81	-
Salcedo	Urban		+		261	96	3	3	273	100) €	ì
	Rural	1,707		1	1,584	92	104	6	1.707	100) ((€	
	Total	1,980	1	1	1.845	t	111	. 6	1,980	100	· ·	0 0) (1_
San Emilio	Urban			+		1		1			8	2 20) 5	
PARTE BARRETTE	Rural	766	}			1	1				410	5 54	ı ∫ 4?	1
	Total	1,182			603	1	i			1		1	52	2
San Esteban	Urban			1	7 128	1	1	· · ·				1		,
Pall ENCORE	1	I		1	983	1	1	1	1,00	1	1) (1	,
	Rural Total	1,369		4	2 1,111	t	1	1	4 .		1		1	1

Table 4.2.1 Sanitation Facilities and Service Coverage of Household Toilets by Type, by Municipality, Urban and Rural, 1995 (Cont'd.)

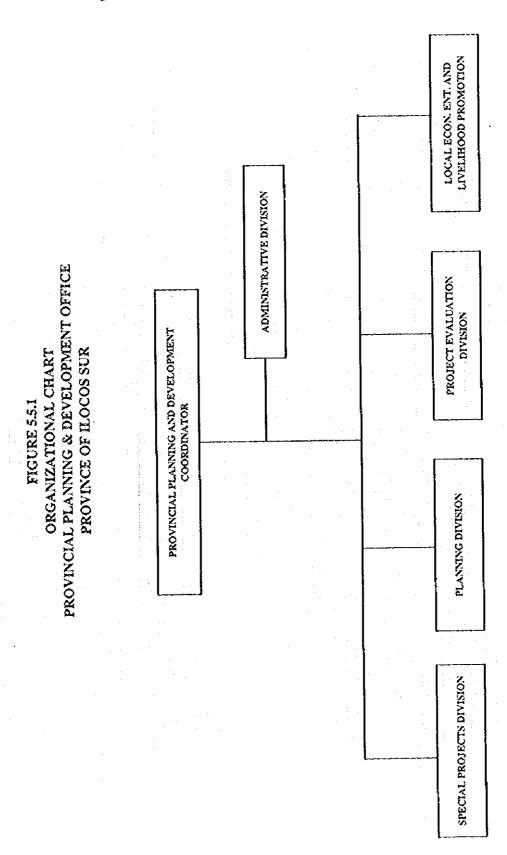
							by Sanitar						Unsersed I	
Municipality	Туре	HHs No. 1995	Number	ի %-	Pour Fl Number	ush %	Number	%	Tota Number	 %	Unsani Number	tary %	No Fac Number	ility %
e - 11116	Urban		24	*****	151	76		/V		88	O		23	
San IMelfonso	Rural	198 753	17	12 2	680	90		0	697	93	٥	l	56	1.
		l 1		4	831	87	. 0	0		93 92	0	l	•	
P I	Total	951	41 25		616	87	53	7		98	0	0	13	-
San Juan	Urban Rural	707		4 5		75	l 1	0		98 80		l	697	1
	i 1	3,612 4,319	174 199	5		77	53	ı	3,579	83	30		710	1
San Vicente	Total Urban	219	21	10	3,327 188	86	10	5		100	0,		710	
San vicente	Roral	1,913	80	4		63	144	8	1,424	74	Ü	Ϊ́o	489	
	Total	2,132	101	5		65	154	7		77	. 0	1	489	2
Santa	Urban	363	28	8		77	48	13	355	98	()	<u>°</u>	8	
Saira	Roral	2,194	5	0		89	0	0		89	Ó	0	241	
	Total	2,194	33	ı	2,227	87	. 48	2		90		0	249	
Sonta Catalina	Urban	233	20	9		88	0	0		96	0	- 0		
Some Carallia	Rural	2,031	20 124	6		88	7	0		96 95	"	0	t03]
	Total	2,264	144	6	2,001	88 88	t I	0	l i	95	ĺ	!	112	
Santa Cruz	Lirban	868	14		724	83	77	9		94	0	-	56	
Santa Citiz	Rural	5.101	43		4,420	87	122	6		91	l o	ı	1	
į	Total	5,969	54		5,144	86	399	7		94	Ď	ő	172	
Santa Lucia	Urban	431	40	9	252	58		6	316	73	<u>"</u>	_	115	2
anna Duc Ai	Rural	3,651	47	i í	2,732	75	l .	14	3.276	90			1.0	
	Total	4,082	87	2	2,981	73	ŀ	13	3,592	88	0	l	190	: 1
Santa Maria	Urban	7,32	36	5	653	89	25		714	98			18	
Sauca Maria	Rural	4,175	32	1	3,782	91	53	1	3,867	93	0	l . ő	308	
	Total	4,907	68		4,435	90	78	2	4,581	93	o "	į	326	
Santiago	Urban	442	5		419	95	12	3	436	99	0		6	
	Roral	2,485	593	24	1,322	53	227	. 9	_	86	0	0	343	1
	Total	2,927	598	20		59	239	8		88	. 0	0	349	1
Santo Domingo	Urban	577	14	: 2	550	95	0	0	561	98	0	0		
	Rural	3,705	58	2	3,291	\$9	. 0	0	3,349	90	0	0	356	11
	Total	4,282	72	2	3,841	90	1 1	. 0		91	0		369	
Sigay	Urban	0	0	0	0	. 0	0	0	0	O	0	- 0	0	
	Rural	361	0	0	267	74	0	0	267	74	65	17	33	١,
	Total	361	0	0	267	74	. 0	0	267	74	61	17	33	۱ ،
Sinait	Urban	561	35	6	519	93	7	ı	561	100	0	0	0	,
1	Rural	4,250	3	0	3.266	77	423	10	3,692	87	. 0	. 0	558	1
	Total	4,811	38	ŀ	3,785	79	430	9	4,253	. 88	0	. 0	558	1
Sugpon	Urban	192	0	0	8.3	41	87	45	170	89	0	0	22	1
	Rural	323	0	. 0	118	-37	162	50	280	87	. 0	- 6	43	1.
	Total	515	0	. 0	. 201	39	249	48	450	87	. 0	0	65	1.
Suyo	Urban	309	5	2	198	64	106	34	309	100	. 0	0	0	
	Rusal	1,335	11	t	697	52	303	. 23		76		1	324	2.
	Total	1,644	16	1	895	54	409	25	1,320	80	D)	0	324	26
Tagudin	Urban	889	146	- 16	583	66	66	7	: 795	89	0	0	94	U
•	Rurai	5,009	195	4	3.814	. 76	418	8	4,427	88	0	0	582	J.
<u> </u>	Total	5,898	341	6	4,397	75	484	8	5,222	89	0	O	676	1
Vigan (Capital)	Urban	7.768	1,005	13	5,618	72	448	- 6	7,071	91	0	: 0	697	-
	Rural	. 0	0	. 0	. 0	0	o	0	. 0	0	0	0	0	١ ،
1	Total	7,768	1,005	13	5,618	72	448	6	7.071	91	. 0	U	697	L'
	Urban	25,221	2,859	11	18,913	75	1,974	8	23,776	91	94	0	1.351	-
Provincial Total	Ŕural	81.734	2,783	3	64,201	79	5,685	3	72,669	89	636	ŀ	8,129	l is
	Total	106,955	5,642	5				. 7		90	730	l.	9,780	1





5. EXISTING SECTOR ARRANGEMENTS AND INSTITUTIONAL CAPACITY

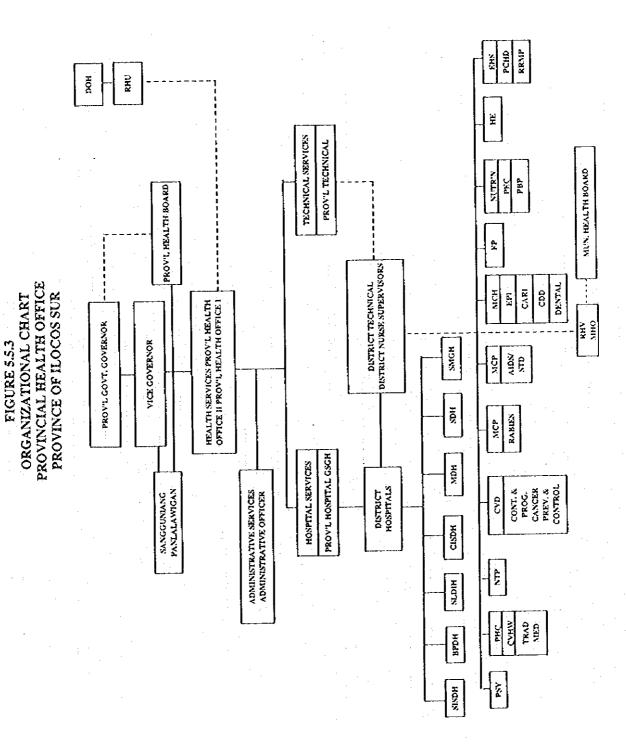
5.5 Sector Agencies at the Local Level



QUALITY CONTROL DIVISION ADMINISTRATIVE DIVISION WATERWORKS/DRAINAGE FLOOD CONTROL DIVISION ASST. PROVINCIAL ENGINEER PROVINCIAL ENGINEER BUILDING AND STRUCTURE CONSTRUCTION AND MAINTENANCE DIVISION ROADS AND BRIDGES CONSTRUCTION DIVISION

PROVINCIAL ENGINEER'S OFFICE PROVINCE OF ILOCOS SUR

FIGURE 5.5.2 ORGANIZATIONAL CHART



6. PAST FINANCIAL PERFORMANCE IN WATER SUPPLY AND SANITATION6.2 Past Public Investment

Table 6.2.1 Past Internal Revenue Allotment to Municipalities in Hocos Sur Province in 1990-94

	1990	1991	1992	1993	1994
IRA to All Monicipalities (National Total)	3,054,601,475	4,046,837,742	7,127,522,5 50	12,484,800,000	16,325,288,0
IRA to Municipalities					
Fotal	37,272,818	47,417,437	100,711,042	165,355,793	220.258,9
1. Aldem	783,647	1,017,910	2,658,407	4,443,361	5,698,6
2. Banayoyo	552,540	706,506	2,425,706	3,136,131	4,280,1
. Bantay	1,618,103	2,043,679	3,662,291	6,276,629	8,459.9
. Burgos	767,172	967,692	2,285,244	3,769,955	5,036,4
. Cabbgao	1,711,161	2,126,682	3,705,463	6,359,547	8,529.5
. Candos	2,430,959	3,082,585	4,9 <u>25,4</u> 05 2,625,124	8,564,606 4,358,380	\$1,282,2 5,944,3
. Cacayan	1,041,290	1,275,711 1,681,860	3,607,664	6,202,819	7,949.8
Cervantes	1,258,970 645,768	837,396	2,595,577	3,443,385	4,678,6
Galimuyed	586,385	757,430	2,666,621	3,621,096	4,738,5
9. G, del Pilar 1. Lilidda	412,612	552,158	1,765,206	2,812,018	3,714,1
. Magsingal	1,455,225	1,837,360	3,452,455	5,877,906	7,9003
. Nagbukel	477,901	597,293	1.821.621	2,907,439	4.011,
. Narvacea	2,140,806	2,661,481	4,439,886	7,112,430	10,116,
. Quirino	983,422	1,314,656	3,228,874	5,540,167	6.983.
. Salcedo	748,581	926,715	2,166,803	3,512,668	4,828,
. San Emilio	732,658	978,356	2,524,617	4,228,866	5,519,
l. San Esteban	557,677	708,269]	1,954,009	3,110,791 2,806,750	4,258, 3,909,
San Hdefonso	440,989	582,419	1,773,989[5,260,536	7,121;
. San Juan	1,292,947	1,631,930	3,143,636 2,147,574	3,498,613	4,780.
. San Vicente	767,337	903,100	2,547,749	4,239,234	5,663
Sapta	952,858 775,198	982,870	2,227,514	3,654,138	5,027,
Santa Catalina	1,709,037	2 260 837	3,990,850	6,911,197	9,001.
l. Sapta Cruz . Sapta Lucia	1,276,546	1,627,755	3,115,700	5,256,000	7,107.
. Santa Maria	1,503,242	1.839.971	3,362,694	5,693,617	7,127.
. Santago	1,024,359	1,334,884	2,831,888	4.735.015	6,285,
L Santo Domingo	1,319,582	1,669,708	3,181,797	5,374,747	7,324,
I. Sigay	537,155	703,058	2,635,798	3,545,586	4,502,
). Sinait	1,445,334	1,804,094	3,375,199	5,766,046	7.715.
L Sugpon	760,430	952,747	2,611,240	4,413,214	5,540,
Suyo -	844,859	1,107,031	3,128,362	4,433,061	5.781,
3. Tagudin	1,639,125	2,169,373	3,784,369	6,503,022 1,377,052	8,618, 10,157,
L Vigan	2,138,888	2,655,306	4,321,710	7,517,577	
Shares (%) in national total		1			
otal	1 220	1.173	1.413	1.324	1.
Alifem	9.026	0.025	0.037	0.036	0
Ванауоуо	0.018	0.917	0.034	0.025	0
Bantay	0.053	0.051	0.051	0,050 0,030	0.00
. Burgos	0.025	0.024	0.032	0.051	o o
. Cabugao	0.056	0.052 0.076	0.052 0.069	0.069	ď
Candon	0.080] 0.034	0.032	0.037	0.035	ō
Свозува	0.041	0.042	0.051	0.050	0
Cervantes Galinayod	0.021	0.021	0.035	0.028	0
	0.019	0.019	0.037	0.029	. 0
A. Ci. del Palar L. Uilidda	0.014	0.014	0.025	0.023	(1
2. Magsingal	0.048	0.045	0.048	0.047	0
3. Nagbukel	0.016	0.015	0.026	0.023	. (1
	0.070	0.066	0.062	0.063	0
5. Quirino	0.032]	0.032	0.945	0.043	0
6. Satordo	0.025	0.023	0.030	0.028	0 0
7. San Emilio	0.024	0.024	0.035	0.025	. 0
8. San Esteban	0.018	0.018	0.027 0.025	0.022	· o
9. San lidefonso	0.014	0.014	0.044	0.042	ò
). San Jaan	0.042 0.023	0.040	0.030	0.028	
I. San Vicenie	0.031	0.029	6.036	0,034	O
2. Santa 2. Santa Catalina	0.025	0.024	0.031	0.029	0
3. Santa Catalina 4. Santa Cruz	0.056	0.056	0.056	0.055	Ú
5. Santa Lucia	0.042	0.040	0.044	0.042	0
6. Santa Maria	0.047	0.045	0.047	0.046	. 0
7. Santiago	0.034	0.033	0.040	0.038	0
8. Santo Exmungo	0.043	0.041	0.045	0.043	0
9. Sigas	0.018	0.017	0.037	0.028	0
O. Smait	0.047	0.045	0.048	0,046	0
1. Suggen	0.025	0.024	9.037	0.035	0
2. Suyo	0.028	0.027 0.054	0.044 0.053	0.036 0.052	(
3. Tagudin	0.554]				

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7. WATER SOURCE DEVELOPMENT

7.3 Groundwater Sources

7.3.2 Groundwater Availability in the Province

(1) Major Information and References

The Groundwater Availability Map was prepared using the following information and references (detailed list of references is presented in Table 7.3.1, Data Report):

- Administrative and Topographical Maps of the Province published by NAMRIA with scale of 1:150,000 and 1:50,000, respectively.
- Geological Map of the Philippines published by then BMGS with a scale of 1:1,000,000.
- Water Resource Investigation conducted by NWRB, 1986.
- Well Inventory Database prepared by NWRB, LWUA, DPWH.
- Well Inventory Database in the province.

(2) Approach and Methodology

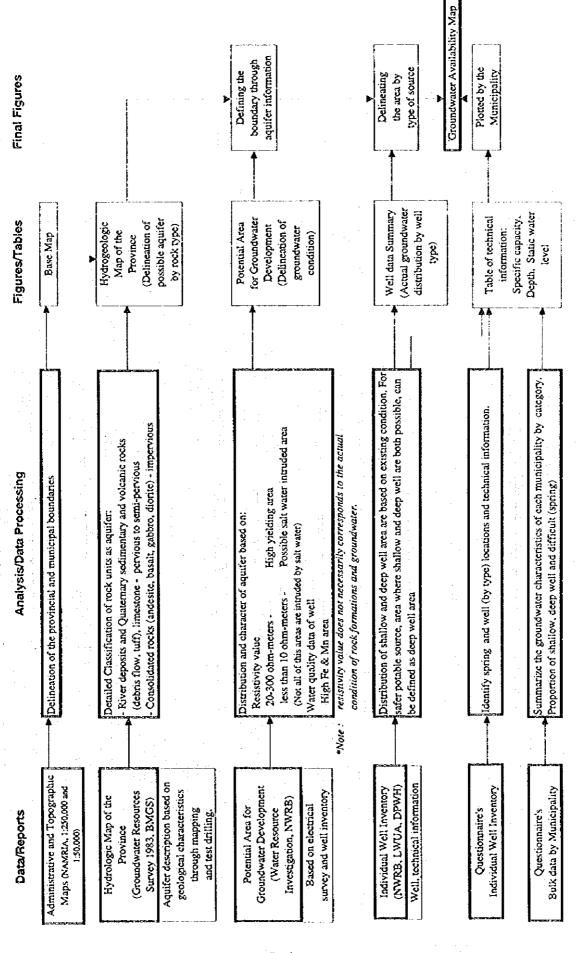
The procedure in preparing the Groundwater Availability Map is explained below with work flow depicted in Figure 7.3.1.

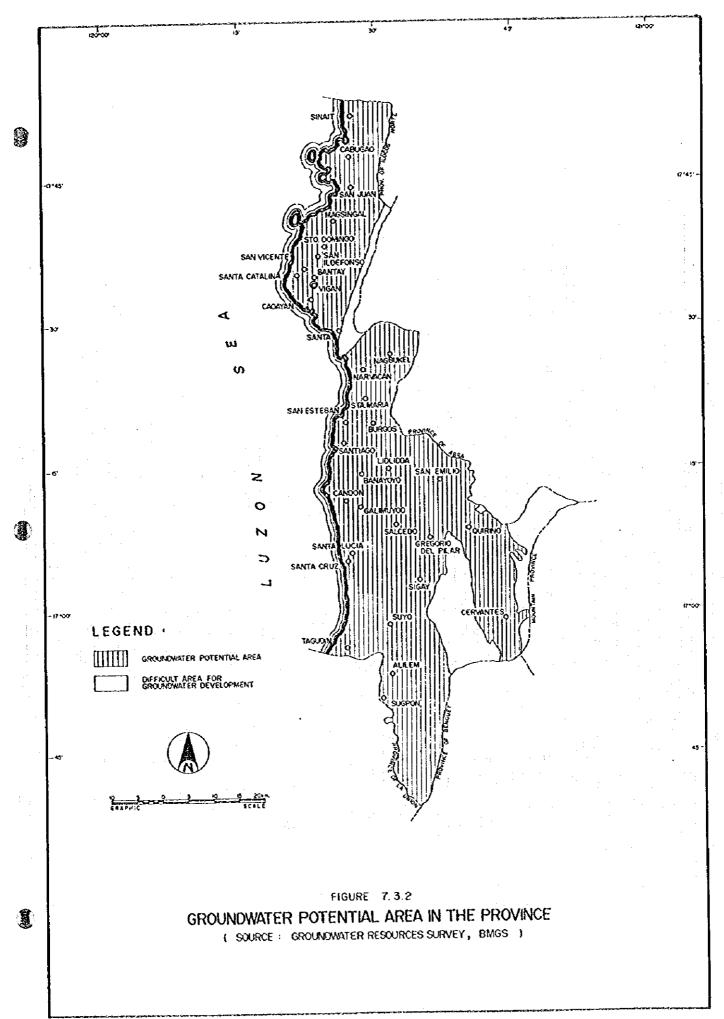
- Prepare a base map with a scale of 1:400,000. The Administrative Map of NAMRIA (1:150,000) is used as reference map and details are verified from the Topographical Map (1:50,0000). Basic information including rivers and provincial and municipal boundaries are indicated in the prepared base map.
- 2) The groundwater potential areas, based on the geology of the province, are defineated on the base map. The Recent alluvial and/or beach deposits, Pliocene-Pleistocene rocks (sandstone, conglomerate and volcanic pyroclastics) and Miocene sediments are regarded as possible aquifers considering their high porosity and permeability relative to older formations.

Aside from the defined boundaries of the areas underlain by pervious or groundwater bearing formations, difficult areas for the groundwater development are also define at a spresented in Figure 7.3.2.

3) Areas with potential high yielding aquifer and/or with saline water problem, as established in the Water Resources Investigation of NWRB, is reflected in the defined groundwater potential areas.

Figure 7.3.1 WORK FLOW OF GROUNDWATER AVAILABILITY MAP

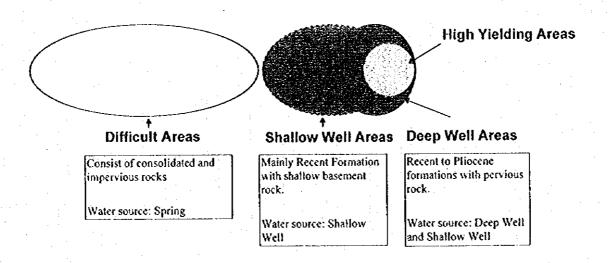




Based on the results of geo-electrical survey of the above investigation, resistivity values from 20 to 210 ohm-meter indicate a potential high yielding formation. Values less than 10 ohm-meters suggest clayey layer or saturated formation with high salinity. Figure 7.3.3 shows the boundaries of areas with high and low yielding aquifers, and high chloride concentration. In addition, considering the results of water quality examination of wells, areas with high iron and manganese contents are indicated on the map.

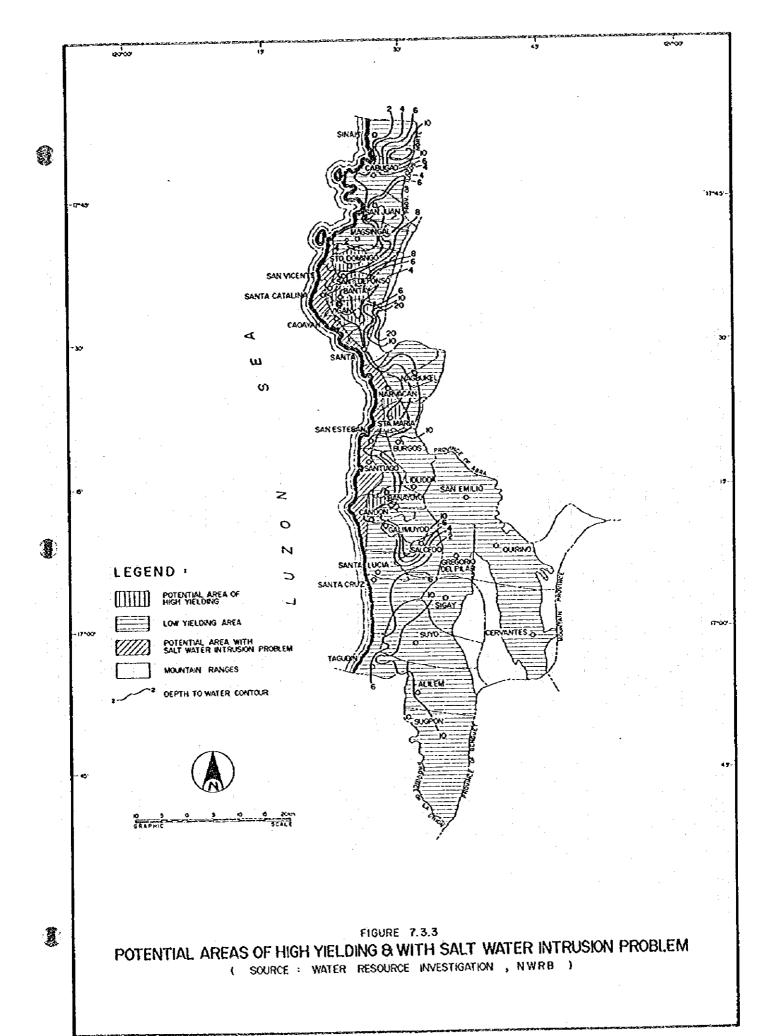
4) Delineate shallow and deep well areas based on the well inventory in each municipality (refer to Table 7.3.1, Data report) and rock distribution. Figure 7.3.4 presents the categorization in terms of groundwater utilization.

Figure 7.3.4 Area Category by Groundwater Utilization



Shallow well areas are defined on the following basis:

- (a) Predominance of serviceable shallow wells and presence of deep wells with water quality problem and/or low yielding aquifers.
- (b) Occurrence of impervious rocks beneath the Recent formation at shallow depth.
- 5) Based on the information provided by NWRBs well inventory and the data obtained through the questionnaires, well specifications for each municipality are established as shown in the map. These specifications are used as references in evaluating the groundwater availability in each locality. Individual well locations with technical information are presented in Figure 7.6.1, Data Report.



(3) Future updating and utilization of the map

For future updating of the map, the following procedure shall be employed:

- 1) Referring to the results of any supplementary water sources investigation by various agencies, redefine the potential area for groundwater development by applying the aforementioned procedures.
- 2) Update the provincial database using the questionnaires made for the study to make necessary revision of the delineated boundaries of groundwater categories.

7.4 Spring Sources

Table 7.4.1 Existing Spring Sources

Municipality	Developed Spring			Undeveloped Spring			Untapped Spring			
		Disc	harge (l	l/sec)		Disc	harge (l/sec)		Dis	charge (Vsec)
	Number	Ave.	Rat	nge	Number	Ave.	Range	Number	Ave.	Range
Alilem	15									
Banayoyo										
Bantay	1	18.00								
Burgos	15	0.73	0.25	1.33				1	3.00	
Cabugao	4									
Candon	4									
Саоуал										
Cervantes	- 30						,			
Galimuyod	6		·		2	0.17	0.01 - 0.33			
Gregorio del Pilar	19	1.32	0.97	2.00	1	4.00		1	1.50	
Lidlidda	11				1	0.67				
Magsingal		:						1	3.00	
Nagbukel	3				3	0.10	0.06 - 0.13	1	0.50	
Narvacan	ì									
Quirino	: 14				12	1.60	0.03 - 8.00	3	3.00	2.33 - 20.33
Salcedo	14									4.0
San Emilio	13					1				
San Esteban		<u> </u>								
San Ildefonso]]				
San Juan	2				3	0.37	0.30 - 0.41			
San Vicente										
Santa	i							1	2.00	
Santa Catalina									-	
Santa Cruz	6	1.07	0.97	- 1.25					T	
Santa Lucia	3									
Santa Maria		1	1							
Santiago	2	1			3	0.70	0.58 - 0.83			
Santo Domingo	2	0.56	0.33	0.79						
Sigay	7 .									
Sinait			1			<u> </u>				
Sugpon	9				6	0.64	0.01 - 1.00			
Suyo	33	1			5	0.38	0.33 - 0.48			
l'agudin	3	0.70	0.58	- 0.83		T	Ţ .			
Vigan	1	 				1		1	<u> </u>	
TOTAL	218	1	† <u></u>		36	1		8	<u> </u>	

Source: PPDO/PSPT

7.5 Surface Water Sources

(1) Study Rivers

The province has several major rivers, namely, Abra, Amburayan, Buaya, Santa Maria, Bucong, Oaig Daya, Narvacan, San Ildefonso and Cabugao. These rivers are generally flowing westward and empty into the Luzon Sca. They are currently used for irrigation. These rivers may be categorized into two types based on drainage area and flow rate. The first type has narrow and relatively small drainage area (25-250km²) with lower flow rate (less than 10 cum./sec in average). The second type has more than 500 km² area with relatively higher flow rate (more than 50 cum./sec in average). This type of rivers is generally characterized by a long winding stream with numerous tributaries. Buaya, Santa Maria, Bucong, Narvacan, San Ildefonso, Oaig Daya and Cabuyao rivers represent the first type, while Abra and Amburayan rivers fall under the second type. Among these rivers, Abra and Santa Maria rivers are considered potential sources of domestic water supply considering their perennial flow and proximity to highly populated municipalities. These rivers were selected for further study. Figure 7.5.1 shows the river basins in the province and Table 7.5.1 presents basic information on the selected rivers.

Table 7.5.1 River Information and Related Data

River	Drainage Area (km²)	FI	ow Rate (cu. m	/sec)	Relevant Information in the Basin		
		Minimum	Average	Maximum	Major Mun. & Population 1/	Water District	
Abra	4,813	53.53	240.28	4,271.71	Vigan 26,032	Metro Vigan WD	
Santa Maria	123	0.12	1.31	30.45	Sta. Maria 23,821	None	

I/ 1990 Population, NSO

(2) Sampling Points and Examination procedures

Water quality analysis of the two selected rivers was undertaken to determine the general characteristics of surface water in the province. Locations of sampling points were set at a minimum of 5 kilometers from the river mouth to avoid tidal effect (refer to Figure 7.5.1).

Water sampling was conducted on June 29, 1995 at different points across the courses of selected rivers. The samples were sent to MWSS laboratory within 24 hours after they were taken. Flow rates were also measured at the same points of sampling. A composite sample for each rivers was prepared in proportion to the flow rates of the rivers.

