

**JAPAN INTERNATIONAL COOPERATION AGENCY
MINISTRY OF HEALTH
NATIONAL CENTER FOR ENVIRONMENTAL HEALTH
AND WATER SUPPLY**

**THE STUDY
ON
RURAL WATER SUPPLY AND SANITATION IMPROVEMENT
IN
NORTH-WEST REGION
IN
LAO PEOPLE'S DEMOCRATIC REPUBLIC**

**FINAL REPORT
DATA BOOK**

MARCH 2001

JAPAN TECHNO CO., LTD.



1164402(8)

CONTENTS

	Page
1. Formats	
1.1 Village Survey Format	D1-1
1.2 Household Survey Format	D1-8
1.3 Technical Survey Format	D1-12
1.4 Facilities Design Formats	
(1) GFS Design Report	D1-20
(2) Latrine Design Report	D1-50
1.5 Monitoring Formats	
(1) First Monitoring Survey	D1-59
(2) Second Monitoring Survey	D1-68
2. Socio-Economic Data and Outputs	
2.1 Socio-Economic Indicators for Reference	D2-1
2.2 Community Dialogue Results	D2-3
2.3 PRA Outputs	D2-6
2.4 PCM Outputs	D2-10
3. Pilot Village Basic Data	D3-1
4. Well Construction Data	
4.1 Introduction	D4-1
4.2 Geophysical Survey	D4-5
4.3 Hand Dug Well Construction	D4-9
4.4 Borehole Drilling	D4-11
4.5 Pumping Test	D4-14
4.6 Water Quality Analysis	D4-17
4.7 Water Supply System	D4-22
4.8 Conclusions	D4-29
Appendix A Resistivity Survey Data and Analysis	D4-34
Appendix B Drilling Record	D4-97
Appendix C Pumping Test Data and Analysis	D4-115
Appendix D Geophysical Survey Analysis	D4-141
5. Laws and Regulations Related to Water and Sanitation	D5-1
6. Economic Cooperation by International Organizations	D6-1
7. Concerned Persons	D7-1
8. Participants	
8.1 Training Session	D8-1
8.2 Training of Trainers	D8-2
8.3 Workshops	D8-4
9. List of Equipment to be Supplied	D9-1

10. Minutes of Meetings		
10.1	Scope of Work	D10-1
10.2	Inception Report	D10-13
10.3	Progress Report (1)	D10-17
10.4	Phase I Report	D10-20
10.5	Progress Report (2)	D10-23
10.6	Phase II Report	D10-25
10.7	Pilot Study Extension	D10-27
10.8	Progress Report (3)	D10-31
10.9	Draft Final Report	D10-33
11. Related Literature		
11.1	Sanitation & Hygiene Promotion in Lao PDR, Field Note	D11-1
11.2	Steps Towards Better Gender Balance in Rural Water Supply and Sanitation Sector in Lao PDR, From Strategy into Practice, A Situation Report	D11-9
12. Press Coverage		D12-1

1. Formats



1.1 Village Survey Format

**THE STUDY ON
RURAL WATER SUPPLY AND SANITATION IMPROVEMENT IN
NORTH-WEST REGION
Bokeo and Luang Namtha Provinces**

VILLAGE SURVEY FORM

Date of Survey:

Village name:

District:

Province:

● Name of respondents

	Name	Position	Belonging committee, if any	Male/Female
1				
2				
3				
4				
5				
6				
7				
8				

Number of Villagers: female..... persons male.....persons

I. General Information

1. Location

1.1 Access Road

Distance from Provincial Capital:	km	Driving hours by car:	min
Distance from District Capital:	km	Driving hours by car:	min
Type of public transportation generally used by village people			

1.2 Topography

- Village area: km x km
- Residential area: km x km
 - Plain Mountain Hill Along the road Along the river
- Elevation (Height)..... m

1.3 Infrastructure

- Does village have any electricity supply? Yes No
- What kind of electricity? How many hours per day?

1.1SurvFormVil

2. **Village history**

History of the village, its foundation and development:

(Technician will draw map after interview)

3. **Population**

3.1 Number of population in the village

(..... year of data)

Male	Female	Total

3.2 Households

- Number of households in the village
- Number of families in the village
- Average number of persons per household
- Average number of children per household: (<14yrs)
- Number of female-headed households

4. **Agricultural Land Use**

- Paddy field: ha
- Upland field: ha
- Reserved forest: ha
- Other forests ha
- Others..... ha
- Total ha

Number of landless householdsH/H

5. **Ethnic groups**

Major ethnic group	Tribe	Number of households

6. **Communication skills**

6.1 Fluency of the villagers in speaking Lao Language.

Male fluent good poor
 Female fluent good poor

7. Religion:

Religion	No. of Households	More details about belief and others
Buddhist		
Christian (Protestant)		
Animist		
Catholic		

8. Occupation:

8.1 Number of households and persons engaged in the following occupation

- (a) Farmer persons/HH
- (b) Government employee: persons/HH
- (c) Laborer: persons/HH
- (d) Merchant..... persons/HH
- (e) Others: persons/HH
(Carpenter, Mason, etc.)

9. Education

9.1 Number of schools, pupils and teachers

	No. of schools	No. of pupils			No. of teachers		
		Male	Female	Total	Male	Female	Total
Primary school (grade -)							
Lower secondary School							
Upper secondary School							

9.2 School enrollment and drop out rate

	Enrollment rate			Drop out rate			Courses
	Female	Male	Total	Female	Male	Total	
Primary school - grade 1							
Primary school - grade 2							
Primary school - grade 3							
Primary school - grade 4							
Primary school - grade 5							
Primary school - grade 6							
Lower secondary school							
Upper secondary school							

9.3 Distance to school. How far is school located?

- Distance from village to Primary School m
- Distance from village to Lower Secondary school..... m
- Distance from village to Upper Secondary School..... m

10. Agriculture

10.1 Main products (Ask more details of each item)

Grain	
Vegetable	
Fruits	
Non-forest product	

10.2 Rice paddy

- How many households own the rice paddy field? H/H
- Number of households which own paddy field, but rice is insufficient H/H
- How many months rice is insufficient? H/H
- Ask more details about the reason
- How do you get rice during that period?

10.3 Shifting cultivation

- How many households depend on the shifting cultivation?..... H/H
- No. of households which does not have enough rice, even if shifting cultivation done....H/H
- How many months rice is insufficient?months
- Ask more details about the reason:
- How do you get rice during insufficient period?

10.4 Irrigation

If any, please explain the situation of irrigation scheme

10.5 Number of Livestock in the village

Cows:	Donkey:	Poultry(Chicken, duck)
Buffaloes:	Pig:	Others:
Horse:	Goat:	

10.6 Major contribution products to cash income?

1.
2.
3.
4.

10.7 Does the village plant opium? yes no

Number of persons drug addictedpersons
 female:persons
 male:persons

11. Water sources

11.1 Number of existing water source in the village

Type	Number
Traditional Well:	
Shallow Well:	
Bore hole:	
Traditional Gravity Fed System	
River /Lake	
Rainwater jar	
Spring Water	
Other	

Is there any water committee? Yes No

If yes, please indicate the organization

.....

11.2 Do you have adequate water year round? Yes No

If no, source inadequate:
 months inadequate:

12. Health

12.1 Where do you go for treatment when you are sick?

- (a) Dispensary: place. Number of staff: persons
- (b) Pharmacy: place
- (c) Traditional medicine: persons
- (d) Midwife: persons
- (e) Health volunteer etc. persons
- (f) Other:

Please describe how often people use these facilities

12.2 Creating hygiene awareness

*using community dialogue and informed choice

- kit of good health or bad health

pictures					
Good Health	understand	not	Bad Health	understand	not
1. washing hands with soap			1. defecate in open-air		
2. bathing			2. water storage without cover		
3. cooking			3. fly catch food on the table		
4. washing clothes					
5. water storage with cover					
6. house cleaning					

12.3 Number of households which have toilets.

*using informed choice pictures to help the people understand different type of toilet.(3 sheets)

Type of toilet	Number of households have toilets
Lid Latrine	
Ventilated Improved Single Pit Latrine	
Pour Flush Bowl Single Pit Latrine	
Other	

12.4 Creating hygiene awareness related to contamination routes

*creating hygiene awareness related to contamination routes by using pictures

- kit on the contamination routes

12.5 Ways how to block up the contamination routes by using picture

*using community dialogue and informed choice on how to block the contamination routes by using picture

- kit on blocking the contamination routes

12.6 Type of toilet they want

- Do you prefer to have public toilet in your village or prefer to have private toilet in your house ?
public toilet private toilet
- Which type of toilet do you need?
conventional pit latrine ventilated improved single pit latrine
pour flush bowl single pit latrine
- How much can you pay for the construction?
.....kip / month for public toilet
.....kip/ month for private toilet

12.7 Common diseases in the village.

Highly occurring diseases	Season of occurrence (Rainy/Dry)	No. of patient/year	How treat it?
1)			
2)			
3)			

12.8 Birth and Death rates

Year	Birth Date	Death Rate	Cause of Death

12.9 Family planning

Do villagers have any idea and understand about family planning? Yes No

13. Village organization

	Organization name	Decision making	No. of members	Activities (contents, frequency)
eg.	LWU	- How is group leader elected? - The way of decision making		
1				
2				
3				
4				

● Is there any meeting place in this village? yes no

14. Problems

14.1 What are the major problems in your village?

1) Water problems 2) Sanitation and health problems 3) Social problems <To resettled village> 4) After resettlement, did you have any problems?

15. Government program and other donors program in the past, or on-going

Program	Funding agency	Period

Thank you for your co-operation

16. Observations

- Are villagers interested towards our survey? yes, very much yes not so much
- Do villagers actively improve their living standard? yes, very much yes not so much
- How well is the village organized by headman? yes, very much yes not so much

Date:

Signature of Interviewer:

1.5. Monthly expenses

Types	Expenses
1. Rice	
2.	
3.	
4.	
5.	
6.	
Gasoline	
Clothing	
Housing	
Education (school maintenance, stationary etc.)	
Medicine	
Agriculture inputs (seeds, fertilizer etc)	
Other (wedding, funeral,religious donation etc.)	
Total:	

Average expenses: how much per month: kip/month

1.6 Type of property

Type	Number	Price
Cow		
Buffalo		
Pig		
Goat		
House		
Poultry(chicken, duck etc.)		
Other (jewelry etc.)		
Total:		

1.7 Household activities profile

	Children		Adult	
	Male	Female	Male	Female
Water fetching				
Wood collection				
Cooking				
Cleaning the house				
Washing the clothes				
Washing dishes				
Child care				
Land clearing				
Ploughing				
Rice planting				
Harvesting				
Rice grounding				
Village Meeting				
Visiting Relatives				
Traveling Town				
Other Activities				

1.8 Decision maker

	Male	Female
Land use		
Selling and buying livestock		
Buying asset		
Inheritance		

2. Water

2.1 Water sources used by household

1.
2.
3.

2.2 The distance from the water source

	Distance (m/km)	Collecting time per trip (min)	No. trips per day		Water collector
			rainy season	dry season	
Traditional Well					
Shallow Well					
River/lake					
Rainwater jar					
Traditional GFS					
Spring water					
Other					

2.3 How much are you willing to contribute in labor, materials, money for construction if some water supply program starts?

1. Local material:
2. Labour:
3. Money:kip

2.4 How much are you willing to contribute for maintenance?

3. Sanitation

3.1 Do you own a toilet? Yes No

3.2 If household does not use toilet, where do they defecate?

- (1) Yard area - open air
- (2) Yard area - dig a hole and when finished cover with earth
- (3) Rice field
- (4) River
- (5) River Side
- (6) Other

3.3 What do you do with your water before drinking it?

(1) Boiled water at home in the field

(2) Unboiled water at home in the field

3.4 Do you wash your hands:

Before you eat Yes No Sometimes

After toilet Yes No Sometimes

When you return from going outside Yes No Sometimes

3.5 What are the most common diseases experienced by members of your family?

Diseases	Cause	Season occurred
1)		
2)		
3)		
4)		
5)		

3.6. Would you like to sleep in the mosquito net? yes no

3.7. Where do you go for treatment when you are sick?

1.
2.
3.

Thank you for your co-operation

Date:

Interviewer:

2. Population

2.1 The number of population in the village

(.....the year of data)

Female	Male	Total	Major ethnic group	Tribes

Laborers the villager can contribute for the construction

- Number of laborerspersons;
- Available period of construction from.....month to.....month
- How many hours a dayhr.

2.2 Number of households

- Number of households in the village
- Number of families in the Village
- Average number of persons per hh

2.3 Occupation

- Farmer:families, Upland Field:families, Merchant:families
- Carpenter:pers., Mason:pers., Laborer:pers.
- Government official:pers.

2.4	• Number of elementary schools		nos.	Number of pupils:	
	Number of classrooms		nos.	Number of grades:	
	• Number of primary schools		nos.	Number of pupils:	
	Number of classrooms		nos.	Number of grades:	
	• Number of secondary school		nos.	Number of students:	
	Number of classrooms		nos.	Number of grades:	
	• Number of high schools		nos.	Number of students:	
	Number of classrooms		nos.	Number of grades:	
	• Number of boarding schools		nos.	Number of students:	
	Number of classrooms		nos.	Number of grades:	

2.5	• Number of dispensaries		nos.	Number of beds:	
	Number of hospitals		nos.	Number of beds:	

2.6	• Number of government offices		nos.	Number of staff:	
-----	--------------------------------	--	------	------------------	--

2.7	• Number of temples		nos.	Number of monks:	
-----	---------------------	--	------	------------------	--

3. Water Resources

3.1. Actual Situation of Water Consumption

- Number of existing water sources in the village

Mark X in the existing source		Mark X in the existing source	
Shallow well: (Concrete liner) (Traditional)		Spring water: (Protected) (Traditional)	
Borehole		Rain Water Jar	
Gravity Fed System: (Standard) (Traditional)		Lake / River	

⇒ If the Water Sources are: Spring Water, Gravity Fed Water, Stream and/or River
 Answer the following Questions:

- Collecting time:.....
- Distance to the source meter ormin
- Water collector:.....
- Dry season starts from the month of.....to the month of.....
- Are there any deep forests surrounding the water source?
- Are there any livestock using the water source?
- Are there resettlements nearby the water source?
- Are there any contamination or dumping wastes into water source?

3.2 Existing Water Resources Data

3.2.1 Existing Borehole

Details	No.1 ()	No.2 ()	No.3 ()	No.4 ()
Owner				
Drilling Year				
Diameter of Borehole (cm)				
Borehole Depth (m)				
Static Water Level (m)				
Pumping Water Level (m)				
Pumping Rate MG/hr				
Type of Pump				
Power Source				
Water Quality:(color, odor, turbidity, taste)				
Maintenance cost (kips/month)				

3.2.2 River / Stream

River / Stream No. 1

- Name of water source.....
- Distance from village: km
- Discharge rate: rainy season:lit/sec. dry season:lit/sec
- Water quality: (color, odor, turbidity, taste):

River / Stream No. 2

- Name of water source.....
- Distance from Village: km
- Discharge Rate: rainy season: lit/sec. dry season: lit/sec
- Water Quality: (color, odor, turbidity, taste):

3.2.3 Spring Water

Spring No. 1

- Name of water source:
- Distance from Village: km
- Discharge Rate: Rainy season:lit/sec. Dry season: lit/sec
- Water Quality: (color, odor, turbidity, taste):

Spring No. 2

- Name of water source.....
- Distance from Village: km
- Discharge Rate: Rainy season:lit/sec. Dry season: lit/sec
- Water Quality: (color, odor, turbidity, taste):

3.2.4 Existing Well (in case there are more than 4 wells, please write on a separate paper attached to the back of this questionnaire)

	No. 1 ()	No. 2 ()	No. 3 ()	No. 4 ()
Owner				
Construction year				
Well diameter				
Well Depth				
Static Water Level				
Water Quality				
Dry-well months				
Maintenance cost				
Other				

4. Optional Water Source

Shallow well Borehole Rainwater Jar Spring Water GFS

• **Reasons for selection**

• **Other comments**

• If the Water Sources are: Spring Water, Gravity Fed Water, Stream and/or River
Answer the following questions

name of water source.....

water source	distance	discharge	water quality
spring water		m dry season date of measuring	color: odor: taste:
stream		m dry season date of measuring	color: odor: taste:

- Do you have adequate water year round?
- Are there any deep forests surrounding the water source?
- Do you have any livestock using the water resource?
- Are there any resettlements nearby the water source?
- Are there any contamination or wastes into water source?

4.1 Yield of Water Source and Demand

Demand of water at the present time: present population x 45 lit/ person/day
(45 lit/person/day = Water demand for rural area)

Estimation of water demand in the future: Demand of water at the present time x 1.54 = lit/day
(1.54: coefficient of population increase after 15 years with a growth rate = 2.9%)

4.2 Location / Scope of facilities

Decision item	Decision maker
Water resources	
Reservoir	
Pipeline route	
Other	

4.3 Contributions by the village

• Material available by villagers

Type of material	Quantity (approx.)	Available period
Sand		
Wood log		
Cement		
Timber		
Other		

4.4 Tools available by villagers

Type of tool	Quantity
Shovel	
Hoe	
Wood working tools	
Measuring Tape	
Steel pipe tools	
Mason tools	
Other	

4.5 Construction materials procurement

Type of material	Available from village, District, Province, Vientiane or others
Sand	
Wood log	
Roofing sheet	
Cement	
Lumber	
Reinforcement bar	
Gravel	
Nails	
Binding wire	
PVC pipe	
G.S Pipe	
Other	

4.6 Construction material cost

Item	Unit Price	Delivery time	Who will procure	Procure from where? (Lao, Thailand, village, District, Province)
Cement	kip/T			
Reinforcing bar	kip/T			
Gravel	kip/m ³			
Sand	kip/m ³			
Lumber, wood log	kip/m ³			
Steel Plate	kip/m ²			
PVC pipe	in kip/m			
	in kip/m			
	in kip/m			
Steel pipe	in kip/m			
	in kip/m			
	in kip/m			
Gate valve	in kip/ea			
	in kip/ea			
	in kip/ea			
Joint	in kip/ea			
	in kip/ea			
	in kip/ea			
Polyethylene pipe	in kip/m			
	in kip/m			
	in kip/m			
Fittings for Polyethylene pipe	in kip/ea			
	in kip/ea			
	in kip/ea			
Water meter	in kip/ea			
Water tap	in kip/ea			

4.7 Methodology of Operation and Maintenance

	Decision maker	Decision period/Method
How to use		
Operation/maintenance		
Penalties		
Water fees		
Other		

4.8 Number of households having toilets

Type of toilet	Number of household which have toilet
Conventional dry latrine	
Lid Latrine	
Ventilated improved single pit latrine	
Pour flush bowl single pit latrine	
Other	

4.9 Common diseases in the village

Highly Occurring Disease	Occurrence Season	No of Patients/Year	How Treated	Death Rate
1)				
2)				
3)				

5. Water Quality Analysis

5.1 Sampling Point (Indicate the point on the attached map)

- Spring (Traditional) Shallow well (bucket hand pump)
 Spring (Protected) Shallow well (traditional protected)
 River Rainwater jar
 Borehole Other

5.2 Water Analysis Results

Item	1 st analysis	2 nd analysis	3 rd analysis	Average
Temperature [°C]				
Dissolved Oxygen [mg/l]				
pH				
Electric Conductivity [µ S/cm] or [mS/cm]				
Chlorides (NaCl) [mg/l]				
Turbidity [mg/l]				
Color and odor				
Total Coliform Groups [Number/ml]				
Methyl Red Alkalinity [mg/l]				
Calcium Hardness [mg/l]				
Total Hardness [mg/l]				
Ammonium Nitrogen (NH ₄ -N) [mg/l]				
Nitrate Nitrogen (NO ₃ -N) [mg/l]				
Nitrite Nitrogen (NO ₂ -N) [mg/l]				
Fluorine (F) [mg/l]				
Standard Plate Count Bacteria [mg/l]				
Iron (Fe) [mg/l]				
Manganese (Mn) [mg/l]				
Chromium (Cr) [mg/l]				
Copper (Cu) [mg/l]				
Lead (Pb) [mg/l]				
Zinc (Zn) [mg/l]				
Magnesium (Mg) [mg/l]				
Sulfates (SO ₄) [mg/l]				

Thank you for your contribution

Date:

Name of Interviewer:

6. Interior drawing map

7. Exterior drawing map

Agreement

Agreement on Water Committee	
1. Can you organize a Water Committee that will execute the construction, operation and maintenance of the water supply facility?	Yes / No
2. Can you contribute some cash for the construction of the water supply facility? (Estimation of contribution.....)	Yes / No
3. Can you collect water fees from the residents? (Water fees will be utilized for maintenance of the water supply facility)	Yes / No
4. Can you preserve the forest at the water source?	Yes / No
5. Can you protect the water resource?	Yes / No
6. After construction of the water supply system, can you protect it?	Yes / No
Agreement for Construction of Water Supply Facility	
1. Can your village select the preferred type of water source and water supply facility?	Yes / No
<input type="checkbox"/> Gravity Feed System (GFS) <input type="checkbox"/> Borehole <input type="checkbox"/> Shallow well <input type="checkbox"/> River water <input type="checkbox"/> Spring water <input type="checkbox"/> Rainwater (Rainwater tank)	
2. Can your village partially provide the following construction materials?	Yes / No
<input type="checkbox"/> Sand <input type="checkbox"/> Lumber <input type="checkbox"/> Reinforcing Bar <input type="checkbox"/> Cement <input type="checkbox"/> Gravel <input type="checkbox"/> Plywood <input type="checkbox"/> Steel Plate <input type="checkbox"/> Other:	
3. Can your village procure a part of the construction materials? Please indicate the cost in the parenthesis	Yes / No
<input type="checkbox"/> Sand () <input type="checkbox"/> Lumber () <input type="checkbox"/> Reinforcing Bar () <input type="checkbox"/> Cement () <input type="checkbox"/> Gravel () <input type="checkbox"/> Plywood () <input type="checkbox"/> Steel Panel () <input type="checkbox"/> Other: ()	
4. Can your village provide labor services necessary for the construction works?	Yes / No
<ul style="list-style-type: none"> • No. of available workers and the period (.....people /from..... to • Types of labor: <input type="checkbox"/> Civil work <input type="checkbox"/> Wood work <input type="checkbox"/> Masonry works <input type="checkbox"/> Other 	
Enquirers	1: _____ Signature _____ 2: _____ Signature _____ 3: _____ Signature _____
Village Committee	1: _____ 4: _____ 2: _____ 5: _____ 3: _____ 6: _____
At : _____	
Date : _____	
Chief of village : _____	

(Note: 1 copy will be kept with Provincial Namsaat or District Namsaat)

1.4 Facilities Design Formats

(1) GFS Design Report

- ກະຊວງສາທາລະນະສຸກ
- ສູນອະນາໄມສິ່ງແວດລ້ອມ
- ແລະຈັດຫານ້ຳສະອາດ
- ຂຶ້ນກຳການອອກແບບໂດຍ:
- ສຳຫລວດອອກແບບໂດຍ:
- ໂຄງການຈັດຫານ້ຳສະອາດແຂວງ:

ໂຄງການປັບປຸງວຽກງານຈັດຫານ້ຳສະອາດ

ແລະອະນາໄມສິ່ງແວດລ້ອມ

ຢູ່ແຂວງ ບໍ່ແກ້ວ ; ແຂວງຫລວງນ້ຳທາ

RURAL WATER SUPPLY AND SANITATION IMPROVEMENT

IN NORTH - WEST REGION IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

ບ້ານ: ຊຸງກົກເລັກ + ໂທ່ນ

BAN:

ເມືອງ: ລາວ

DISTRICT:

ແຂວງ: ຫລວງນ້ຳທາ

PROVINCE:

1999

ສາລະບານ
CONTENTS

ໜ້າ

- | | |
|---------------------------------|-----------------------------|
| 1 ຂໍ້ມູນພື້ນຖານຂອງບ້ານ | Village Survey |
| 2 ຂໍ້ມູນລະດັບໜ້າດິນ | Topographic Survey |
| 3 ຮູບຕັດທາງຍາວຂອງລະດັບໜ້າດິນ | Profile |
| 4 ຕາຕະລາງຄິດໄລ່ຂະໜາດຂອງທໍ່ | Pipe Size Calculation Table |
| 5 ແຜນວາດການວາງທໍ່ | Pipeline Layout |
| 6 ຮູບສະແດງປະກອບການກໍ່ສ້າງໂຄງການ | Facilities Drawings |
| 7 ແຜນການດຳເນີນການກໍ່ສ້າງ | Implementation Schedule |
| 8 ປະເມີນລາຄາການກໍ່ສ້າງທັງໝົດ | Cost Estimation |

Plain ທີ່ງຽງ :	ພູມສັນຖານ ຫລື ທີ່ຕັ້ງຂອງບ້ານ (ຂຽນແມ່ນຫລືບໍ່ແມ່ນໃສ່) Mountain ເທິງພູ	Hill ເປັນພູ ✓	Mountain + Plain ພູ + ທີ່ງຽງ	Topography
Sand ດິນຊາຍ : Sandstone (can drill borehole) ຫີນອ່ອນ (ສາມາດເຈາະບານດານໄດ້):	ລັກສະນະຂອງດິນທີ່ບ້ານຕັ້ງຢູ່ (ໃຫ້ຂຽນແມ່ນໃສ່ບ່ອນໜຶ່ງ) Clay or Clayey Sand ດິນດາກຫລືຄ້າຍຄືດິນດາກ (ເປັນຕົວເມື່ອປຽກ):		Type of Soil	

Sand ຊາຍ : Rebar (ເຫລັກເສັ້ນ)	Gravel ຫີນແຮ່ ✓ Steel Roofing ສັງກະສີ	Lumber ໄມ້ແປຮູບ ✓ GI Pipe ທ່າທໍ່ເຫລັກ	Wood Log ໄມ້ກົມ ✓	Construction Materials available in village or District Cement ຊີມັງ
--	--	--	----------------------	---

ວັດຖຸກໍ່ສ້າງຈາກຕ່າງປະເທດທີ່ຫາຊື້ໄດ້ພາຍໃນເຂດບ້ານ ຫລື ເມືອງ (ຂຽນ ມີ ຫລື ບໍ່ມີ ທັງບອກລາຄາພ້ອມ) Imported Construction Materials available in village or District									
ຊີມັງ Cement	x	ລາຄາ unit cost	x	ກີບ kip	ເຫລັກເສັ້ນ Rebar	x	ລາຄາ unit cost	x	ກີບ kip
ສັງກະສີ Steel Roofing	x	ລາຄາ unit cost	x	ກີບ kip	ທໍ່ເຫລັກ GI Pipe	x	ລາຄາ unit cost	x	ກີບ kip
ລວດມັດ Wire	x	ລາຄາ unit cost	x	ກີບ kip	ເທັກຕາປູ Nail	x	ລາຄາ unit cost	x	ກີບ kip

ພາກທີ II ຂໍ້ມູນທາງດ້ານແຫລ່ງນໍ້າ Part II Water Source Survey

ແຫລ່ງນໍ້າ Water Source	ໄລຍະໄກຈາກບ້ານ Distance from Village	ປະລິມານນໍ້າໄຫລ / ລິດຕໍ່ວິນາທີ Discharge L/sec	ຄຸນນະພາບຂອງນໍ້າ Water Quality
	Km	ປະລິມານນໍ້າ (ລະດູແລ້ງ) Discharge (dry season) 1.2 / 5 ລິດ / ວິນາທີ L/sec ວັດແທກວັນທີ : 1/4/99 Date measured	ສີ: color ກິນ: odor ຮົດ: taste ບໍ່ດີ bad ດີ: good

Enough water year round: ມີນໍ້າຕະຫລອດປີ ✓ Are there livestock around water source: ສັດລ້ຽງສາມາດໄປເຖິງ :	ຂໍ້ມູນແຫລ່ງນໍ້າທີ່ນໍາມາຄັດເລືອກ (ຂຽນ ແມ່ນ ຫລື ບໍ່ແມ່ນ) Is there forest surrounding water source: ແຫລ່ງນໍ້າມີປ່າດົງດົກຫນາ : ✓ Is there resettlement of new village near water source: ຈະມີບ້ານໃໝ່ເກີດໃກ້ແຫລ່ງນໍ້າ	Questions on Water Source
--	--	---------------------------

ບໍລິມານນໍ້າທີ່ຕ້ອງການປະຈຸບັນ Present Water Demand	=	ພົນລະເມືອງປະຈຸບັນ Present Population	x	45 =	ລິດ/ວັນ L/day
ບໍລິມານນໍ້າທີ່ຕ້ອງການໃນອານາຄົດ (ຄິດໄລ່ພາຍໃນ 15 ປີ) Future Water Demand (Estimate for 15 years)					
ພົນລະເມືອງປະຈຸບັນ x Present Population	856.24	1.54	x	45 =	38565 ລິດ/ວັນ L/day
ນັກຮຽນ (ບໍ່ມີໜ້ພັກ) Students (without dormitory) persons	ຄົນ x	10	ລິດ / ມື້ L/day	=	ລິດ/ວັນ L/day
ນັກຮຽນ (ມີໜ້ພັກ) Students (with dormitory) persons	ຄົນ x	65	ລິດ / ມື້ L/day	=	ລິດ/ວັນ L/day
ສາສາລາ Dispensary	x	500	ລິດ / ມື້ L/day	=	ລິດ/ວັນ L/day
ວັດ ຫຼື ຫ້ອງການ Temple or Office	x	500	ລິດ / ມື້ L/day	=	ລິດ/ວັນ L/day
ນໍ້າທີ່ຕ້ອງການໃນອານາຄົດ 15 ປີ ຕໍ່ຫນ້າ Future Water Demand after 15 years					ລິດ/ວັນ L/day

ບໍລິມານນໍ້າທີ່ຕ້ອງການ ໃນອານາຄົດ ຕ້ອງນ້ອຍກ່ວາ ການສະໜອງນໍ້າໃຫ້ຂອງແຫລ່ງນໍ້າ
 Future water demand has to be less than discharge of water source
 ການສະໜອງນໍ້າຂອງແຫລ່ງນໍ້າ = ບໍລິມານນໍ້າທີ່ແທກໄດ້ x 86.400 ວິນາທີ = 207.36 ລິດ/ວັນ
 Discharge of source = measured discharge x 86,400 sec =

- Part III.
Agreement
- ພາກທີ III ການຕົກລົງແລະເຫັນດີຂອງປະຊາຊົນພາຍໃນບ້ານ
- Can you organize a GFS construction committee?
 1) ຈະສາມາດຈັດຕັ້ງຄະນະຮັບຜິດຊອບການກໍ່ສ້າງລະບົບນໍ້າລືມໄດ້ບໍ່ ?
 Can you contribute labor to GFS construction?
 2) ຈະສາມາດປະກອບສ່ວນດ້ານແຮງງານເພື່ອກໍ່ສ້າງນໍ້າລືມໄດ້ບໍ່ ?
 Can you maintain the forest around the source?
 3) ຈະຮັກສາບໍ່ຕັດໄມ້ທໍາລາຍປ່າບໍລິເວນແຫລ່ງນໍ້າໄດ້ບໍ່ ?
 Can you protect the water source?
 4) ຈະສາມາດປົກປ້ອງແຫລ່ງນໍ້າບໍ່ໃຫ້ຖືກທໍາລາຍຈາກສິ່ງທັງປວງໄດ້ບໍ່ ?
 Are you willing to pay for maintenance monthly?
 5) ແຕ່ລະຄອບຄົວຈະຍອມເສຍຄ່າບຸລະນະເລັກນ້ອຍຕໍ່ເດືອນໄດ້ບໍ່ ?
 Can you protect the GFS scheme after the construction?
 6) ເວລາກໍ່ສ້າງນໍ້າລືມແລ້ວຈະສາມາດປົກປັກຮັກສາໄດ້ບໍ່ ?

ຄໍາເຫັນຂອງປະຊາຊົນຕໍ່ກັບການສ້າງນໍ້າລືມ:
 Comments from Villagers on GFS Construction

ຄໍາເຫັນຂອງວິຊາການ:
 Technical Comments

ວິຊາການທີ່ລົງເກັບກໍາຂໍ້ມູນ: Technical Interviewer	ລາຍເຊັນ Signature	ວັນທີ Date
1		/ /
2		/ /
3		/ /
4		/ /

ຊື່ຂອງນາຍບ້ານ, ລາຍເຊັນ ແລະ ກາຈັກ
 Name of Village Chief, Signature and Stamp

ພາກທີ IV ການຄຳນວນ ແລະ ປະເມີນລາຄາຂອງໂຄງການ
 Part IV Project Calculation and Cost Estimation

1. ການຄຳນວນໂຄງການ Project Calculation

1. ຂອກຫາບໍລິມາດນ້ຳທີ່ປະຊາຊົນຕ້ອງການທັງໝົດ (ພາຍໃນ 15 ປີ) Water Demand (after 15 years)

Water demand depends on rural life standards and WHO standard.
ບໍລິມາດນ້ຳທີ່ຕ້ອງການໃຊ້ຢູ່ໃນໂຄງການນີ້ ແມ່ນອີງໃສ່ຄວາມເປັນຈິງ ຂອງການດຳລົງຊີວິດໃນຂົງເຂດ

ຊົນນະບົດ ແລະອີງໃສ່ການກຳນົດຂອງອົງການ ອະນາໄມໂລກ.

Water supply standard	=	45 ລິດ / ຄົນ / ມື້	l/person/day
ສະນັ້ນພວກເຮົາຈຶ່ງໄດ້ກຳນົດອັດຕາການໃຊ້ນ້ຳ	=	45 ລິດ / ຄົນ / ມື້	
Present Population			persons
- ຈຳນວນປະຊາຊົນທີ່ມີໜ້າໃນປະຈຸບັນ 556	=	556	ຄົນ
Population Forecast			persons
- ຈຳນວນປະຊາຊົນທີ່ຈະມີໜ້າໃນອານາຄົດ =		857	ຄົນ
Total Water Demand per Day			(ພາຍໃນ 15 ປີ; ອັດຕາການເກີດ = 2.9%)
- ບໍລິມາດນ້ຳທີ່ຕ້ອງການທັງໝົດຕໍ່ມື້ = 38565		ລິດ/ວັນ	(in 15 years - growth rate = 2.9%)
		l/day	

2. ລັກສະນະຂອງໂຄງການ Facilities & Scheme

The facilities plan for the scheme is as follows:

ໂຄງການດັ່ງກ່າວນີ້ຈະຕ້ອງໄດ້ກໍ່ສ້າງຕາມຫຼັກການດັ່ງຕໍ່ລາງໄປນີ້:

Intake			No.
- ກໍ່ສ້າງຝ່າຍນ້ຳລິ້ນຂະໜາດນ້ອຍ	=	1	ບ່ອນ
Break-Pressure Tank			No.
- ກໍ່ສ້າງອ່າງຫລົດຄວາມດັນ	=		ບ່ອນ
Sedimentation Tank			No.
- ອ່າງນຳນຶງ	=		ບ່ອນ
Storage Tank			m ³
- ກໍ່ສ້າງອ່າງເກັບນ້ຳ	=		ແມັດກ້ອນ
Main Pipeline			m
- ວາງລະບົບສາຍສົ່ງນ້ຳ (ສາຍແມ່)	=	3557	ແມັດ
Tapstand			taps
- ຕິດຕັ້ງກົອກສາທາລະນະ	=	13	ກົອກ

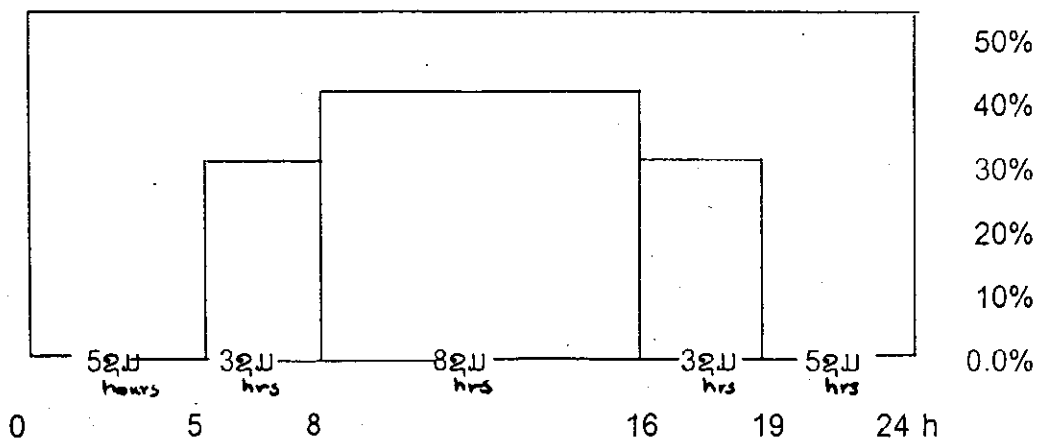
3. ການຄຳນວນຫາບໍລິມາດຂອງອ່າງເກັບນ້ຳ Storage Tank Volume Calculation

Storage tank volume depends on actual water use situation of rural villagers.

ອີງໃສ່ເງື່ອນໄຂ ສະພາບແວດລ້ອມ ແລະການຊົມໃຊ້ນ້ຳຕົວຈິງຂອງປະຊາຊົນຢູ່ໃນເຂດຊົນນະບົດແລ້ວ

Past experiences show villagers use water mostly during the morning, noontime and evening, ເຫັນວ່າປະຊາຊົນນິຍົມກິນໃຊ້ນ້ຳໃນເວລາ ຕອນເຊົ້າ, ຕອນສວາຍ ແລະ ຕອນແລງ, ສ່ວນຕອນກາງຄືນ but during the nighttime, they use water very little.

ສັງເກດເຫັນວ່າມີການຊົມໃຊ້ນ້ຳນ້ອຍທີ່ສຸດ ດັ່ງຕາຕະລາງຕໍ່ລົງໄປນີ້ :



4. ຕາຕະລາງຄຳນວນຫວ່າງເກັບນ້ຳ Storage Tank Volume Calculation Table

ຊົ່ວໂມງທີ່ໃຊ້ນ້ຳ % Water Used by Hours	ນ້ຳທີ່ສະໜອງໃຫ້ Discharge of Water Source	ນ້ຳທີ່ຕ້ອງການ Water Demand	+ນ້ຳທີ່ເກືອບ/-ນ້ຳທີ່ບໍ່ພໍ + Surplus Water / - Insufficient Water
5 - 8 30 %	25920	11569.5	+14350.5
8 - 16 40 %	69120	15426	+ 53694 -
16 - 19 30 %	25920	11569.5	+ 14350.5
19 - 05 00 %	86400	86400	86400
			V =

* ເຮົາສັງເກດເຫັນວ່າ: Observations:

During some hours, the discharge of the water source is inadequate in comparison to
ໃນບາງ ໄລຍະເວລາ ບໍລິມາດນ້ຳທີ່ສະໜອງໃຫ້ແມ່ນບໍ່ພຽງພໍກັບຄວາມຕ້ອງການຂອງປະຊາຊົນ
water demand (Yes/No). We need to construct storage tank as follows.

ທີ່ຈະໃຊ້ນ້ຳ, ດັ່ງນັ້ນໂຄງການດັ່ງກ່າວນີ້ຈຶ່ງມີຄວາມຈຳເປັນຕ້ອງກໍ່ສ້າງອ່າງເກັບນ້ຳ (ສ້າງ / ບໍ່ສ້າງ) ທີ່ມີຂະໜາດ

V =

ລິດ
liters

Topography survey / - ການສຳລວດ ລະດັບ

Name of village:
 ຊື່ ຊຸມຖຳ: ບ້ານຊຽງນົກໄທມ່ + ຊຽງນົກເກົ່າ

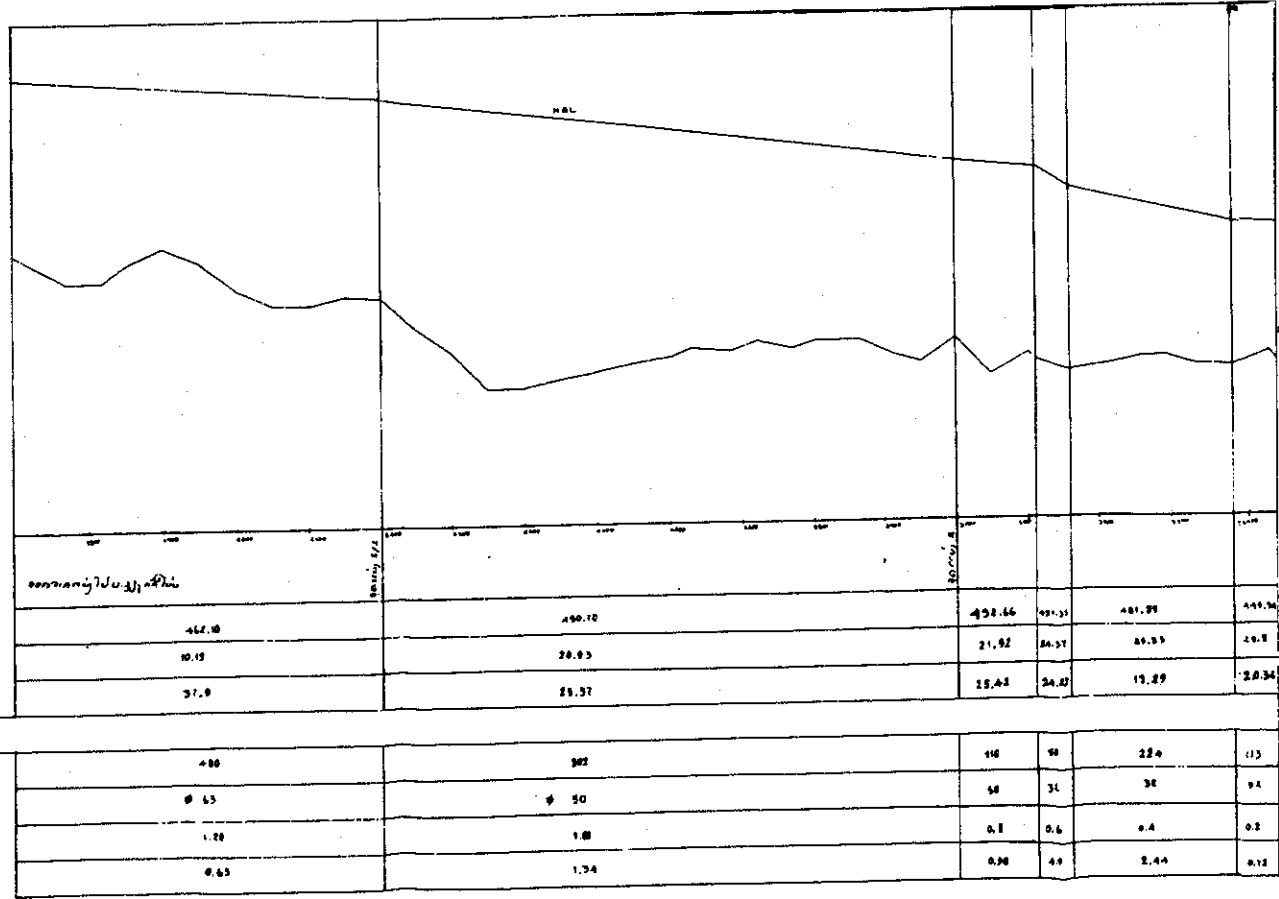
Name of district:
 ຊື່ ອອກ ເມືອງ: ລອງ

Name of province:
 ຊື່ ພູມ ແຂວງ: ຫລວງນໍ້າທາ

From to
 ຕັ້ງແຕ່: ເຖິງ:

Station ຈຸດສຳລວດ	Ground Distance ໄລຍະທາງສຳລວດ		Vertical angle ເງມຕັ້ງ (ມຸມໂອນ)	Vertical distance ໄລຍະທາງຕັ້ງ	Elevation ລະດັບ (ສິມມຸດ)	Horizontal angle ມຸມທາງຮາບ (ຂັ້ນຈິດ)	Remarks ຫມາຍເຫດ (ເງິຕັ້ງ, ມູມສັນຖານ ແລະ ສິ່ງແວດລ້ອມຕ່າງໆ)
	St. to St. ຈຸດ ເຖິງ ຈຸດ	Total ໄລຍະທັງໝົດ					
1					500.00		ຫ້ວງນ
	14.00		-1.00	-0.24		300	
2		14.00			499.76		
	17.00		0.00	-5.50		376	
3		31.00			494.26		
	16.00		-2.00	-0.56		28	
4		47.00			493.70		
	13.00		-3.00	-0.68		322	
5		60.00			493.02		
	21.00		-3.00	-1.10		286	
6		81.00			491.92		
	21.00		-2.00	-0.73		306	
7		102.00			491.18		
	14.00		-2.50	-0.61		358	
8		116.00			490.57		
	19.00		-3.00	-0.99		58	
9		135.00			489.58		
	22.00		-3.50	-1.34		370	
10		157.00			488.24		
	26.00		-3.00	-1.36		336	
11		183.00			486.88		
	22.00		-3.00	-1.15		258	
12		205.00			485.72		
	24.00		-2.50	-1.05		260	
13		229.00			484.68		
	19.00		-2.50	-0.83		290	
14		248.00			483.85		
	23.00		-2.00	-0.80		346	
15		271.00			483.05		
	15.00		-3.00	-0.79		336	
16		286.00			482.26		
	28.00		-3.00	-1.47		26	
17		314.00			480.80		

D1-30

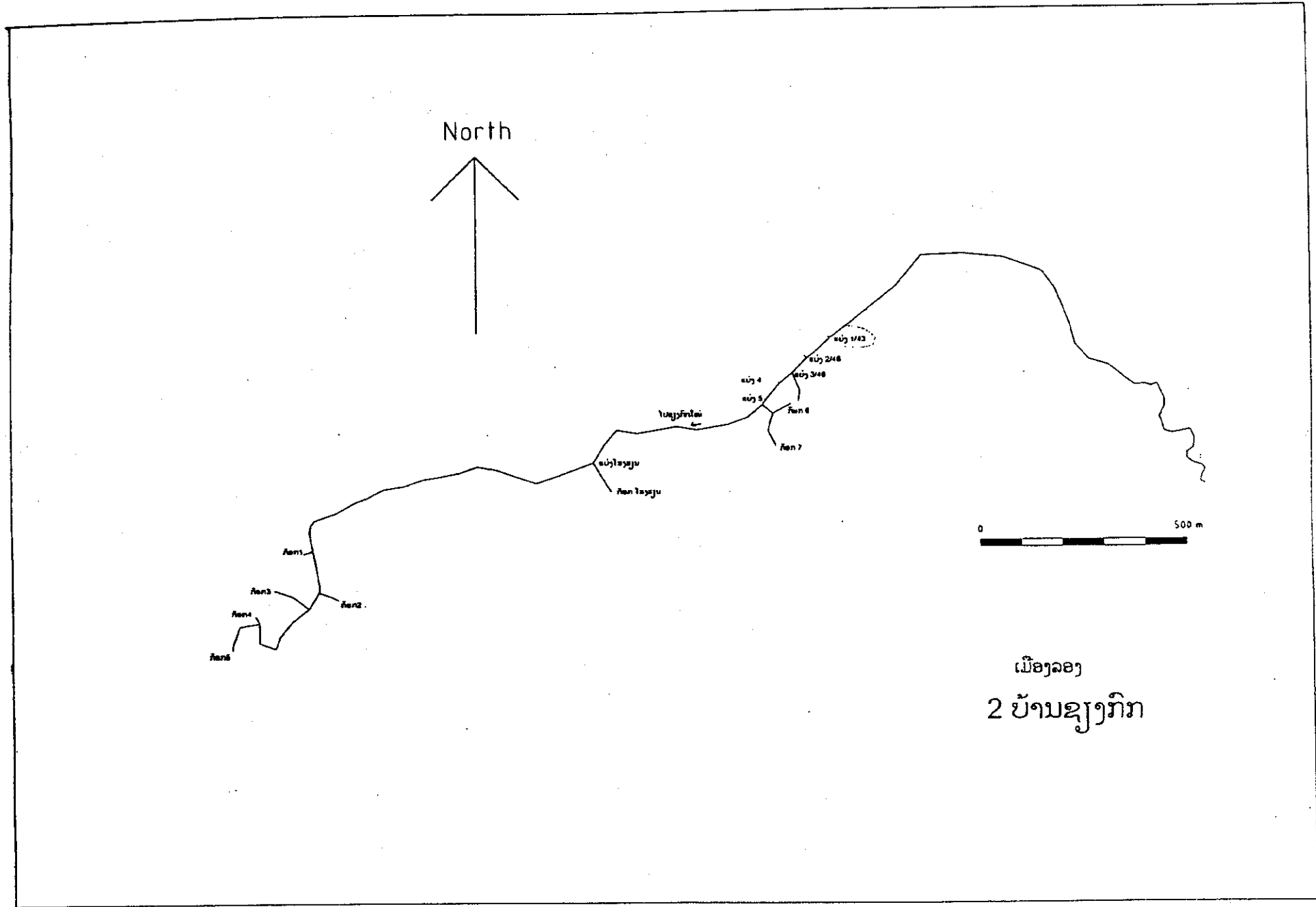


Vertical Curve Data Table

Station	1+00	2+00	3+00	4+00	5+00	6+00	7+00	8+00	9+00	10+00
Elevation	452.10	450.70	452.66	451.31	451.89	449.54	448.10	446.66	445.22	443.78

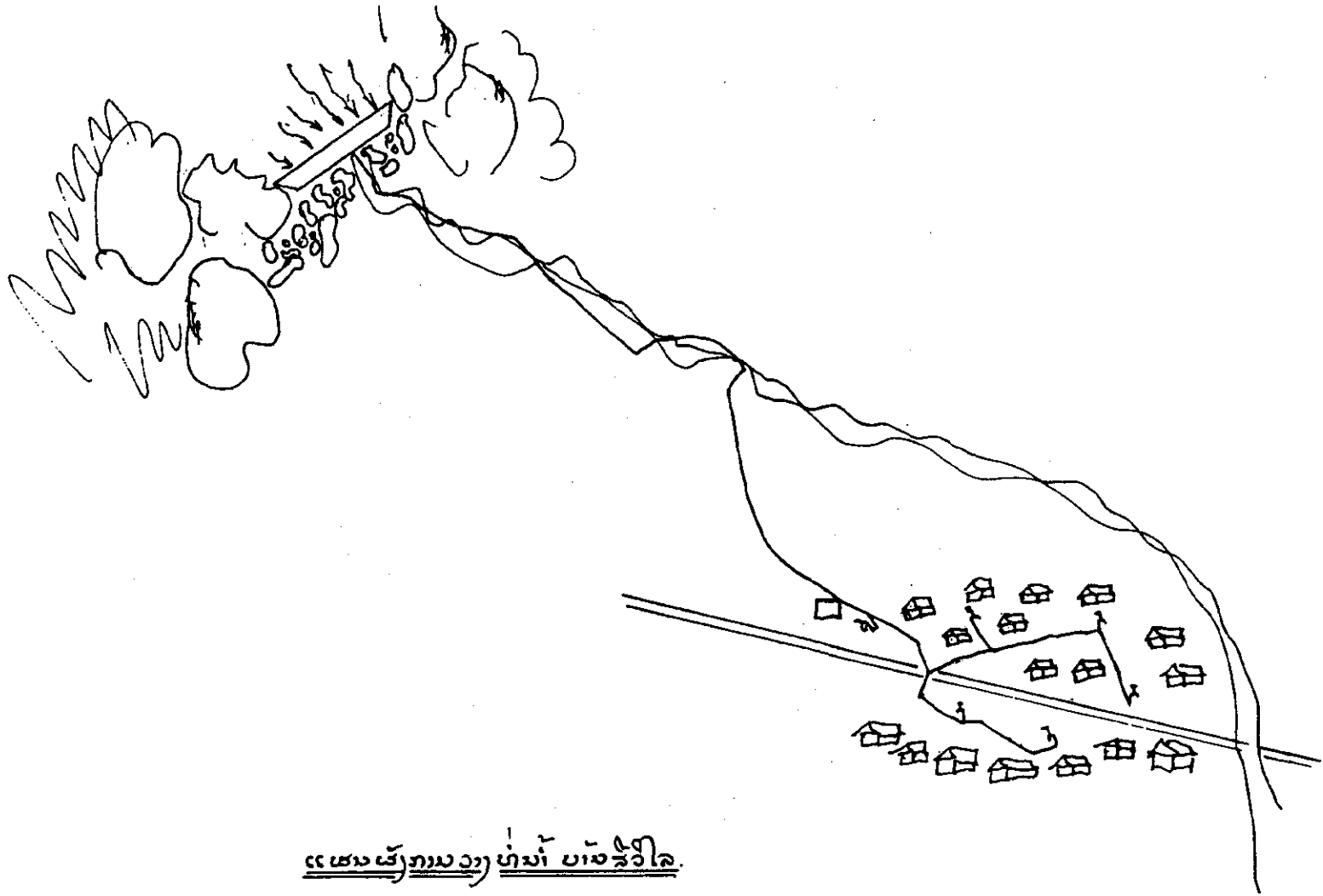
Station	1+00	2+00	3+00	4+00	5+00	6+00	7+00	8+00	9+00	10+00
Elevation	452.10	450.70	452.66	451.31	451.89	449.54	448.10	446.66	445.22	443.78

Station	1+00	2+00	3+00	4+00	5+00	6+00	7+00	8+00	9+00	10+00
Elevation	452.10	450.70	452.66	451.31	451.89	449.54	448.10	446.66	445.22	443.78



ເມືອງລອງ
2 ບ້ານຊຽງກີກ

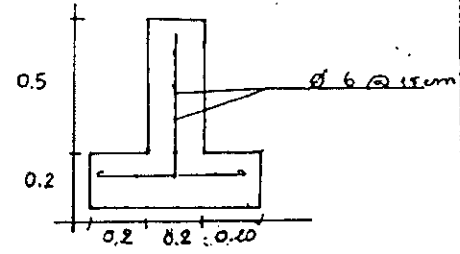
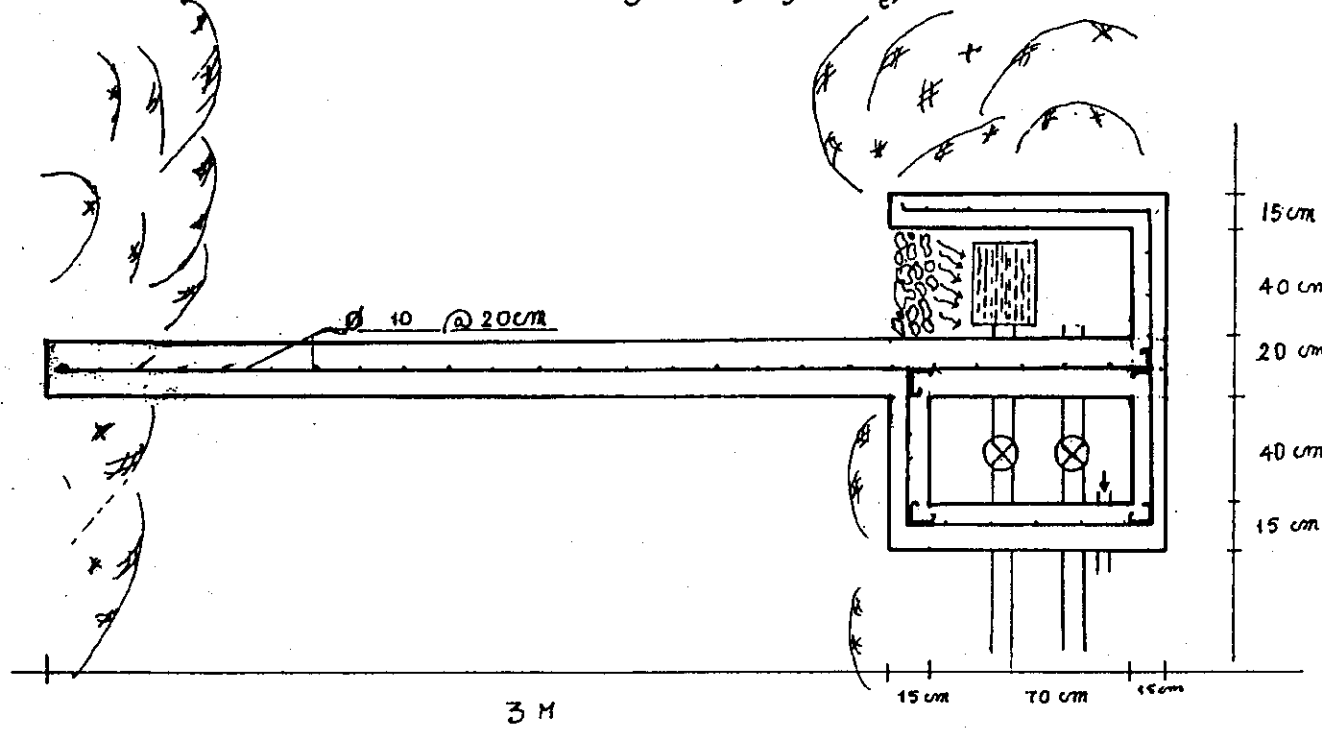
ແຜນຜັງການວາງທ່າມາ້ ບ້ານໂຮ່ວິໄລ.



D1-33

INTAKE PLAN

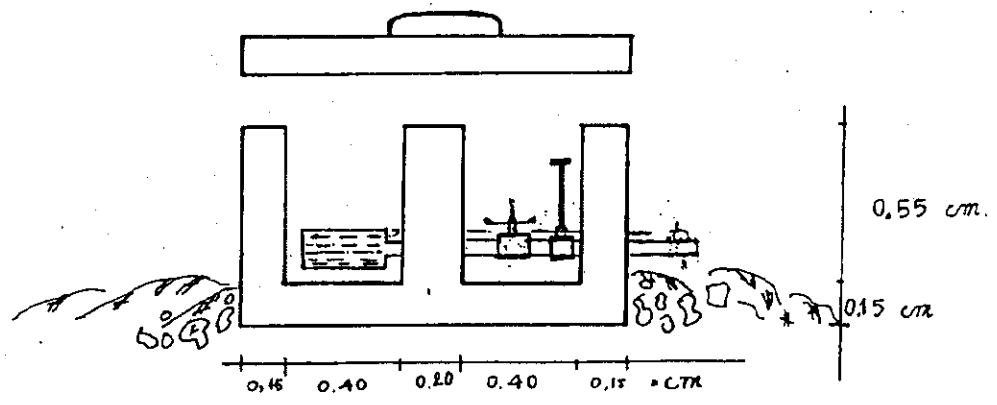
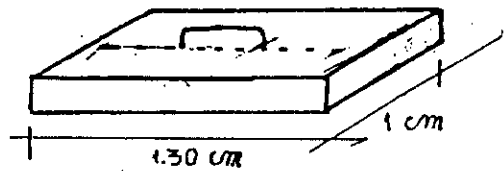
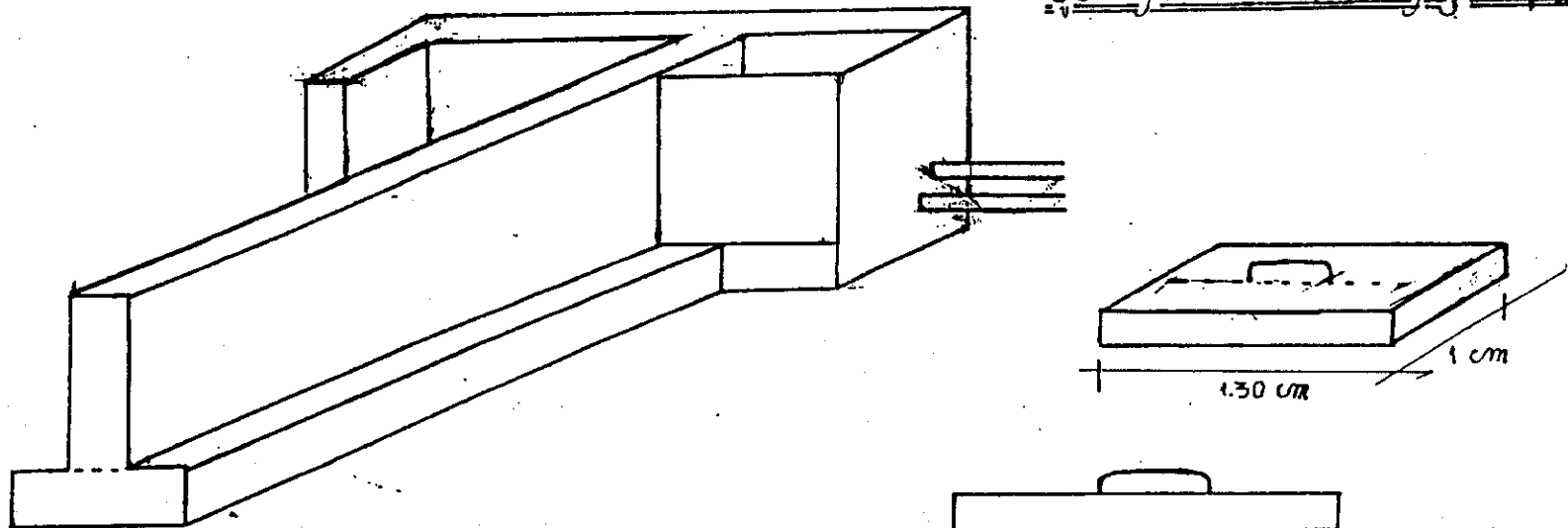
ແຜນຜັງການກວດສອບລະບົບນໍ້າກົດເກົ້າ + ໂຕ້

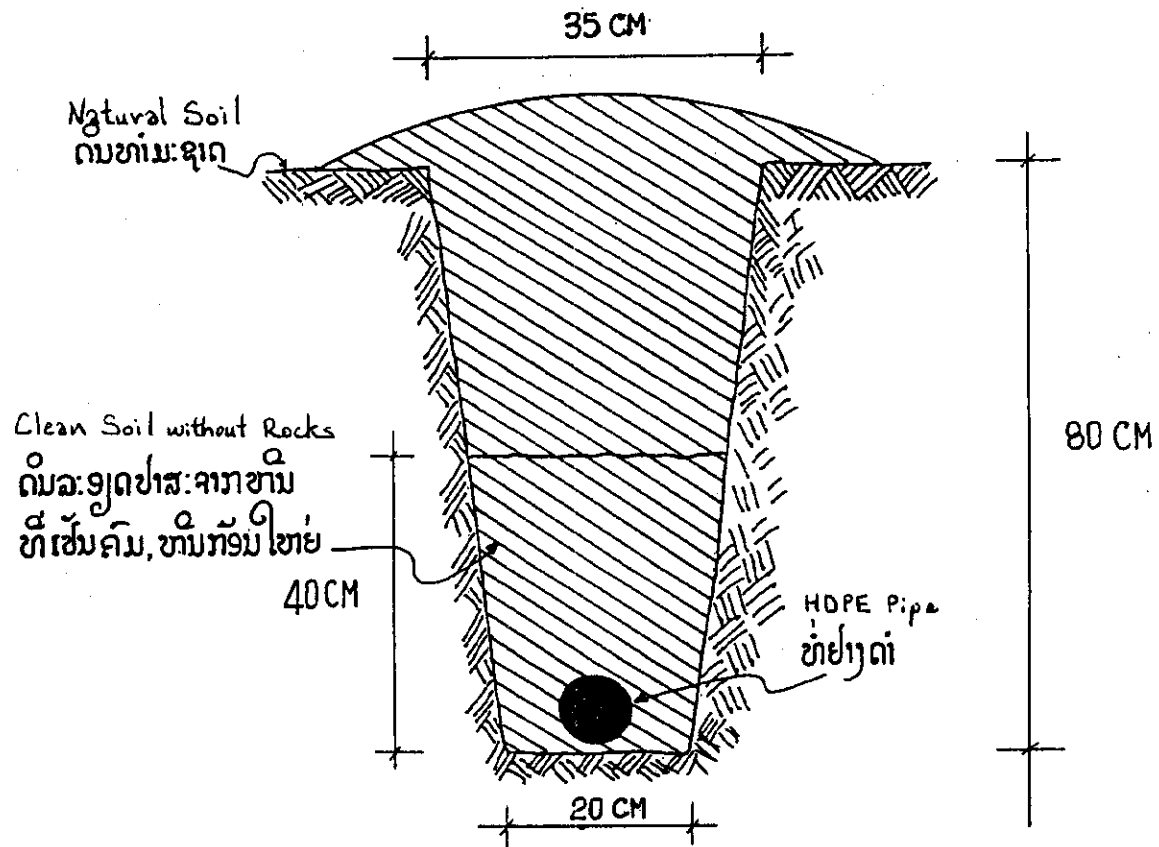


scale: 1:25

D1-34

INTAKE + COVER + GATE VALVE
ຮູບຫ້ວງນອນ + ຝາປິກ + ຫ້ອງປັ່ນປະຕູ

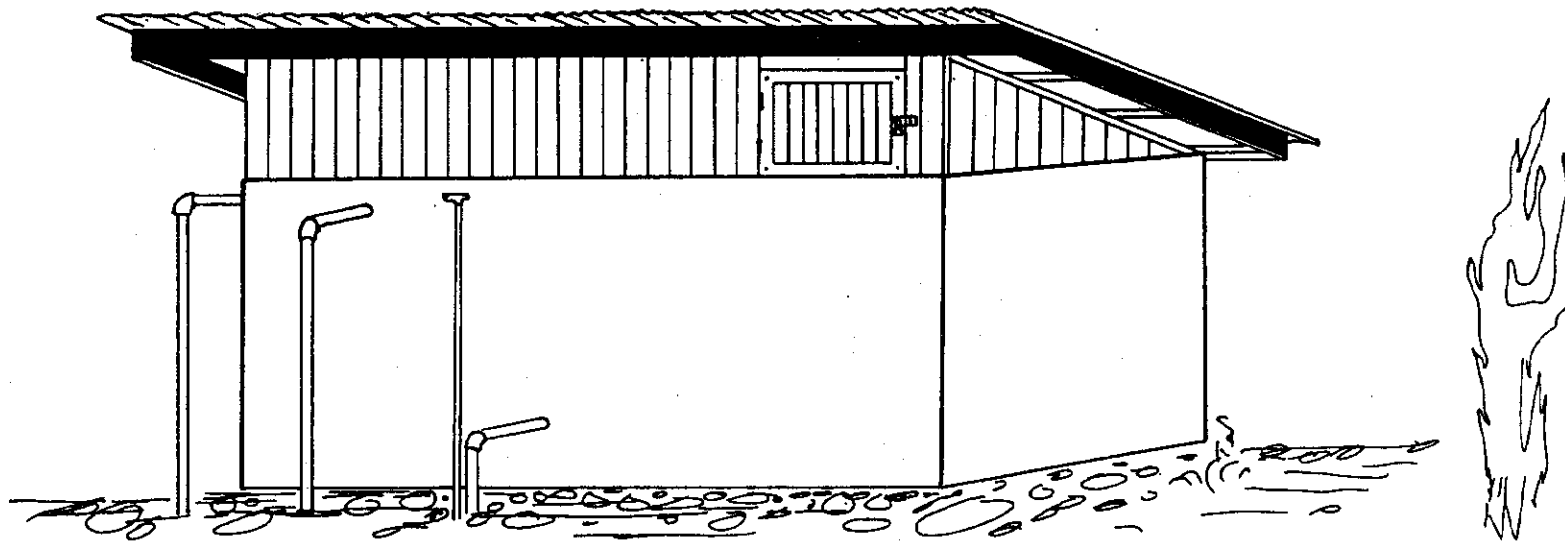


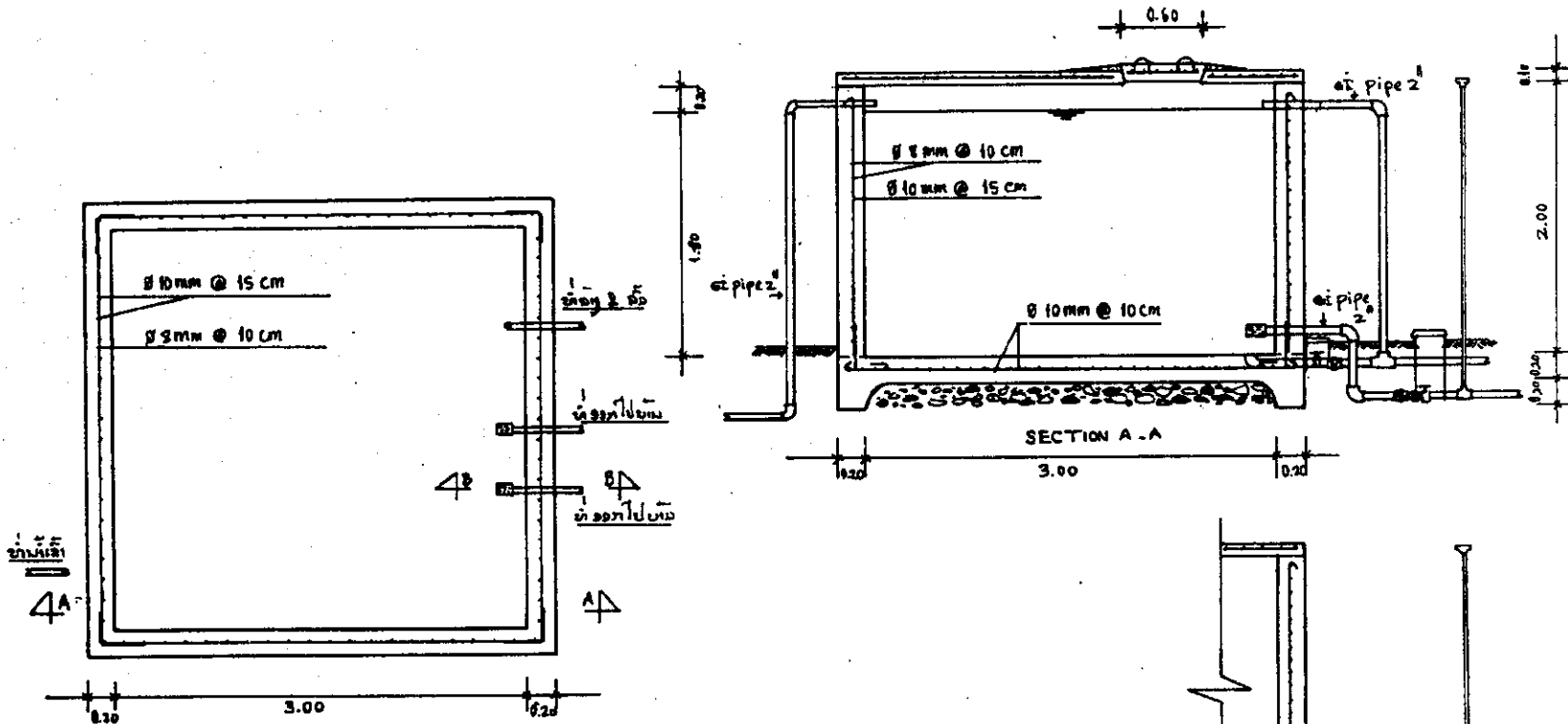


ການຂຸດຮ່ອງຝັງທໍ່ (ທໍ່ຢາງດຳ)

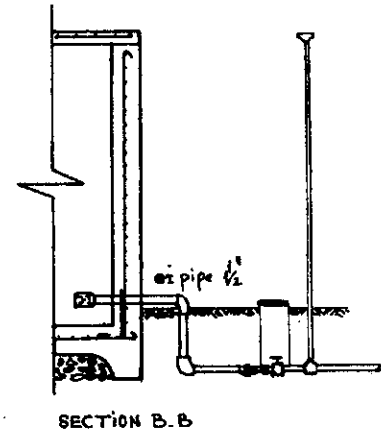
PIPE LAYING CROSS SECTION (HDPE PIPE)

D1-36

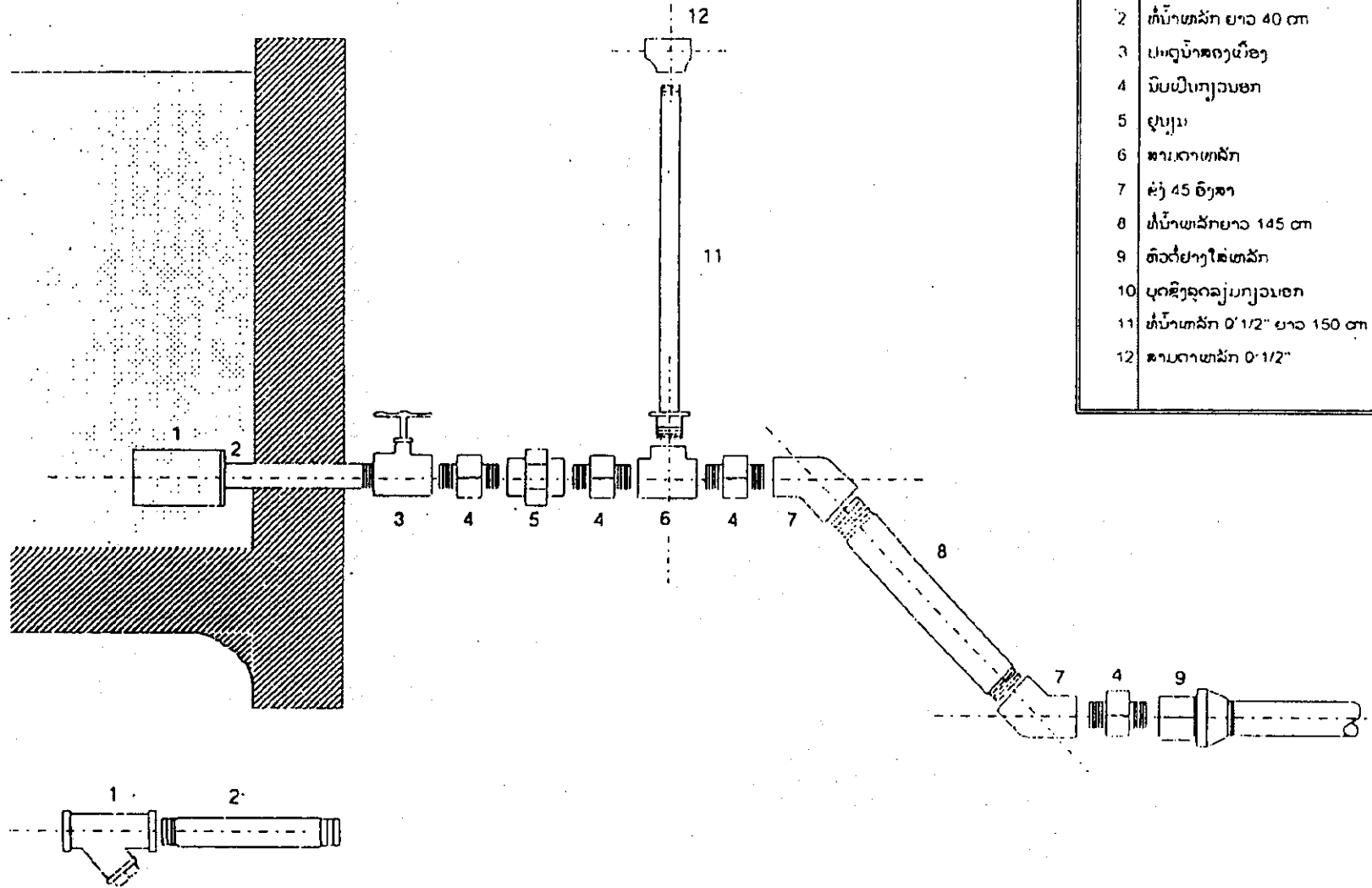




STORAGE TANK
 ແຜນຜັງ ການກໍ່ສ້າງອ່າງເກັບນໍ້າ
 3x3x2 M
 scale : 1:50



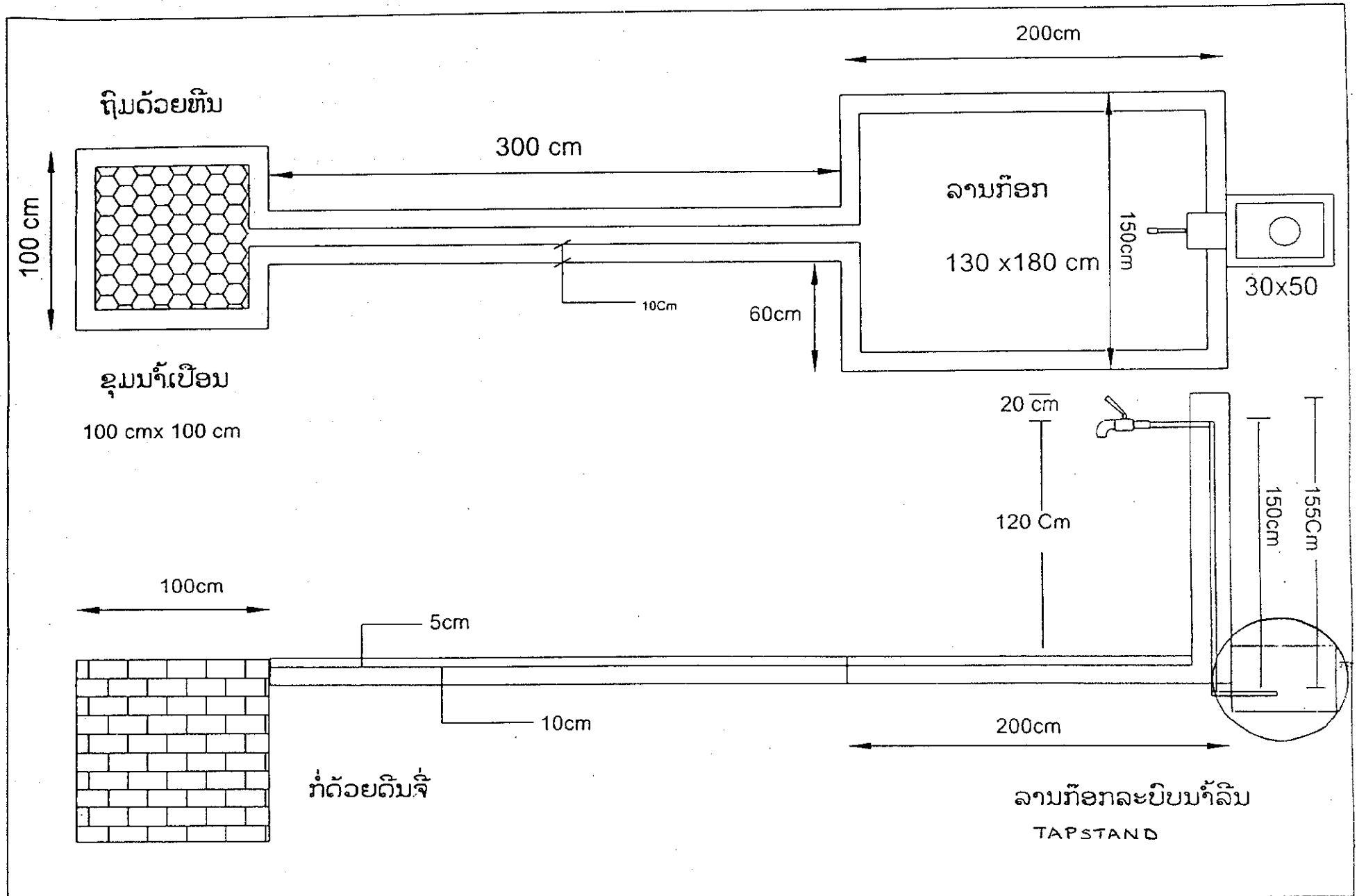
ຮູບສະແດງທີ່ນໍ້າລວມອ່າງເກັບນໍ້າຫົວງານ ແລະ ອ່າງຫລິດຄວາມດັນ



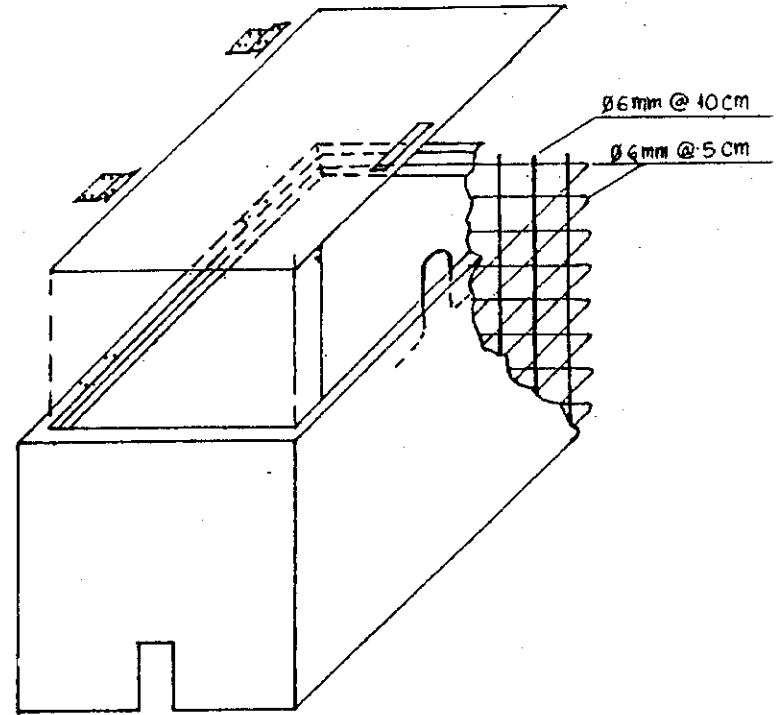
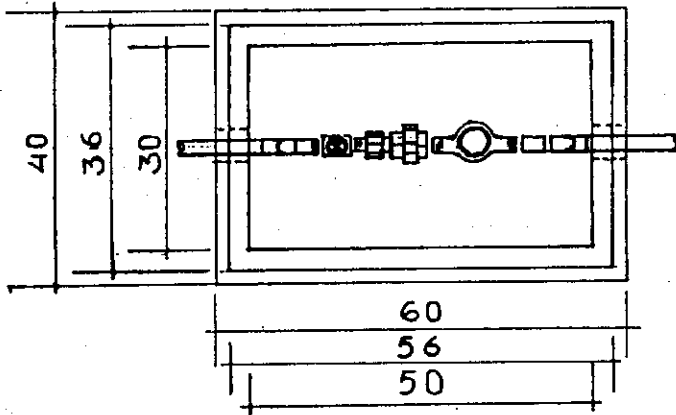
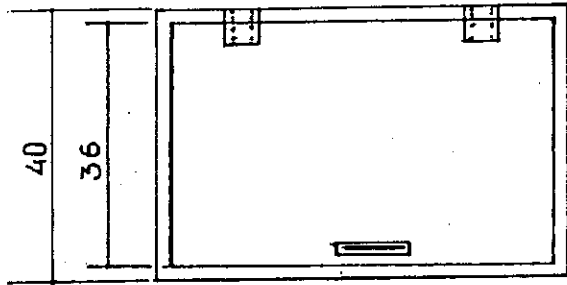
ລາຍການວັດຖຸປະກອນ			
ລ/ດ	ລາຍການເຄື່ອງ	ຫົວຫຍ່ວຍ	ຈໍານວນ
1	ຫົວຕອງທອງ ຫລື ສາມຕາທອງ	ຮັນ	1
2	ທໍ່ນໍ້າເທລັກ ຍາວ 40 ຕມ	ຮັນ	1
3	ປະຕູນໍ້າສອງເນື້ອງ	ຮັນ	1
4	ນົບເປີເກງວນອກ	ຮັນ	4
5	ຜຸນຽນ	ຮັນ	1
6	ສາມຕາເທລັກ	ຮັນ	1
7	ຂ່າງ 45 ອົງສາ	ຮັນ	2
8	ທໍ່ນໍ້າເທລັກຍາວ 145 ຕມ	ຮັນ	1
9	ຫົວຕໍ່ຢາງໃສ່ເທລັກ	ຮັນ	1
10	ບຸດສິງຈຸດລຽມກງວນອກ	ຮັນ	1
11	ທໍ່ນໍ້າເທລັກ 0' 1/2" ຍາວ 150 ຕມ	ຮັນ	1
12	ສາມຕາເທລັກ 0' 1/2"	ຮັນ	1

D1-38

D1-39



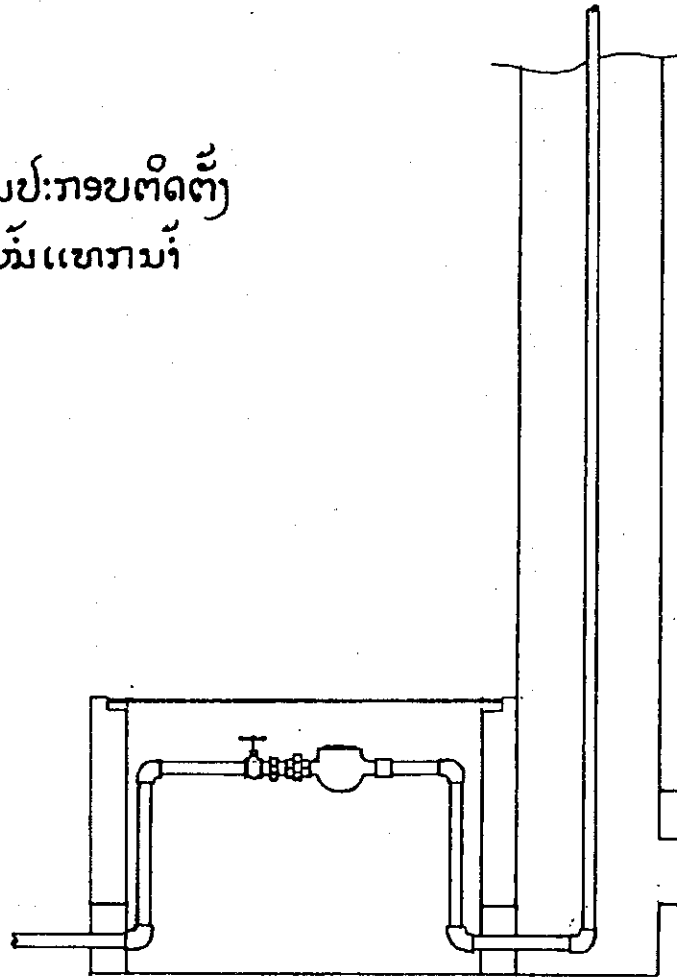
VALVE BOX
 ການຕັດຕັ້ງໝໍ້ແຂກນ້ຳ ແລະ ຫົບ



Scale: 1:10

D1-40

ການປະກອບຕິດຕັ້ງ
ພັ້ນແທກນ້ຳ



ລາຍການອຸປະກອນສຳລັບກິອກ

ລ/ດ	ລາຍການ	ຈຳນວນ	ຫົວໜ່ວຍ
1	ຊີມັງ	212	ກິໂລ
2	ເຫລັກເສັ້ນ ເບີ 6(10m)	2	ເສັ້ນ
3	ຂັງ 1/2 "	6	ອັນ
4	ຂັດຊີ 1/2 "	2	ອັນ
5	ນິບເປີນ 1/2"	1	ອັນ
6	ຢູນງຽນ 1/2"	1	ອັນ
7	ປະຕູນ້ຳ 1/2"	1	ອັນ
8	ທໍ່ເທັລກ 1/2"	3.20	ແມັດ
9	ກິງເຕີແທກນ້ຳ (1/2")	1	ອັນ
10	ກິອກນ້ຳທອງ (1/2")	1	ອັນ

scale: 1:10

ຄາດຄະເນແຮງງານ ແລະ ຈຳນວນມືໃນການກໍ່ສ້າງໂຄງການ
 Village District Province
 ບ້ານ ເມືອງ ແຂວງ

Implementation Schedule

ຈຳນວນມືໃນການກໍ່ສ້າງໂຄງການ No. of Construction Days

ລ/ດ No.	ລາຍການ Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	ໝາຍເຫຼືອ Remarks
1	ພົວພັນອຳນາດການປົກຄອງບ້ານ Inform and Meeting with Village Committee	█																														
2	ຖາງແລວທາງ, ອະນາໄມທົ່ວງານ Land Clearing, Intake Area Cleaning		█																													
3	ຕັດແປບ, ສູນກງວ Pipe-line Work			█																												
4	ຕີແບບ, ເທເປຕົງທົ່ວງານ Form Work, Intake Construction				█	█	█	█	█	█																						
5	ຂົດສະຖານທີ່ອ່າງ ນໍ້ານໍ້າ, ອ່າງເກັບ Digging for Sedimentation and Storage Tank																															
6	ເຫຼັກນໍ້າເປືອນ ອ່າງເກັບນໍ້າ Foundation for Water Tank																															
7	ຕີແບບອ່າງ, ຕັດເຫລັກ, ມັດເຫລັກ Prepare Form for Tank, Steel Work																															
8	ຕີແບບ, ຕັ້ງແບບອ່າງ, ຄຳ້ແບບ Form Installation for Tanks																															
9	ຕັ້ງທໍ່ທົ່ວງານທາງອ່າງເກັບນໍ້າ Pipe Joining Work between Intake and Tank																															
10	ເທເປຕົງເສີມເຫລັກອ່າງເກັບນໍ້າ Concrete Work for Tank																															
11	ຂົດສ່ອງທົ່ວງານທາງບ້ານ Trenching between Intake and Village																															
12	ຕັ້ງເສົາແລະເທເສົາບ່ອນຂ້າມທ້ວຍ Pipe Crossing Work																															
13	ເດີນທາງ, ຈອດທໍ່ ອ່າງທາງບ້ານ Pipe Laying and Connecting Tank to Village																															
14	ຕິດຕັ້ງກົອກ + ກົງເຕີ Tap Installation and Water Meter																															
15	ເຫຼລານກົອກ Tapstand Construction																															
16	ອະນາໄມ, ກວດກາຄືນ ແລະ ຖິ້ມທໍ່ Leaking and Backfilling Pipeline																															
17	ວຽກສະຫລຸບລາຍງານ Reporting																															

D1-42

ການປະເມີນບໍລິມາດງົວ ແລະລາຄາຂອງການກໍ່ສ້າງ

ບ້ານ ຊຸດ ສັກກະເວີ ເມືອງ ລອງ ແຂວງ ຫຼວງ ພັດທະນາ

ລ/ດ No.	ລາຍການ Item	ຫົວໜ່ວຍ Unit	ຈຳນວນ Quantity	ລາຄາດ່ຽວ Unit Cost	ລວມ Total Amount	ໝາຍເຫດ Remarks
1	ພົວພັນອຳນາດການປົກຄອງບ້ານ In town and Meeting with Village Committee					
2	ຖາງແລວທາງ, ອະນາໄມທົວງານ Land Clearing, Intake Area Cleaning	ມ	1500	500	750,000	
3	ຕັດແປບ, ສຽນກງວ Pipeline Work	ຮິມ	193	100	19,300	
4	ຕີແບບ, ເທເປຕົງທົວງານ Form Work, Intake Construction	ອ x ມ	5 x 1	3000	15,000	
5	ຂຸດສະຖານທີ່ອ່າງ ນ້ຳນັ້ງ, ອ່າງເກັບ Digging for Sedimentation and Storage Tank					
6	ເທກັນເບື້ອນ ອ່າງເກັບນ້ຳ Foundation for Water Tank					
7	ຕີແບບອ່າງ, ຕັດເຫລັກ, ມັດເຫລັກ Prepare Form for Tank, Steel Work					
8	ຕີແບບ, ຕັ້ງແບບອ່າງ, ຄັ້ງແບບ Form Installation for Tank					
9	ຕໍ່ທໍ່ທົວງານຫາອ່າງເກັບນ້ຳ Pipe Joining Work between Intake and Tank					
10	ເທເປຕົງເສັ້ນເຫລັກອ່າງເກັບນ້ຳ Concrete Work for Tank					
11	ຂຸດອ່າງທົວງານຫາບ້ານ Trenching between Intake and Village	ມ	4205	500	2,102,500	
12	ຕັ້ງເສົາແລະເທເສົາບອ່ນຂາມຫ້ວຍ Pipe Crossing Work					
13	ເຕີນທໍ່, ຈອດທໍ່ ອ່າງຫາບ້ານ Pipe Laying and Connecting Tank to Village	ມ	4205	1000	4,205,000	
14	ຫຼິດຕັ້ງກ້ອນ + ກົງເຕີ Tap Installation and Water Meter	ຮິມ	13	1000	13,000	
15	ເທລານກ້ອນ Tapstand Construction	ຮິມ	13	10000	130,000	
16	ອະນາໄມ, ກວດກາຄືນ ແລະ ຖືມທໍ່ Testing and Backfilling Pipeline	ມ	4205	4500	6,502,500	
17	ວຽກສະຫລຸບລາຍງານ Reporting					

ລວມ = 32,554,800

Local Material Contribution
 ອຸປະກອນທ້ອງຖິ່ນສຳລັບການກໍ່ສ້າງແລະວັດຖຸຕ່າງໆ

ລ/ດ	ລາຍການ	ຫົວໜ່ວຍ	ຈຳນວນ	ລາຄາ			ລວມ
1	ໄມ້ 2 x 20 = 3 ແມັດ Lumber	ແຜ່ນ piece	30	9000			270.000
2	ໄມ້ 4 x 8 = 3 ແມັດ Lumber	ເຫຼັ້ມ piece	15	7200			108.000
3	ໄມ້ ກົມ Wood Log	ລຳ each	10	1000			10.000
4	ແຮ່ Gravel	ມ ³ m ³	7	40.000			280.000
5	ຊາຍ Sand	ມ ³ m ³	5	35.000			175.000

ລວມ = 843.000 ກີບ

ລ/ດ	ລາຍການເຄື່ອງກໍ່ສ້າງຕ່າງໆ	ຫົວໜ່ວຍ	ຫົວໜ່ວຍ	ອ່າງຕອງ	ອາງເບກ	ອ່າງເກັບນ້ຳ	ກ້ອນນ້ຳ	ຫໍ່ລົງ	ລວມ
		UNIT							TOTAL
I									
1	ທໍ່ຢາງດຳ ເບີ 90 ມມ	ແມດ						450	450
2	ທໍ່ຢາງດຳ ເບີ 63 ມມ	ແມດ						500	500
3	ທໍ່ຢາງດຳ ເບີ 50 ມມ	ແມດ						950	950
4	ທໍ່ຢາງດຳ ເບີ 32 ມມ	ແມດ					650	550	1200
5	ສາມຕາຢາງ ເບີ 90 ມມ ທັນ	ອັນ						7	7
6	ສາມຕາຢາງ ເບີ 63 ມມ ທັນ	ອັນ						2	2
7	ສາມຕາຢາງ ເບີ 50 ມມ ທັນ	ອັນ						3	3
8	ສາມຕາຢາງ ເບີ 32 ມມ ທັນ	ອັນ						3	3
9	ຂັດຊີຢາງ ເບີ 90 ມມ	ອັນ						18	18
10	ຂັດຊີຢາງ ເບີ 63 ມມ	ອັນ						10	10
11	ຂັດຊີຢາງ ເບີ 50 ມມ	ອັນ						19	19
12	ຂັດຊີຢາງ ເບີ 32 ມມ	ອັນ						5	5
13	ຂັດຫລຸດຢາງ ເບີ 90-63 ມມ	ອັນ						8	8
14	ຂັດຫລຸດຢາງ ເບີ 63 - 50 ມມ	ອັນ						12	12
15	ຂັດຫລຸດຢາງ ເບີ 50 - 32 ມມ	ອັນ						11	11
16	ຫົວຕໍ່ຢາງ ເບີ 90 - 3" ກຽວໃນ	ອັນ	1					3	4
17	ຫົວຕໍ່ຢາງ ເບີ 50 - 1 1/2" ກຽວໃນ	ອັນ						1	1
18	ຫົວຕໍ່ຢາງ ເບີ 32 - 1" ກຽວໃນ	ອັນ					13		13
II									
19	ສາມຕາເຫລັກ ເບີ 3"	ອັນ	1						1
20	ສາມຕາເຫລັກ ເບີ 1/2"	ອັນ	1						1
21	ຂັງ 90° ເບີ 1/2"	ອັນ					78		78
22	ນິບເປີນເຫລັກ ເບີ 3"	ອັນ	4						4
23	ນິບເປີນເຫລັກ ເບີ 1/2"	ອັນ					13		13
24	ຢູ່ນຽນເຫລັກ ເບີ 3"	ອັນ	1						1
25	ຢູ່ນຽນເຫລັກ ເບີ 1/2"	ອັນ					13		13
26	ຂັດຊີເຫລັກ ເບີ 1/2"	ອັນ					26		26
27	ບຸດຊີງເຫລັກ ເບີ 3" - 1"	ອັນ	1						1
28	ບຸດຊີງເຫລັກ ເບີ 1" - 1/2"	ອັນ	1				13		14
29	ກ້ອນນ້ຳທອງ ເບີ 1/2"	ອັນ					13		13
30	ຫົວຕອງທອງ ເບີ 3"	ອັນ	1						1
31	ເຫລັກຕາມູ ເບີ 08	ກິໂລ	5						5
32	ເຫລັກຕາມູ ເບີ 05	ກິໂລ	5						5
33	ເທບຄຽນກຽວທໍ່	ອັນ	10					39	49
34	ລວດມັດເຫລັກ ເບີ 18	ກິໂລ	1					1	2
III		ແມດ							

ລ/ດ	ລາຍການເຄື່ອງກໍ່ສ້າງຕ່າງໆ	ຫົວໜ່ວຍ	ຫົວງານ	ອ່າງດອງ	ອາງເບກ	ອ່າງເກັບນໍ້າ	ກົອກນໍ້າ	ທີ່ສົ່ງ	ລວມ
		UNIT							TOTAL
35	ທໍ່ນໍ້າເຫລັກ ເບີ 3" (ກ່ານສີຟ້າ)	ແມດ	6						6
36	ທໍ່ນໍ້າເຫລັກ ເບີ 1/2" (ກ່ານສີຟ້າ)	ແມດ	0.4				41.6		42
37	ປະຕູນໍ້າສອງເບື້ອງ ເບີ 3"	ອັນ	2					1	3
38	ປະຕູນໍ້າສອງເບື້ອງ ເບີ 1 1/2"	ອັນ						1	1
39	ປະຕູນໍ້າສອງເບື້ອງ ເບີ 1/2"	ອັນ					13		13
40	ກະແຈປາກແຂ້ ເບີ 14	ອັນ	1						1
41	ກະແຈປາກແຂ້ ເບີ 18	ອັນ	1						1
42	ກະແຈປາກແຂ້ ເບີ 24	ເສັ້ນ	1						1
43	ເຫລັກເສັ້ນເບີ 6	ເສັ້ນ	4				26		30
44	ເຫລັກເສັ້ນເບີ 10	ຖິງ	4						4
45	ຊີມັງກາຊ້າງ	ແມດ	10				65		75
46	ເລື່ອຍຕັດເຫລັກ	ອັນ	1						1
47	ໃບເລື່ອຍຕັດເຫລັກ	ອັນ	5						5
48	ເລື່ອຍຕັດໄມ້ທາງປາ	ອັນ	1						1
49	ຄູປະສົມປຸນຊີມັງ	ອັນ	10						10
50	ມີປະທາຍຫລ່ຽມ	ອັນ	2						2
51	ມີປະທາຍແຫລມ	ອັນ	2						2
52	ຄ້ອນຕີ	ອັນ	1						1
53	ແມັດກໍ້ 3	ອັນ	1						1
54	ຈີກກາແຂ້	ອັນ	1						1
55	ເທັລກເຂົ້າຄວາຍ	ອັນ	1						1
56	ຊິວນປາຍແຫລມ	ອັນ	1						1
57	ກິງເຕີແທກນໍ້າ	ອັນ	13						13
58	ແຜ່ນໂຕນ	ແມັດ					2.6		2.6

ລາຍການເຄື່ອງກໍ່ສ້າງນິລົມ ຄົມປີ 1999

Exchange Rate

ລ/ດ	ລາຍການເຄື່ອງກໍ່ສ້າງຕ່າງໆ	DESCRIPTIONS	ລວມ	ຫົວໜ່ວຍ	ນ້ຳໜັກ ກິໂລ		ລາຄາລວມ		ລາຄາຕ່ຽງ	
					ນ້ຳໜັກ	ນ້ຳໜັກ	ລາຄາ	ລາຄາ	ລາຄາ	ລາຄາ
					ກຸງວ	ລວມ	ໂດລາ	ກີບ	ໂດລາ	ກີບ
I										
1	ທໍ່ຢາງດໍາ ເບີ 90 ມມ	HDPE Pipe φ 90 mm CL III	450	ແມດ	1.20	540.00	1,665.00	12,154,500	3.70	27,010
2	ທໍ່ຢາງດໍາ ເບີ 63 ມມ	HDPE Pipe φ 63 mm CL III	500	ແມດ	0.70	350.00	1,025.00	7,482,500	2.05	14,965
3	ທໍ່ຢາງດໍາ ເບີ 50 ມມ	HDPE Pipe φ 50 mm CL III	950	ແມດ	0.45	427.50	1,282.50	9,362,250	1.35	9,855
4	ທໍ່ຢາງດໍາ ເບີ 32 ມມ	HDPE Pipe φ 32 mm CL III	1200	ແມດ	0.19	228.00	840.00	6,132,000	0.70	5,110
5	ສາມຕາຢາງ ເບີ 90 ມມ ສັນ	HDPE Tee Coupling φ 90mm	7	ສັນ	0.86	6.02	301.60	2,197,300	43.00	313,900
6	ສາມຕາຢາງ ເບີ 63 ມມ ສັນ	HDPE Tee Coupling φ 63mm	2	ສັນ	0.20	0.40	32.00	233,600	16.00	116,800
7	ສາມຕາຢາງ ເບີ 50 ມມ ສັນ	HDPE Tee Coupling φ 50mm	3	ສັນ	0.15	0.45	42.00	306,600	14.00	102,200
8	ສາມຕາຢາງ ເບີ 32 ມມ ສັນ	HDPE Tee Coupling φ 32mm	3	ສັນ	0.10	0.30	18.00	131,400	6.00	43,800
9	ຂັດຊີຢາງ ເບີ 90 ມມ	HDPE Compression Coupling φ 90	18	ສັນ	0.56	10.08	756.00	5,518,800	42.00	306,600
10	ຂັດຊີຢາງ ເບີ 63 ມມ	HDPE Compression Coupling φ 63	10	ສັນ	0.80	8.00	110.00	803,000	11.00	80,300
11	ຂັດຊີຢາງ ເບີ 50 ມມ	HDPE Compression Coupling φ 50	19	ສັນ	0.60	11.40	152.00	1,109,600	8.00	58,400
12	ຂັດຊີຢາງ ເບີ 32 ມມ	HDPE Compression Coupling φ 32	5	ສັນ	0.40	2.00	20.00	146,000	4.00	29,200
13	ຂັດຫລຸດຢາງ ເບີ 90-63 ມມ	HDPE Reducer Coupling φ 90-63	8	ສັນ	0.50	4.00	256.00	1,868,800	32.00	233,600
14	ຂັດຫລຸດຢາງ ເບີ 63 - 50 ມມ	HDPE Reducer Coupling φ 63 - 50	12	ສັນ	0.30	3.60	132.00	963,600	11.00	80,300
15	ຂັດຫລຸດຢາງ ເບີ 50 - 32 ມມ	HDPE Reducer Coupling φ 50 - 32	11	ສັນ	0.10	1.10	88.00	642,400	8.00	58,400
16	ຫົວຕໍ່ຢາງ ເບີ 90 - 3" ກຸງວໄນ	HDPE Female adapter φ 90 - 3"	4	ສັນ	0.40	1.60	92.00	671,600	23.00	167,900
17	ຫົວຕໍ່ຢາງ ເບີ 50 - 1 1/2" ກຸງວໄນ	HDPE Female adapter φ 50 - 1 1/2"	1	ສັນ	0.50	0.50	7.00	51,100	7.00	51,100
18	ຫົວຕໍ່ຢາງ ເບີ 32 - 1" ກຸງວໄນ	HDPE Female adapter φ 32 - 1"	13	ສັນ	0.30	3.90	39.00	284,700	3.00	21,900
II										
19	ສາມຕາເຫລັກ ເບີ 3"	GI Tee φ 3"	1	ສັນ	0.55	0.55	6.60	48,180	6.60	48,180
20	ສາມຕາເຫລັກ ເບີ 1/2"	GI Tee φ 1/2"	1	ສັນ	0.20	0.20	0.30	2,190	0.30	2,190
21	ຂີ້ງ 90° ເບີ 1/2"	GI Elbow 90° φ 1/2"	78	ສັນ	0.20	15.60	23.40	170,820	0.30	2,190
22	ນິບເປັນເຫລັກ ເບີ 3"	GI Niple φ 3"	4	ສັນ	0.30	1.20	14.00	102,200	3.50	25,550
23	ນິບເປັນເຫລັກ ເບີ 1/2"	GI Niple φ 1/2"	13	ສັນ	0.20	2.60	3.90	28,470	0.30	2,190
24	ຢູ່ນຽນເຫລັກ ເບີ 3"	GI Union φ 3"	1	ສັນ	0.60	0.60	8.00	58,400	8.00	58,400
25	ຢູ່ນຽນເຫລັກ ເບີ 1/2"	GI Union φ 1/2"	13	ສັນ	0.30	3.90	9.10	66,430	0.70	5,110
26	ຂັດຊີເຫລັກ ເບີ 1/2"	GI Socket φ 1/2"	26	ສັນ	0.20	5.20	7.80	56,940	0.30	2,190
27	ບຸດຊິງເຫລັກ ເບີ 3" - 1"	GI Bushing φ 3" - 1"	1	ສັນ	0.40	0.40	2.50	18,250	2.50	18,250
28	ບຸດຊິງເຫລັກ ເບີ 1" - 1/2"	GI Bushing φ 1" - 1/2"	14	ສັນ	0.10	1.40	4.90	35,770	0.35	2,555
29	ກິອກນ້ຳທອງ ເບີ 1/2"	Water Tap φ 1/2"	13	ສັນ	0.30	3.90	42.90	313,170	3.30	24,090
30	ຫົວຕອງທອງ ເບີ 3"	Brass Strainer φ 3"	1	ສັນ	0.80	0.80	155.00	1,131,500	155.00	1,131,500
31	ເຫລັກຕາປູ ເບີ 08	Nail No 08	5	ກິໂລ	1.00	5.00	3.25	23,725	0.65	4,745
32	ເຫລັກຕາປູ ເບີ 05	Nail No 05	5	ກິໂລ	1.00	5.00	3.25	23,725	0.65	4,745
33	ເທບຄຽນກຸງວທໍ່	Tape for joining pipe	49	ສັນ	0.10	4.90	9.80	71,540	0.20	1,460
34	ລວດມັດເຫລັກ ເບີ 18	Binding wire No 18	2	ກິໂລ	1.00	2.00	2.00	14,600	1.00	7,300
III										
35	ທໍ່ນ້ຳເຫລັກ ເບີ 3" (ກ່ານສີຟ້າ)	GI Pipe φ 3"	6	ແມດ	6.18	37.08	210.00	1,533,000	35.00	255,500
36	ທໍ່ນ້ຳເຫລັກ ເບີ 1/2" (ກ່ານສີຟ້າ)	GI Pipe φ 1/2"	42	ແມດ	1.25	52.50	336.00	2,452,800	8.00	58,400
37	ປະຕູນ້ຳສອງເບື້ອງ ເບີ 3"	Gate Valve φ 3"	3	ສັນ	3.35	10.05	210.00	1,533,000	70.00	511,000
38	ປະຕູນ້ຳສອງເບື້ອງ ເບີ 1 1/2"	Gate Valve φ 1 1/2"	1	ສັນ	1.00	1.00	22.00	160,600	22.00	160,600
39	ປະຕູນ້ຳສອງເບື້ອງ ເບີ 1/2"	Gate Valve φ 1/2"	13	ສັນ	0.20	2.60	91.00	664,300	7.00	51,100
40	ກະແຈປາກແຂ້ ເບີ 14	Wrench Pipe No 14	1	ສັນ	0.60	0.60	20.00	146,000	20.00	146,000
41	ກະແຈປາກແຂ້ ເບີ 18	Wrench Pipe No 18	1	ສັນ	1.00	1.00	35.00	255,500	35.00	255,500
42	ກະແຈປາກແຂ້ ເບີ 24	Wrench Pipe No 24	1	ສັນ	1.20	1.20	50.00	365,000	50.00	365,000

ລ/ດ	ລາຍການເຄື່ອງກໍ່ສ້າງຕ່າງໆ	DESCRIPTIONS	ລວມ	ຫົວໜ່ວຍ	ນ້ຳໜັກ ກິໂລ		ລາຄາລວມ		ລາຄາດຽວ	
					ນ້ຳໜັກ	ນ້ຳໜັກ	ລາຄາ	ລາຄາ	ລາຄາ	ລາຄາ
					ດຽວ	ລວມ	ໂດລາ	ກີບ	ໂດລາ	ກີບ
43	ເຫລັກເສັ້ນເບີ 6	Steel Rod ϕ 6	30	ເສັ້ນ	2.22	66.60	37.50	273,750	1.25	9,125
44	ເຫລັກເສັ້ນເບີ 10	Steel Rod ϕ 10	4	ເສັ້ນ	6.17	24.68	13.60	99,280	3.40	24,820
45	ຊີມັງກາຊ້າງ	Cement	75	ຖົງ	50.00	3,750.00	337.50	2,463,750	4.50	32,850
46	ເລື່ອຍຕັດເຫລັກ	HACK SAW	1	ອັນ	0.4	0.40	2.00	14,600	2.00	14,600
47	ໃບເລື່ອຍຕັດເຫລັກ	Blande For Hand Rip Saw	5	ອັນ	0.1	0.50	1.00	7,300	0.20	1,460
48	ເລື່ອຍຕັດໄມ້ຫາງປາ	Hand Rip Saw	1	ອັນ	0.5	0.50	2.00	14,600	2.00	14,600
49	ຖບະຄົມປຸ່ນຊີມັງ	Rubber motar bucket	10	ອັນ	0.4	4.00	8.00	58,400	0.80	5,840
50	ມືປະທາຍຫລ່ຽມ	Trowel cement finishing	2	ອັນ	0.3	0.60	3.00	21,900	1.50	10,950
51	ມືປະທາຍແຫລມ	Trowel brick mason	2	ອັນ	0.25	0.50	3.00	21,900	1.50	10,950
52	ຄ້ອນຕີ	Claw hammer	1	ອັນ	0.30	0.30	5.00	36,500	5.00	36,500
53	ແມັດກໍ່ 3	Measuring tape	1	ອັນ	0.10	0.10	2.00	14,600	2.00	14,600
54	ຈິກກາແຂ້	Hoe head crocodile No.3	1	ອັນ	0.50	0.50	4.50	32,850	4.50	32,850
55	ເທົ່ລກເຂົ້າຄວາຍ	Epick	1	ອັນ	1.00	1.00	5.00	36,500	5.00	36,500
56	ຊົ່ວນບາຍແຫລມ	Shovel round elephant brand	1	ອັນ	0.50	0.50	5.50	40,150	5.50	40,150
57	ກົງເຕີແຫນ້າ	Water meter	13	ອັນ	0.50	6.50	260.00	1,898,000	20.00	146,000
58	ແຜ່ນໂຕນ		2.6	ແມັດ	20.00	52.00	25.00	189,800	10.00	73,000

ລວມນ້ຳໜັກ ກິໂລ/Total Weightkg

5.667 Kg

ລວມລາຄາທັງໝົດ

ລວມ ໂດລາ / Total US \$	3,843.80
ລວມກີບ / Total Kip	64,559,740

1	Construction Material Cost ລາຄາວັດຖຸທັງໝົດ	=	\$
2	Transportation Cost to Provincial Capital ຄ່າຂົນສົ່ງຮອດແຂວງ	=	\$
3	Transportation Cost to Construction Site ຄ່າຂົນສົ່ງຮອດສະຖານທີ່ກໍ່ສ້າງ	=	\$
4	Construction Service Fee (6% of Total Cost) ຄ່າບໍລິຫານໂຄງການໃນເວລາປະຕິບັດການກໍ່ສ້າງ 6%ຂອງມູນຄ່າ	=	\$
5	Material Cost: Gravel, Lumber ຄ່າວັດຖຸ ທີ່ນຳຊາຍ, ໄມ້ແບບ	=	\$
6	Construction Labor Cost ຄ່າແຮງງານການກໍ່ສ້າງທັງໝົດ	=	\$
	Grand Total ລວມມູນຄ່າການກໍ່ສ້າງທັງໝົດ	=	\$

Provincial Health Department
ພະແນກສາທາລະນະສຸກແຂວງ

Chief of Provincial Nam Saat
ຫົວໜ້ານຳສະອາດແຂວງ

Confirmed by
ຜູ້ກວດແບບ

Designed by
ຜູ້ອອກແບບ

(2) Latrine Design Report

ກະຊວງສາທາລະນະສຸກ

ສນຸອະນາໄມສິ່ງແວດລ້ອມ

ແລະຈັດຫານໄສຍອາດ

ຂຶ້ນກຳການອອກແບບ

ສຳລວດອອກແບບໂດຍ

ໂຄງການຈັດຫານໄສຍອາດແຂວງ

**ໂຄງການປັບປຸງວຽກງານຈັດຫານໄສຍອາດ
ແລະ ອະນາໄມສິ່ງແວດລ້ອມ
ຢູ່ແຂວງບໍ່ແກ້ວ ແລະ ແຂວງຫລວງນໍ້າທາ**

RURAL WATER SUPPLY AND SANITATION IMPROVEMENT

IN NORTH - WEST REGION IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

ບົດປະເມີນລາຄາການກໍ່ສ້າງສັວມຖ່າຍ

LATRINE DESIGN REPORT

ບ້ານ

BAN.

ເມືອງ:

DISTRICT:

ແຂວງ:

PROVINCE:

1999

Survey Form and Data Collection for Latrine

<p>ແບບຟອມການສຳຫລວດ ແລະ ເກັບກຳຂໍ້ມູນວິດຖ່າຍ ເບື້ອງຕົ້ນ</p>			
<p>ໂຄງການນໍ້າສະອາດ, ກະຊວງ ສາທາລະນະສຸກ Nam Soat, Ministry of Health</p>			
<p>ພາກ ກ : ຂໍ້ມູນ ດ້ານສັງຄົມ / ເຕັກນິກ Part A: Social/Technical Survey</p>			
Village ບ້ານ :	District ເມືອງ :	Province ແຂວງ :	
<p>Please fill in below (write in figures or Yes/No) ຈົງໃຫ້ຂໍ້ມູນດັ່ງລຸ່ມນີ້ (ເປັນຈຳນວນ ຫລື ຂຽນ ແມ່ນ/ບໍ່ແມ່ນ ຕາມຄວາມເໝາະສົມ)</p>			
ພົນລະເມືອງ : Population	ວັດ	: Temple	
ຊາຍ : Male	ໂຮງຮຽນປະຖົມ	: Primary School	
ຍິງ : Female	ສຸກສາລາ, ໂຮງຫມໍ	: Dispensary, Hospital	
ຄອບຄົວ : Family			
<p>Occupation (Mark one or more) ອາຊີບຂອງຊາວບ້ານ (ຫມາຍຫນຶ່ງ ຫລື ຫລາຍກວ່າຫນຶ່ງ) :</p>			
ຊາວນໍ້າ ()	ພະນັກງານລັດ ()	ອື່ນໆ ()	(ຂຽນແຈ້ງ)
ຊາວຄ້າຂາຍ ()	ຮັບຈ້າງ ()		
<p>Type of Transportation to Village (mark) ການຄົມນະນາຄົມເຖິງບ້ານ (ຫມາຍ) :</p>			
	ທາງລົດ () by car	ທາງນໍ້າ () by boat	ທາງຄົນຫຼວງ () on foot
Distance from District Capital ໄລຍະໄກຈາກສຳນັກເມືອງ	Km ກມ	Travel Time ໃຊ້ເວລາເທົ່າໃດເພື່ອເດີນທາງ	hours ຊມ ()
Distance from Provincial Capital ໄລຍະໄກຈາກສຳນັກແຂວງ	Km ກມ	Travel Time ໃຊ້ເວລາເທົ່າໃດ ເພື່ອເດີນທາງ	hours ຊມ ()
<p>Existing Water Source and Existing Latrine (Write Yes/No and Number) ແຫລ່ງລະບົບນໍ້າ/ວິດທີ່ມີຢູ່ປະຈຸບັນ (ຂຽນແມ່ນ/ບໍ່ແມ່ນ ແລະ ຈຳນວນ)</p>			
ນໍ້າບາດານ Borehole :		ຫ້ວຍ Stream :	
ນໍ້າສ້າງ Dug Well :		ວິດຊຶມ Pour Flush Latrine :	
ໂອ່ງເກັບນໍ້າຝົນ Rainwater Jar :		ວິດຂຸມມີຫໍລະບາຍອາກາດ : VIP Latrine :	
ນໍ້າອອກບໍ່ Spring Water :		ວິດຂຸມແຫ້ງ Dry Latrine :	
<p>Topography (Mark one) ພູທີ່ຕັ້ງຂອງບ້ານ (ຫມາຍຫນຶ່ງອັນ) :</p>			
	Plain ຫົງພຽງ ()	Hill ເປັນພູ ()	
	Mountain ພູ ()	ພູ + ຫົງພຽງ Mountain + Plain ()	
<p>Type of Soil ລັກສະນະດິນຂອງບ້ານ :</p>			
	Sand - ດິນຊາຍ ()		
(ຫມາຍຫນຶ່ງ ຫລື ຫລາຍອັນ) (Mark one or more)	- ດິນດາກ ຫລື ຄ້າຍຄືດິນດາກ (ເປັນຕົ້ນເມື່ອປຽກ) ()	Clay on Clayey Sand	
	- ຫີນອອນ (ສາມາດເຈາະໄດ້) Sandstone (can drill) ()		
	- ຫີນດານ (ບໍ່ສາມາດເຈາະໄດ້) Shale (cannot drill) ()		

Materials and Tools Available Locally (Village/District)

ຂຽນແມ່ນ/ບໍ່ສໍາລັບວັດສະດຸທີ່ມີໃນທ້ອງຖິ່ນ (ອຳນວນ/ເມືອງ)		
1. ດິນຊາຍ sand ()	2. ຫີມແຮ່ Gravel ()	3. ໄມ້ Wood ()
4. ໄມ້ໄຜ່ Bamboo ()	5. ຊີເມັນ Cement ()	6. ເຫລັກເສັ້ນ Rebar ()
7. ນໍ້າມັນເຄື່ອງ oil ()	8. ຖົງປານ Rice Bag ()	9. ຈິກອີປິກ Pick-Axe ()
10. ປະທາຍ Trowel ()	11. ຊວ້ານ Shovel ()	12. ຄູ Bucket ()
13. ຫຍ້າຄາ Grass-Roofing ()	14. ໂອ່ງນໍ້າ Jar ()	15. ດິນຈີ່ Brick ()
16. ຜ້າຢາງ Plastic Cloth ()	17. ແຮງງານ Laborer ()	18. ຊ່າງກໍ່ສ້າງ Mason ()

Write Yes/No for Materials and tools Procureable in Village or District

ຂຽນແມ່ນ/ບໍ່ແມ່ນ ສໍາລັບ ວັດສະດຸ ທີ່ມີໃນທ້ອງຖິ່ນ (ອຳນວນ/ເມືອງ) :			
1. ຊີເມັນ Cement ()	Unit Cost ລາຄາ : ()	7. ຊວ້ານ Shovel ()	Unit Cost ລາຄາ : ()
2. ເຫລັກເສັ້ນ Rebar ()	ລາຄາ : ()	8. ແຜ່ນສັງກະສີ Roofing Sheet ()	ລາຄາ : ()
3. ນໍ້າມັນເຄື່ອງ oil ()	ລາຄາ : ()	9. ດິນຈີ່ Brick ()	ລາຄາ : ()
4. ຖົງປານ Rice Bag ()	ລາຄາ : ()	10. ຈິກອີປິກ Pick-Axe ()	ລາຄາ : ()
5. ຜ້າຢາງ Plastic Cloth ()	ລາຄາ : ()	11. ຄູ Bucket ()	ລາຄາ : ()
6. ປະທາຍ Trowel ()	ລາຄາ : ()	12. ໂອ່ງນໍ້າ Water Jar ()	ລາຄາ : ()

ມູນ ກວດກັບແຫລ່ງນໍ້າ Water Source Survey

Water Source ແຫລ່ງ	Distance from Village ໄລຍະໄກຈາກບ້ານ	Water Adequate Year Round ມີນໍ້າຕະຫລອດປີ (Mark only one) (ຫມາຍຫນຶ່ງອັນ)	Drinking Water Quality ຄຸນນະພາບຂອງນໍ້າ ສໍາລັບນໍ້າດື່ມ (Mark only one) (ຫມາຍຫນຶ່ງອັນ)
		Yes ແມ່ນ () No ບໍ່ແມ່ນ ()	Very Good ດີຫລາຍ () Good ທໍາມະດາ () Bad ບໍ່ດີ ()
ນໍ້າສ້າງ Dug Well		ແມ່ນ () ບໍ່ແມ່ນ ()	ດີຫລາຍ () ທໍາມະດາ () ບໍ່ດີ ()
ນໍ້າບາດານ Borehole		ແມ່ນ () ບໍ່ແມ່ນ ()	ດີຫລາຍ () ທໍາມະດາ () ບໍ່ດີ ()
ກອກນໍ້າ Tap		ແມ່ນ () ບໍ່ແມ່ນ ()	ດີຫລາຍ () ທໍາມະດາ () ບໍ່ດີ ()
ນໍ້າອອກບໍ່/ ແມ່ນໍ້າ Spring Water/ River		ແມ່ນ () ບໍ່ແມ່ນ ()	ດີຫລາຍ () ທໍາມະດາ () ບໍ່ດີ ()

ອຳນວນວິດຖາຍທີ່ມີແລ້ວ (ຂຽນແມ່ນ/ບໍ່) Existing Latrine Survey (Yes/No)		
1. ວິດຖາຍທີ່ຫ່າງຈາກແຫລ່ງນໍ້າ 15 ແມັດ : ()	2. ວິດຖາຍທີ່ມີຫລັງຄາແລະເຮືອນວິດ : ()	3. ວິດຖາຍທີ່ປຸກສາງຢູ່ບ່ອນສູງ : ()
4. ຂຸມວິດຕ້ອງຢູ່ເໜືອລະດັບນໍ້າ 1 ແມັດໃນລະດູຝົນ : ()	5. ຊາວບ້ານມີໂອ່ງນໍ້າຢູ່ໃກ້ກັບວິດຖາຍ : ()	6. ທຸກຄົນໃນຄອບຄົວໃຊ້ວິດຖາຍ : ()
7. ໃນຄວາມຄິດຂອງຜູ້ສໍາຫລວດ, ວິດຖາຍທີ່ໃຊ້ນໍ້າແມ່ນສິ່ງທີ່ຄວນສ້າງເສີມບໍ່ : ()		
In opinion of surveyor, should be improved to wet latrine		

ຈໍານວນວິດຖາຍທີ່ຕ້ອງການ =	ຈໍານວນຄົວເຮືອນໃນປະຈຸບັນ =	ວິດຖາຍ
Number of Required Latrines	Number of Present Households	Latrines

ລາຍການເຄື່ອງກໍ່ສ້າງສ່ວນຖ່າຍຄອບຄົວ ບ້ານ.....
 Latrine Construction Materials List Village _____

ລ/ດ No.	ລາຍການເຄື່ອງ	DESCRIPTIONS	ລວມ TOTAL	ຫົວໜ່ວຍ UNIT	ນ້ຳໜັກ Weight		ລາຄາ \$ Cost	
					ດ່ຽວ Per Unit	ລວມ Total	ດ່ຽວ Per Unit	ລວມ Total
I	ສຳລັບວິດ 1 ຄອບຄົວ	Latrine for 1 family						
1	ຊີມັງ ກາຊ້າງ	Cement	3.00	ຖົງ ບາດູ	50.0	150.0	4.50	13.50
2	ເຫລັກເສັ້ນ ເບີ 6	Rebar No. 6	5.00	ເສັ້ນ No.	2.2	11.1	1.25	6.25
3	ລວດມັດ ເບີ 18	Rebar No. 18	0.25	ກິໂລ ກູ່	1.0	0.3	1.00	0.25
4	ຫົວວິດປອກເຊີແລນ	Latrine Bowl	1.00	ຫົວ No.	5.0	5.0	6.00	6.00
5	ທໍ່ PVC 3/4 "	PVC Pipe 3/4 "	3.00	ແມັດ m	0.2	0.6	0.03	0.09
6	ຂໍ້ງ 90 PVC 3/4 "	PVC Elbow 90° 3/4 "	2.00	ອັນ No.	0.1	0.2	0.05	0.10
7	ສາມຕາ PVC 3/4 "	PVC Tee 3/4 "	1.00	ອັນ No.	0.1	0.1	0.05	0.05
8	ຖັງໃສ່ນ້ຳມີຜາປິດ	Water Jar with Lid	1.00	ໜ່ວຍ pc.	2.0	2.0	0.60	0.60
II	ສຳລັບ 1 ບ້ານ	for 1 Village						
1	ມີປະທາຍແຫລມ (ກຽງກໍ່)	Trowel (concrete finishing)	2.00	ອັນ No.	0.3	0.5	1.50	3.00
2	ມີປະທາຍ ຫລຽມ (ກຽງຄັດມັນ)	Trowel (brick mason)	2.00	ອັນ No.	0.3	0.5	1.50	3.00
3	ຄູປະສົມຊີມັງ	Rubber Mortar Buckel	6.00	ອັນ No.	0.4	2.4	0.80	4.80
4	ຊ້ວນປາຍມົນ	Round Point Shovel	1.00	ອັນ No.	0.5	0.5	5.50	5.50
5	ຊ້ວນປາຍຕັດ	Square Shovel	1.00	ອັນ No.	0.5	0.5	5.50	5.50
6	ເຫລັກຕາປູ No. 8	Nail No. 8	0.50	ກິໂລ ກູ່	1.0	0.5	0.65	0.33
7	ເຫລັກຕາປູ No. 5	Nail No. 5	1.00	ກິໂລ ກູ່	1.0	1.0	0.65	0.65
III	ວິດ 1 ໜ່ວຍ / ອຸປະກອນຫ້ອງຫິມ	Local Material / Latrine						
1	ຊາຍ	Sand	0.20	ແມັດກ້ອນ m ³			0.50	0.10
2	ຫິນແຮ	Gravel	0.30	ແມັດກ້ອນ m ³			0.50	0.15
3	ໄມ້ປຸກເຮືອນວິດ	Wood for Housing	0.05	ແມັດກ້ອນ m ³			100.00	5.00
4								
5								

Weight ນ້ຳໜັກ Kg	169.3	I	Total Cost ລວມລາຄາ=	\$	26.84
	5.9	II	Total Cost ລວມລາຄາ=	\$	22.78
Total Weight ລວມນ້ຳໜັກ Kg	175.2	III	Total Cost ລວມລາຄາ=	\$	5.25

ຈຳນວນວິດຖ່າຍທັງໝົດທີ່ຕ້ອງການພາຍໃນບ້ານ	ຕົວຢ່າງ	100	latrines ໜ່ວຍ
Total Number Of Latrines in Village			
1 ລາຄາສຳລັບການກໍ່ສ້າງວິດຖ່າຍຄອບຄົວ 1 ໜ່ວຍ	Labor Cost for Construction of One Latrine (1 family)	32.09	\$
ລາຄາສຳລັບການກໍ່ສ້າງວິດຖ່າຍຄອບຄົວໃນບ້ານມີ	Labor Cost for Latrine Construction in Village	3,231.78	\$
2 ທຶນຈາກໂຄງການ (ສຳລັບເຄື່ອງມືກໍ່ສ້າງ)	Construction Materials (Project Fund)	2,706.78	\$
ທຶນຈາກປະຊາຊົນປະກອບສ່ວນ	Village Fund	5.25	\$
Total Project Cost			
ລວມລາຄາທັງໝົດຂອງໂຄງການຊ່ວຍເຫລືອ		<u>3,231.78</u>	\$
ຄ່າວັດຖຸທັງໝົດ	Total Cost of Construction Materials	3,231.78	\$
* ຄ່າຂົນສົ່ງຮອດແຂວງ	Transportation Cost to Province		\$
ຄ່າຂົນສົ່ງຮອດບ່ອນກໍ່ສ້າງ	Transportation Cost to Village		\$
Total Cost			
ລວມລາຄາ:	\$	<u>3,237.03</u>	\$

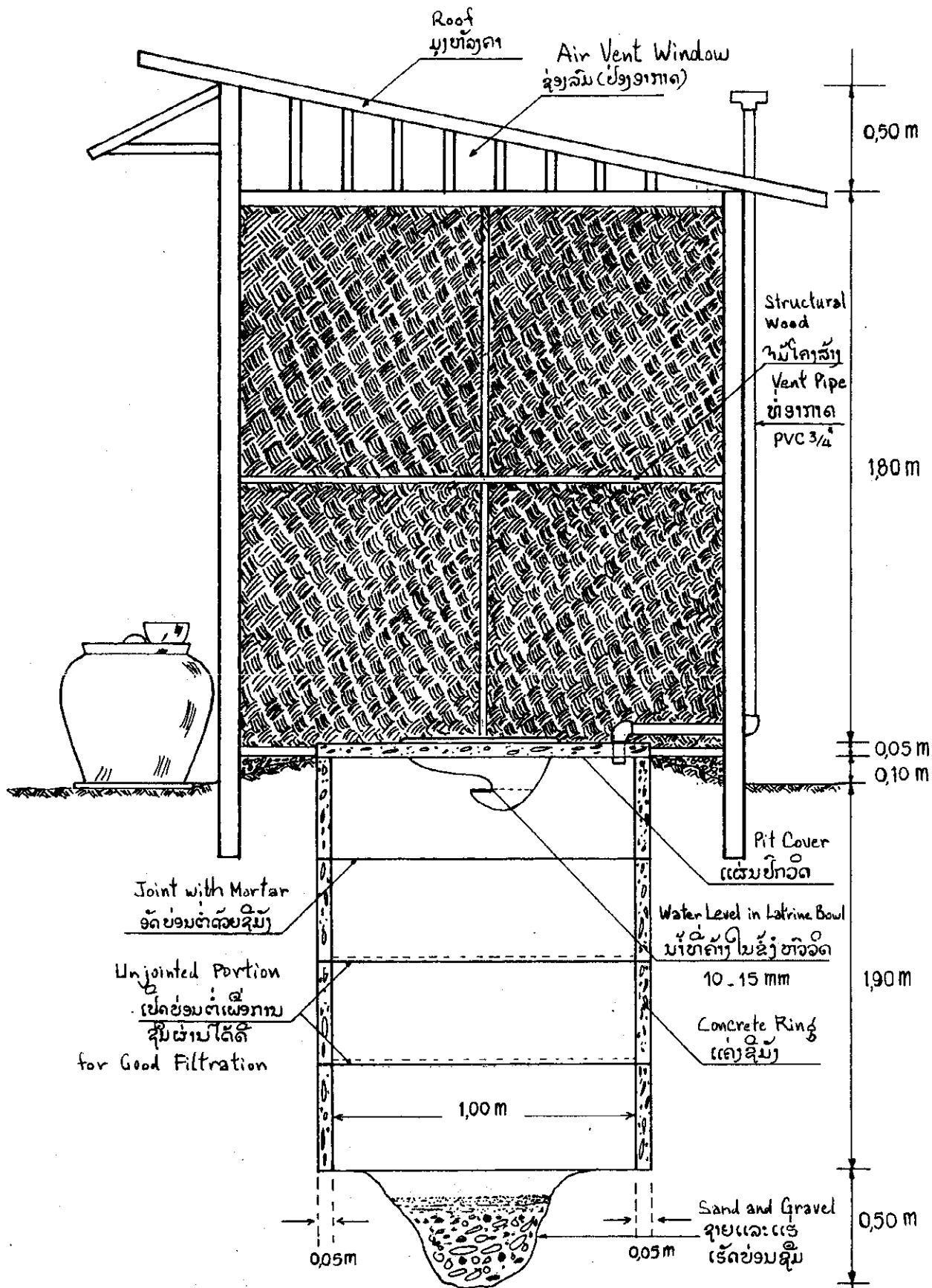
Chief of Provincial Health Department
ຫົວໜ້າພະແນກສາທາລະນະສຸກແຂວງ

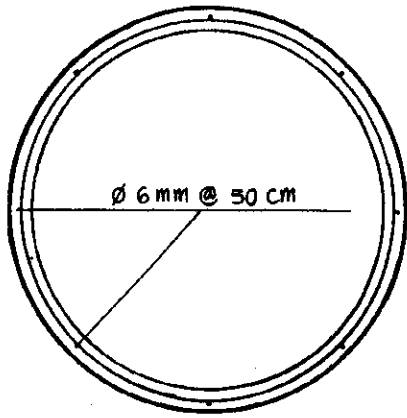
Chief of Provincial Nam Sast
ຫົວໜ້າສະອາດແຂວງ

Checked by
ຜູ້ກວດແບບ

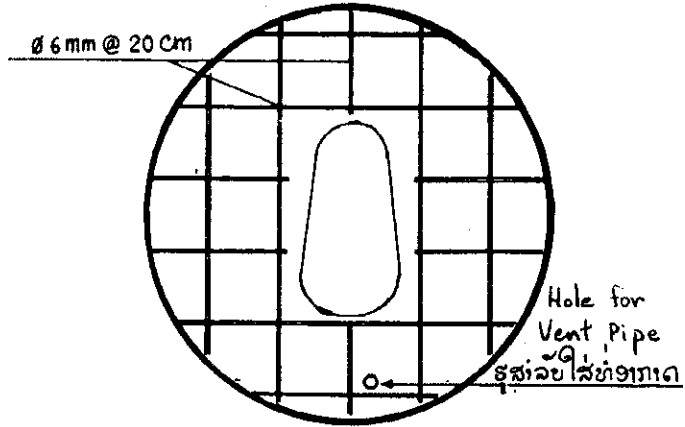
Designed by
ຜູ້ອອກແບບ

Standard Design for Pour Flush Bowl Single Pit Latrine
 ຮູບແບບມາດຕະຖານຂອງວິດຊີມ

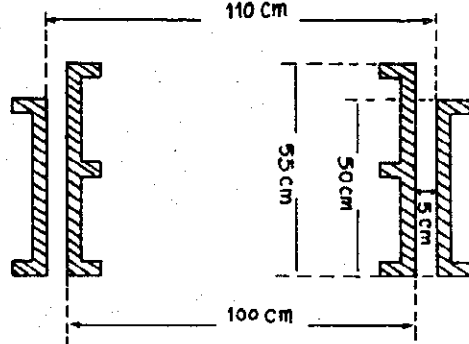
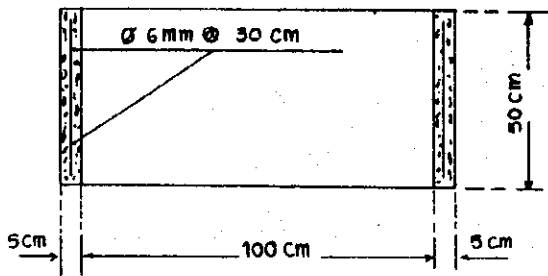




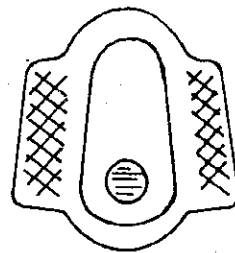
Ring Structure
ກນວງເຫຼັກເສັ້ນໃສ່ແລ່ງ



ກນວງເຫຼັກເສັ້ນໃສ່ແລ່ງປັກ
Pit Cover Structure

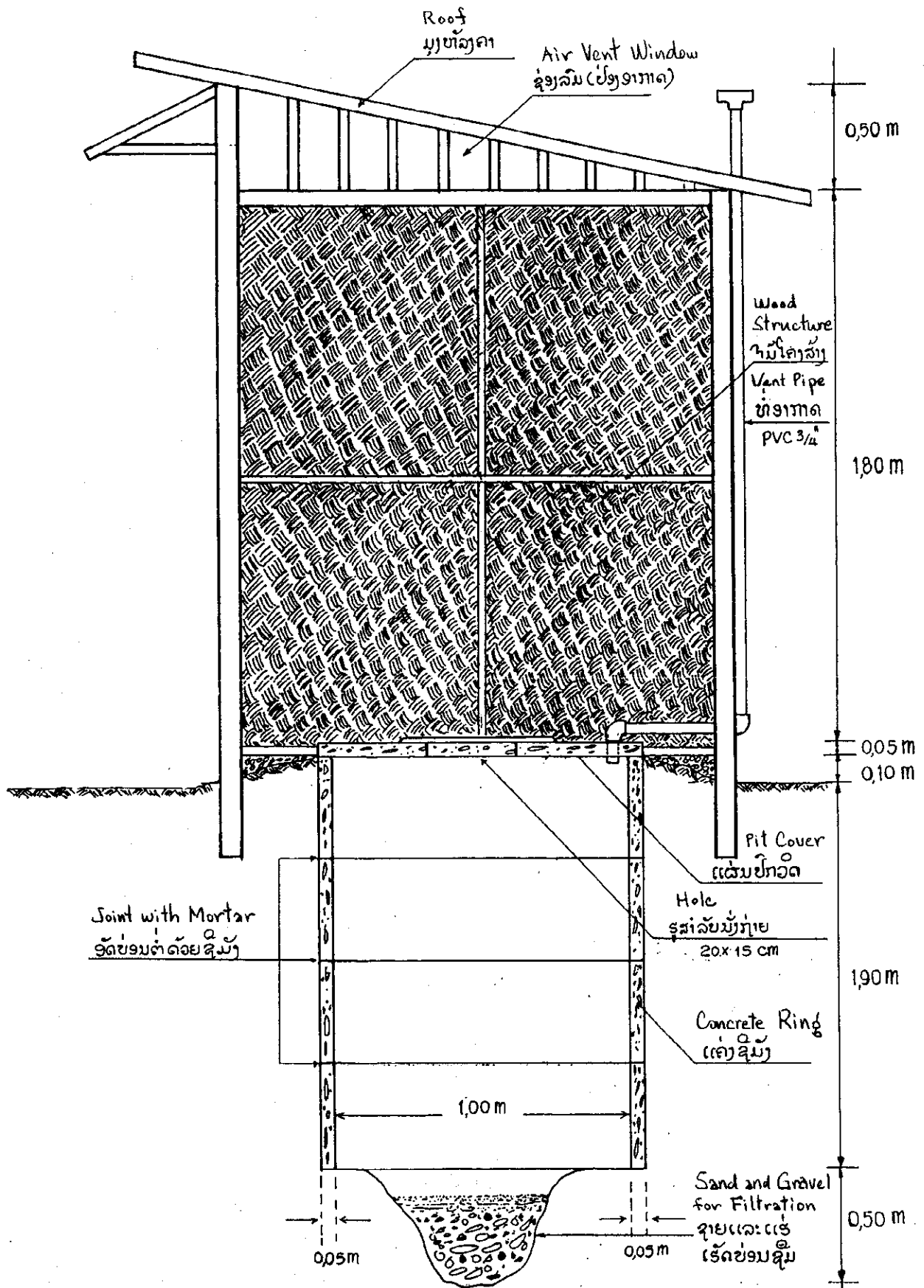


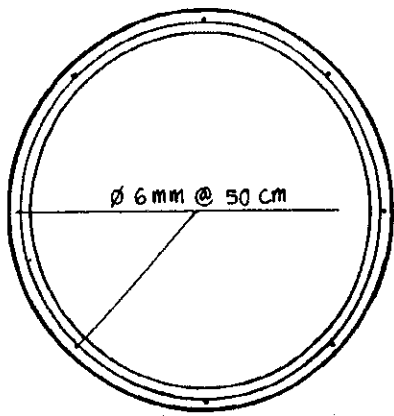
ແຜນວາດສ່ວຍແບບຫຼໍ່ແລ່ງ
Ring Mould



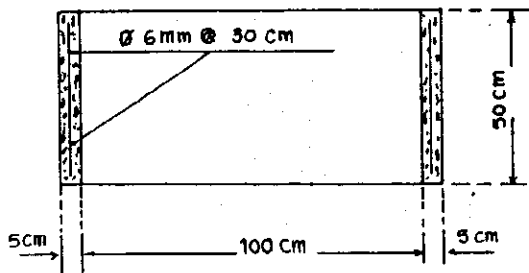
ຫ້ວງຈັດ
Latrine Bowl

Standard Design for Dry Latrine
 ຮູບແບບມາດຕະຖານຂອງວິດແຫ້ງ

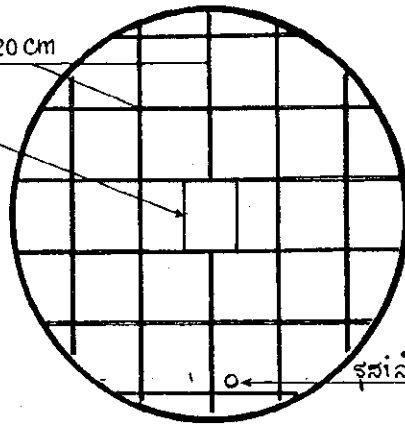




ການວາງເບັກເສັ້ນໃສ່ແຕ່ງ
Ring Structure

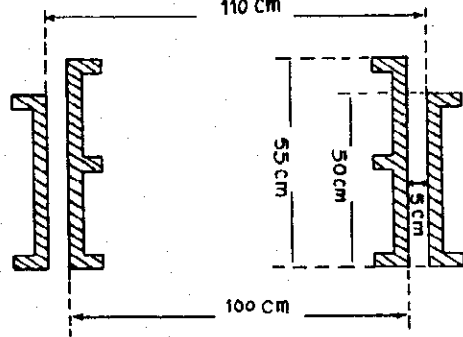


$\varnothing 6 \text{ mm} @ 20 \text{ cm}$
Hole
ຮູສຳລັບມັງກຸ່ຍ
20 x 15 cm



Hole for
Vent Pipe
ຮູສຳລັບໃສ່ທ່ອງກາດ

ການວາງເບັກເສັ້ນໃສ່ແຕ່ງ
Pit Cover Structure
110 cm



ແຜນອາດສຳລັບແບບຫຼໍ່ແຕ່ງ
Ring Mould

1.5 Monitoring Formats
 (1) First Monitoring Survey

**JICA Study on Rural Water Supply and Sanitation Improvement in
 North-West Region of Lao PDR
 Participatory Monitoring/Evaluation Format
 First Monitoring Survey**

Province: _____
 District: _____
 Village Name: _____
 Date: _____

Name and Title of Reporter: _____ Signature: _____

Name of Monitor: _____ Signature: _____

1. General Information:

- Number of Families..... Family
- Number of Households..... H/H
- Population..... Persons
- Male..... Persons
- Female..... Persons
- Number of Schools.....
 - Primary School.....
 - Secondary School.....
- Health Center/Dispensary.....
- Temple.....
- Main Occupation..... H/H
 - Paddy Cultivate..... H/H
 - Gardeners..... H/H
 - Officer Soldier Police..... H/H
- Secondary Occupation..... H/H
- Maximum Family Income per Year..... Kip/Year
 - Average Family Income Kip/Year
 - Minimum Family Income..... Kip/Year

Technical Information:

- Type of Water Scheme:.....
 - Supported by:.....
 - Commencement Date:.....
 - Completion Date:.....
- Type of Latrine
 - Dry Latrine
 - VIP Latrine
 - Pour Flush Latrine
 - Others
 - Commencement Date:.....
 - Completion Date:.....
- Who supported the construction of latrine facilities:
 - Community
 - Government
 - UNICEF
 - JICA
 - NGO (place specific name)
 - Others

2. Construction Related Matters:

- * Do you think the water system is suitable to the village location?
Yes
No
If no, please explain the reason: _____

- * During the design of the scheme and preparation for construction, were there any difficulties for villagers to understand the explanation of the technicians?
Yes
No
If yes, please explain the reason: _____

- * During the construction, were there any difficulties for the villagers?
Yes
No
If yes, please explain the reason: _____

- * How did technicians help villagers during the construction? _____

- * Were there any difficulties when the technicians instructed the villagers during the construction?
Yes
No
If yes, please explain the reason: _____

- * Was the construction according to the design?
Yes
No
If no, please explain the reason: _____

- * Was the construction completed in time?:
Yes
No
If no, please explain the reason: _____

- * After the construction, was the water scheme tested for its performance?
Yes
No
If no, please explain the reason: _____

- * Was the construction done on the location approved by local authorities?
Yes
No
If no, please explain the reason: _____

3. Water Quality:

- * Is water acceptable for drinking and cooking in terms of taste, color and smell?
Yes
No
If no, please explain what you do: _____

4. Facilities Use Situation

- * Are all people getting water from the scheme?

Yes
No

If no, please explain the reason: _____

- * Are the villagers satisfied with the new water scheme?

Yes
No

If no, please explain the reason: _____

- * Does the water scheme supply water in both the rainy and dry seasons?

Yes
No

If no, please explain the reason: _____

- * Water is supplied:

- All day
- 1 or 2 hours a day

- * Are the latrines being used by everyone?

Yes
No

If no, please explain the reason: _____

5. Repair Situation:

- * If the water scheme is broken-down, did the technician staff make repairs within the required time?

Yes
No

If no, please explain the reason: _____

- * What is done if the repair is not made within the required time?

6. Maintenance:

- * Are villager volunteers available?

Yes
No

If no, please explain the reason: _____

- * Are the village volunteers trained in operation and maintenance?

Yes
No

If no, please explain the reason: _____

- * Do the villagers think the maintenance fee is appropriate to the benefit they get?

Yes
No

If no, please explain the reason: _____

- * Inspect and check the water scheme for:

	Very Good	Good	Needs Improvement
Cleanliness			
Drainage			
Hygiene			

- * Check the handpump for flow and play of handle:

Very Good Good Needs Improvement

- * Can the village volunteers use basic tools?

Yes
 No

If no, please explain the reason: _____

- * Ask about repairs made: When were they made?
 What repairs were made?
 Were there any problems?

- * Visit a few water users to ask about the levels of service and maintenance, and confirm

- Service pipes
 - Are pipes covered with soil?
 - Are pipes leaking?
- Tap stands
 - Are they clean?
 - Are there any cracks?
 - How are the drainages?
 - Are there soakaways nearby?
- Taps
 - Inspect for leakages
 - Check handles
 - Test flow from taps
 - Taste water and check the color

7. Latrines Demands:

- * Discuss with village men and women on demands concerning latrines.

8. Understanding towards Village Committee:

- * Have group discussions with village committee on the following topics.
 - Have village men and women organized themselves and initiated change
 - Are men and women aware of the changes in water supply and sanitation
 - Do men and women understand how the committee functions?
 - Do they understand the rules?
 - Do men and women have the required technical skills?
 - Have men and women shown their capacity to take corrective actions to solve problems/

9. Water Scheme Usage

- * What percentage of the target population is using the water scheme?
- * Who are the non users?
- * Why are they not using the facilities?

10. Water Use Behavior of Women:

- * Is the water scheme working properly?
Yes
No

- * Are you satisfied with the water scheme?
Yes
No

- * What are your water use purposes?

- * How many trips do you make per day to collect water?

- * How many people in your house use this water?

11. Time Spent Using Water Facilities:

- * Is time saved by using the improved water scheme and latrine?
Yes
No

- * Before the construction, how many hours/minutes were spent per day for fetching water?
 - Dry season
 - Rainy season

- * After the construction, how many hours/minutes/days are you spending for fetching water?

- * What do they use the reduced time for?

12. Washing Hands:

- * Ask a child to demonstrate how to wash their hands.

13. Water Use and Storage:

- * Do the villagers use clean water from the scheme for drinking?
Yes
No
If no, please explain the reason: _____

- * Do the villages use water for cooking and washing utensils?
Yes
No
If no, please explain the reason: _____

- * What type of container do villagers use to collect water?

- * Are the containers cleaned?
Yes
No

- * Is drinking water stored off the ground?
Yes
No

- * Is drinking water covered?
Yes
No

* Is water storage vessels cleaned?

Yes

No

14. Village Hygiene and Sanitation Awareness:

* Are there fecal matter or garbage on the ground in the village?

Yes

No

* How is garbage disposed of?:

Burning

Burying

Using dump site

Others

* Are domestic animals kept or tied up outside the house (especially outside living and sleeping area)?

Yes

No

* Is cooked food stored in a closed contained?

Yes

No

* Is the area surrounding water taps, latrines and houses free from excreta?

Yes

No

* Is wastewater disposed properly?

Yes

No

15. Latrine Use and Maintenance:

* Conditions of latrine bowl and pit

- Clean
- Flushes well

* Observe signs of latrine use

- Foul smell
- Yellow color
- Cracks or breaks in the bowl

* Are raw human feces found in the field?

Yes

No

* Is water stored inside the latrine?

Yes

No

* Is water kept outside the house?

Yes

No

* Is any cleaning brush available?

Yes

No

- * Are children using the latrine? (ask a child)
- * If the latrine has been used for more than 2 years, ask "did you exchange the bowl?", and if yes, indicate the date

16. Situation on Project Information:

- * Ask men and women in the village about the project:
- * Have you heard about this program?
Yes
No
- * What details have you heard?
- * How does the project work?
- * Have you contributed anything to this project? if yes, what?
—
- * Do you have any suggestions about the program?

17. Community Participation Capacity:

- * Number of villagers who participated at each stage:

Stage	Men	Women
Community Dialogue		
Preparation for construction		
Construction		

- * Did they expressed their own ideas well at the community dialogue stage?

Men:

- Yes
- No

Women:

- Yes
- No

If no, please explain the reason: _____

18. Existence of Village Committee:

- * Is there a committee?
Yes
No
- * Is this committee a new or existing one?
New
Existing
- * Who are the members of the committee?
- * What does the committee do?

19. Committees Function

- * Are villagers clear about guidelines for selecting committee members, reelecting and disbanding committees?
Yes
No

- * Can the committee member explain how to get spares and repairs done?
Yes
No
- * Can committee members explain the bookkeeping and accounting of fees collected and expended?
Yes
No
- * Are all financial matters discussed and agreed with all committee members?
Yes
No
- * Was the water tariff set by the committee in consultation with the users?
Yes
No
- * Is one of two committee members a woman?
Yes
No
- * Are all broken points of facilities repaired in less than 2 weeks?
Yes
No
- * Do villagers give their suggestions in decision making on contributions in kind and cash?
Men:
Yes
No
Women:
Yes
No
If no, please explain the reason: _____

* What are the contributions? How much in cash?

20. Village Contribution to the Project

- * Water scheme
 - Gravel quantity : amount:
 - Sand quantity: amount:
 - Timber, log, wood amount:
 - Labour amount:
 - Others amount:
 - Total in cash: Kip
- * Latrine
 - Gravel quantity : amount:
 - Sand quantity: amount:
 - Timber, log, wood amount:
 - Roof amount:
 - Labour amount:
 - Others amount:
 - Total in cash: Kip
- * Villagers' Total Contribution : Kip

Comments

Feelings/opinions of villagers

Comments/suggestions by village committees

Comments/suggestions by District authorities

Comments/suggestions by monitoring staff

Comments/suggestions by central staff

Date:

Certified by Provincial Nam Saat

Conducted/collected by

(2) Second Monitoring Survey

**JICA Study on Rural Water Supply and Sanitation Improvement in
North-West Region of Lao PDR**
Participatory Monitoring/Evaluation Format
Second Monitoring Survey

Notice to the Monitoring Staff

This monitoring form should be used as a guideline during community dialogue. Please do not just receive Yes-No responses, but also inquire further about the reasons, causes and the actual situations related to each item and apply your own opinions as well. Furthermore, make dialogue with many persons of different gender, backgrounds and ethnic levels.

Province: _____
District: _____
Village Name: _____
Date: _____

Reporter: Name _____ Title (Affiliation) _____ Gender: Male Female

Monitoring Staff: Name _____ Title (Affiliation) _____ Gender: Male Female
Name _____ Title (Affiliation) _____ Gender: Male Female

1. GENERAL INFORMATION:

- | | |
|---------------------------------------|----------|
| - Number of Families..... | Families |
| - Number of Households..... | H/H |
| - Population..... | Persons |
| - Male..... | Persons |
| - Female..... | Persons |
| - Number of Schools..... | |
| • Primary School..... | |
| • Secondary School..... | |
| - Health Center/Dispensary..... | |
| - Temple..... | |
| - Main Occupation..... | H/H |
| • Cultivate Paddy Field..... | H/H |
| • Gardening..... | H/H |
| • Officer; Soldier; Police..... | H/H |
| - Secondary Occupation..... | H/H |
| - Maximum Family Income per Year..... | Kip/Year |
| • Average Family Income | Kip/Year |
| • Minimum Family Income..... | Kip/Year |

2. CHANGES IN WATER USE BEHAVIOR

2.1 Water Scheme Use Situation:

- * Is everybody in the village satisfied with the new water scheme?
Yes
No
If no, please explain the reason: _____

- * Is water acceptable for drinking and cooking in terms of taste, color and smell?
Yes
No
If no, please explain what you are doing: _____

- * Are all people getting water from the scheme?
Yes
No
If no, please explain the reason: _____

- * Does the water scheme supply sufficient water in both the rainy and dry seasons?
Yes
No
If no, please explain the reason: _____

- * Water is supplied:
All day
Only a few hours a day

- * What percentage of the target population is using the water scheme? _____

- * Who are the non users? _____

- * Why are they not using the facilities? _____

2.2 Water Use Behavior (ask both men and women):

- * Is the water scheme working properly?
Yes
No
If no, please explain the reason: _____

- * Are you satisfied with the water scheme?
Yes
No
If no, please explain the reason: _____

- * What are your water use purposes?
Drinking Cooking
Bathing Washing
Others (explain)
Please explain the reasons: _____

- * How many trips do you make per day to collect water? _____ times/day

- * How many people in your house use this water? _____ persons

2.3 Water Use Purpose, Collection and Storage:

- * Do the villagers use clean water from the scheme for drinking?

Yes
No

If no, please explain the reason: _____

- * Do the villages use water for cooking and washing utensils?

Yes
No

If no, please explain the reason: _____

- * What type of container do villagers use to collect water?

Plastic bucket
Bamboo container
Dried gourd
Others (explain)

- * Are the containers cleaned?

Yes
No

- * Is drinking water stored off the ground?

Yes
No

- * Is drinking water covered?

Yes
No

- * Are water storage vessels cleaned?

Yes
No

3. OPERATION AND MAINTENANCE SITUATION

3.1 Villager Caretaker for Water and Sanitation:

- * Are villager caretakers available?

Yes
No

If no, please explain the reason: _____

- * Are the village caretakers trained in operation and maintenance?

Yes
No

If no, please explain the reason: _____

- * Can the village caretakers use basic tools?

Yes
No

If no, please explain the reason: _____

3.2 Maintenance Fees:

- * How much is being collected by the village committee as the water fee for maintenance?

_____ Kip/pers/mon, Kip/household/mon

- * Do the villagers think the maintenance fee is appropriate to the benefit they get?

Yes

No

If no, please explain the reason: _____

3.3 Present State of Facilities:

GES Schemes

- * Inspect and check the water scheme for:

	Very Good	Good	Needs Improvement
Cleanliness			
Drainage			
Hygiene			

- * Visit a few water users to ask about the levels of service and maintenance, and confirm

- Service pipes

- Are pipes covered with soil?

Yes

No

- Are pipes leaking?

Yes

No

- Tap stands

- Are they clean?

Yes

No

- Are there any cracks?

Yes

No

- How are the drainages?

Yes

No

- Are there soakaways nearby?

Yes

No

- Taps

- Are there any leakages?

Yes

No

- Are the handles functioning properly?

Yes

No

- Is water flowing normally from taps?

Yes

No

- Water has no problem with taste and color.

Yes

No

Dug Well or Borehole

- * Check the handpump for flow, play of handle and others:

	Very Good	Good	Needs Improvement
Pump			
Handle			
Concrete floor			
Drainage			

3.4 Actions towards Repairs:

- * When the water scheme broke down, did the technician staff make repairs within the required time?

Yes

No

If no, please explain the reason: _____

- * What is done if the repair is not made within the required time?

- * Ask about repairs made:

When were they made? _____

What repairs were made? _____

Were there any problems? _____

4. WATER AND SANITATION COMMITTEE ACTIVITIES

4.1 Understanding towards Water and Sanitation Committee:

- * Have group discussions with water and sanitation committee on the following topics.

- Have village men and women organized themselves and initiated change

Yes

No

- Are men and women aware of the changes in water supply and sanitation

Yes

No

- Do men and women understand how the committee functions?

Yes

No

- Do they understand the rules?

Yes

No

- Do men and women have the required technical skills?

Yes

No

- Have men and women shown their capacity to take corrective actions to solve problems?

Yes

No

- What is the balance sheet of the committee for the last month?

Item		Unit Fee	No. of Users	Amount (Kip/mon)
Income	Water Fees			
	Latrine Fees			
	Others			
Expenditure				
Balance				

4.2 Water and Sanitation Committee Function:

- * Is a committee functioning?
 - Yes
 - No
- * Is this committee a new or an existing one?
 - New
 - Existing
- * Who are the members of the committee? _____
- * What does the committee do? _____
- * Are villagers clear about guidelines for selecting committee members, reelecting and disbanding committees?
 - Yes
 - No
- * Can the committee members explain how to get spare parts and repairs done?
 - Yes
 - No
- * Can committee members explain the bookkeeping and accounting of fees collected and expended?
 - Yes
 - No
- * Are all financial matters discussed and agreed with all committee members?
 - Yes
 - No
- * Was the water tariff set by the committee in consultation with the users?
 - Yes
 - No
- * Is one of two committee members a woman?
 - Yes
 - No
- * Are all broken points of facilities repaired in less than 2 weeks?
 - Yes
 - No

5. WORK REDUCTION IN WATER FETCHING

- * Is time saved by using the improved water scheme and latrine?
Yes
No

- * Before the construction, how many hours/minutes were spent per day for fetching water?
 - Dry season _____ min/day
 - Rainy season _____ min/day

- * After the construction, how many minutes/days are you spending to fetch water?
 - Dry season _____ min/day
 - Rainy season _____ min/day

- * What do they use the reduced time for? _____

6. SANITATION AWARENESS AND IMPROVEMENT

6.1 Washing Hands:

- * Ask a child to demonstrate how to wash their hands.
Can wash properly
Cannot wash

6.2 Village Hygiene and Sanitation Awareness:

- * Are there fecal matter or garbage on the ground in the village?
Yes
No

- * How is garbage disposed of?:
 - Burning
 - Burying
 - Using dump site
 - Others (explain)

- * Are domestic animals kept or tied up outside the house (especially outside living and sleeping area)?
Yes
No

- * Is cooked food stored in a closed contained?
Yes
No

- * Is the area surrounding water taps, latrines and houses free from excreta?
Yes
No

- * Is wastewater disposed properly?
Yes
No

6.3 Latrine Use and Maintenance:

* Discuss with village men and women on demands concerning latrines. _____

* If latrines were constructed, are the villagers satisfied with the new latrines?

Yes

No

If no, please explain the reason: _____

* Are the latrines being used by everyone?

Yes

No

If no, please explain the reason: _____

* Conditions of latrine bowl and pit

• Clean

Yes

No

• Flushes well

Yes

No

* Observe signs of latrine use

• Foul smell

Yes

No

• Yellow color

Yes

No

• Cracks or breaks in the bowl

Yes

No

* Are raw human feces found in the field?

Yes

No

* Is water stored inside the latrine?

Yes

No

* Is water kept outside the house?

Yes

No

* Is any brush for cleaning the latrine available?

Yes

No

* Are children using the latrine? (ask a child)

Yes

No

* What changes have you noticed in the number of cases of diseases as compared to the same season last year

Diarrhea:	Decreased <input type="checkbox"/>	Increased <input type="checkbox"/>	No change <input type="checkbox"/>
Malaria:	Decreased <input type="checkbox"/>	Increased <input type="checkbox"/>	No change <input type="checkbox"/>
():	Decreased <input type="checkbox"/>	Increased <input type="checkbox"/>	No change <input type="checkbox"/>
():	Decreased <input type="checkbox"/>	Increased <input type="checkbox"/>	No change <input type="checkbox"/>
():	Decreased <input type="checkbox"/>	Increased <input type="checkbox"/>	No change <input type="checkbox"/>

7. ADVICE AND SUPPORT FROM DISTRICT, PROVINCE AND CENTRAL

* How often do Nam Saat and other related authorities come to the village for surveillance, guidance and advice on water use and sanitation?

District Staff: _____ times per month

Provincial Staff: _____ times per month

Central Staff: _____ times per month

Comments: _____

* How often do Nam Saat and other related authorities come to the village for support in operation and maintenance?

District Staff: _____ times per month

Provincial Staff: _____ times per month

Central Staff: _____ times per month

Comments: _____

8. WATER FLOW MEASUREMENTS

* Make the following measurements concerning flow rates.

Water Scheme	Measurement Point	Discharge (lit/min, lit/sec)
GFS	Intake	
	Tap	
Dug Well/Borehole	Handpump	

COMMENTS

Feelings/opinions of villagers

Comments/suggestions by village committees

Comments/suggestions by District authorities

Comments/suggestions by monitoring staff

Comments/suggestions by central staff

Date:

Certified by Provincial Nam Saat

Conducted/collected by

