

ATTACHMENT-1

QUESTIONNAIRE FOR PUBLIC AWARENESS AND WATER USE SURVEY

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

**MINISTRY OF INDUSTRY, MINES AND ENERGY
THE ROYAL GOVERNMENT OF CAMBODIA**

**THE STUDY ON
WATER SUPPLY SYSTEM FOR
SIEM REAP REGION IN CAMBODIA**

(SOCIAL ANALYSIS / ENVIRONMENT COMPONENT)

**QUESTIONNAIRE
FOR
PUBLIC AWARENESS AND WATER USE SURVEY**

FEBRUARY, 1998

QUESTIONNAIRE

A. For general information about the locality (Village)

(To be filled by Team Leader)

1. District :
2. Village :
3. Population :

men	women
U-15 boys	U-15 girls
4. Avg. family size :
5. Total no of families :
6. Division by religion and ethnic identity :
7. Existing infrastructure :

Electricity	Road
School	Market
Telephone	Sewers
Temple	Club
Cooperative society	Water supply
Health center	Police box
8. Type of housing

Grouped	Scattered
---------	-----------
9. Housing construction material

Concrete	Wood	Others
----------	------	--------
10. No. of houses in the locality
11. Major work activity of the population

Agriculture	Commerce
Services	Crafting
Others	
12. Type of community project in which the residents participated or managed

Agricultural works
Construction of religious place
Construction of school

Construction / rehabilitation of road
Construction / rehabilitation of Water source
Others

13. Type of existing water supply facility

House connection	Shallow well
Public stand post	Deep well
Yard connection	Rainwater tank
	Surface water
	Others (specify)
14. Water quality at the source
15. Land use : (agricultural, residential, commercial, other)
16. Information on special local custom related to drinking and waste water
17. Information on migration
18. Does a managing body of water source exist at locality level? If yes, Describe
19. Birth rate
20. Infant mortality rate
21. Leading cause of mortality
22. Leading cause of morbidity

Health and hygiene education

23. From which grade it starts in the school?
24. How many hours per week?
25. Is there any form of education for non-school goers (dropped out, never attended children, elders)?
26. Except book, is there any other media for education like TV, radio, posters, drama etc.?

B. For household

I. General

1. -Location of the house:
-Zone:
-Road:
2. Family size
men women
U-15 boys U-15 girls
3. Head of the family male / female
4. If the household head a female, this is because of
Divorce Husband dead
Other
5. Land area (plot)
6. Building type
Concrete Wood
Thatch Others
7. Household facilities
Electricity Phone
Car/Motorcycle Cycle
TV Radio/Cassette
Refrigerator Fan-Air Conditioner
8. Economic activity (for all earning persons)
Agriculture (name of the main crops)/ Fisheries/ Poultry-dairy
Salaried Employee (type and position)
Business (type and scale)
Others (specify)

9. Degree of Education of all members of the family.

Family Members	Male/Female	Age	Education
Father			
Mother			
Son no. 1			

10. How many people in your family earn money?

11. What is the monthly average income of your family?

12. What was your expense in last month ?

13. Did you migrate recently?

If yes, when and from where?

II. Persons who used earlier piped water supply (before 1995)

1. What type of service

House

Yard

Purchase from vendor

Neighbor

Public stand post

Others

In case public stand post, how many families are sharing the tap?

2. Duration of flow

3. Hour of flow

4. Water quality

5. Did you use any disinfecting method before drinking?

Boiling	Alum
Chlorinating	Others (specify)
6. Other source of water
7. Average payment per month
8. Were you satisfied with the service

If no, why?

Poor management	Poor water quality
Less water available	High water tariff
Others	
9. If above problems are solved, will you be willing to pay more?

If no, give reasons

III. Present situation

1. Distance to the nearest water source

0 - 1/2 km	1/2 to 2 km
2 to 5 km	5 km or more
2. How long it takes per trip to collect water?

Immediately near	<30 min.
30 min. to 1 hr	1 to 2 hr
2 hr or more	
3. What time of day you collect the water?
4. Availability of water

All year

Seasonal

Other (specify)
5. Water quality at the source

Good	Acceptable
bad	Special characteristics

6. Do you use any disinfecting method before drinking?

Boiling

Alum

Chlorinating

Others (specify)

7. Estimated Quantity of Daily Water Use in the family (in Liters)

Water Source	Category					
	Drinking	Washing	Cooking	Cleaning	Bathing	Others
Rain						
Surface						
Tube Well						
Open Well						
Bottles						
Others						

8. Present cost for water

9. How much you are willing to pay for water supply service?

10. How many times a day you collect water?

11. Who collects the water?

12. By what means you collect the water?

13. Do you clean the hauling container regularly?

Please show.

14. How much the hauling container costs and how long you can use one container?

15. Where do you keep the collected water (storage facility)?

Please show.

Type

Volume

16. Do you get water from your source in dry season?

If no, what do you do?

17. If there is a new water supply facility near your place, are you willing to use that?

18. What type of water service you prefer?

Connection up to your kitchen and toilet inside the house

Only 1 point in the house

On the street

19. Which organization you prefer to have the water supply system?
- Private Organization
 - Government
 - Local Cooperative

IV. Social relation

1. Have you ever participated in a community work? If yes Describe
2. How do you want to participate in the future water supply project?
 - Financially (amount) Manually (working day)
 - Others (specify) No
3. Do the women members of the family do any economic activity? Yes No
4. What do you think about women's economic activity?
5. What is the most important family problem?
6. What is the most important village problem?
7. Profile of the work done by children and women? (in family)
 - Household Firewood
 - Agricultural Crafting
 - Others (specify)
8. Give the activity profile of children and women?
 - Daily Intermittent Seasonal
9. No. of children going to school
 - Primary Secondary
 - High University
10. Reason not to go to school
 - Poverty
 - Absence of the teacher in the school
 - Distance to school
 - Requirement as labor
 - Distance to water source
 - Lack of safety
 - Others (specify)

-----FOR WOMEN (Only those who work as house keeper)-----

11. Do you think that the water supply project impart some impact on you?
Yes No No Comments
12. How can you play a role in project implementation stage?
Money Contribution Labor
No participation Other
13. Do you think that the women are provided with equal and proper access to the schooling? Yes No
14. Did you receive any type of educational programs by any organization other than conventional school? Yes No
15. Are health and medical care services are equally available for women?
Yes No
16. Do you feel discrimination in work place or job seeking? Yes No
17. What are household works you usually perform?

V. Public awareness

1. Is there any exposure to hygiene education? Yes No
2. Did any of your family members suffered from any of the following disease in last 6 months?
If yes, specify, who, for how long, frequency
Malaria Typhoid
Cholera Dysentery
Skin diseases Eye diseases
Hepatitis Others
3. Do you know why these diseases have relations with water?
Yes No
4. What did you do in case of such diseases?
Go to Doctor Do nothing
Buy medicine of own choice Others

5. Sanitation system
- | | |
|-----------------|-------------|
| Open defecation | Pit |
| Water seal pit | Septic tank |
| Sewer line | Others |
6. Do you know open defecation can cause disease? Yes No
7. Why do you have a latrine?
- | | |
|------------------|------------------|
| Convenience | Privacy |
| Prevent Diseases | Others (specify) |
8. Refuse disposal system
- | | |
|--------------|--------|
| Throw in ... | Bins |
| Burning | Others |
9. Do you know why you should drink well or tap water?
- Prevent Disease
 - Richness
 - Good Taste
 - Cheap
10. Please rank the development works according to their importance
- | | |
|--------------|---------------|
| Water supply | Hospital |
| School | Police Office |
| Electricity | Road |
11. Perception on the impact of water supply facilities (mark as you fill appropriate)
- Change of household equipment and water facilities
 - Improvement of hygiene conditions
 - Increase of free time
 - Construction of parks
 - Decrease of hard work
 - Reduction rural exodus
 - Increase of livestock breeding
 - Increase of real estate value
 - Investment in agriculture and crafting
 - Increase of the attending rate of children, esp. girl students
 - Reduction in expenses for water

ATTACHMENT-2

SURVEY SUMMARY PUBLIC AWARENESS AND WATER USE SURVEY

Area Surveyed

The survey was held in the Siem Reap region in Cambodia.

Khum

Slar Kram

Svay Dangkum

Sangkat 2

Salakamroek

Siem Reap

Srange

Kork Chak

Traing

Phum

Slar Kram

Mondul 3

Kraing

AnKarak

Traing

Boeung Donpa

Choung Koesu

Banteay Chas

Dork Por

Salakanseng

Stoeng Thmei

Mondul 1

Mondul 2

Taphul

Vihear Chen

Krous

Takol

Mondul 1

Wat Bo

Wat Damnak

Wat Svay

Spean Thmei

Ta Vien

Vaddanak

Sala Kamroek

Korkragn

Por Banteaychey

Aranh

Spoan Chreav

Por Krom

Wat Svay

Thnal

Kasikam

Trapaing Ses

Slar Kram

Trases

Brief Summary

Household Survey

In Siem Reap 261 households were surveyed.

BI-General Particulars of Household

BI-2 Family Size

Total population	1,785 people
Male	46.67 %
Female	53.33 %
Male Under 15	18.60 %
Female Under 15	16.30 %
Average per Households	6.84 people

BI-3 Head of Households

Male	85.4 %
Female	14.6 %

BI-4 Households head a female, because

Husband dead	88.9 %
Divorced	5.6 %
Single	5.6 %

BI-5 Land area

Maximum	16,000 m ²
Minimum	6 m ²
Average	1,121.81 m ²

BI-6 Building type

Concrete	46.7 %
Wood	29.1 %
Thatch	24.2 %

BI-7 Households facilities

Electricity	79.3 %
Phone	8 %
Car	8.1 %
Motorcycle	79.3 %
Cycle	66.3 %
TV	3.8 %
Radio	25.3 %
Tape recorder	54.8 %
Refrigerator	10.7 %
Fan	41.4 %
Air-con.	5 %

BI-8 Economic activity

Agriculture	11.9 %
Fishery	4.2 %
Salaried Employee	39.1 %
Business	53.6 %

BI-9 Education

Literate	55.57 %
Illiterate	44.43 %
Female literate	50 %

BI-10 Number of person earning money in a family

Maximum	5 people
Minimum	1 people
Average	1.56 people

BI-11 Family Income per month

< 100 US\$ =	50 %
100-400 US\$ =	46.5 %
>400 US\$ =	3.5 %

BI-12 Family Expanse per month

Maximum	1,000 US\$
Minimum	8 US\$
Average	122.85 US\$

BI-13 Migrate recently

Migrate recently	1.5 %
------------------	-------

BII Person used piped water before 1995

BII-1 Type of Service

Service in house	2.3 %
------------------	-------

BII-2 Duration of Flow

Maximum	14 hr
Minimum	3 hr
Average	6.17

BII-3 Hour of flow

Start from	7 hr-11 hr
------------	------------

BII-4 Water quality

Good	2.3 %
Bad	97.7 %

BII-5 Disinfecting method before drinking

Boiling 2.3 %

BII-6 Other source of water

Yes 1.1 %
 No 98.9 %

BII-7 Average payment per month

Maximum 1 US\$
 Minimum 1 US\$
 Average 1 US\$

BII-8 Satisfied with the service

Yes 0.8 %
 Poor manage 1.1 %
 Poor water quality 98.1 %

BII-9 Willing to pay more

Yes 1.9 %

BIII Present situation

BIII-1 Distance to the nearest water source

0 - 1/2 km 99.6 %
 1/2-2 km 0 %
 2-5 km 0.4 %
 >5 km 0 %

BIII-2 How long it takes

Immediately near 99.2 %
 <30min. 0.4 %
 30-1hr. 0.4 %

BIII-3 Time of day for water collection

Morning 11.1 %
 Afternoon 0.8 %
 All time 43.7 %
 Not sure 44.4 %

BIII-4 Availability of Water

All year 95.8 %
 Seasonal 4.2 %

BIII-5 Water quality at the Source

Good 35.2 %
 Acceptable 64.4 %
 Bad 0.4 %

BIII-6 Use any disinfecting method before drinking

Boiling	89.7 %
Alum	0 %
Chlorinating	0 %
Others	10.3 %

BIII-7 Estimate Quantity of Daily Water use in the family

Maximum	6,000 lit
Minimum	30 lit
Average	1,249.26 lit

Category

Rain	0 %
Surface	1.5 %
Tube Well	78.5 %
Open Well	19.9 %
Bottles	0.1 %
Others	0 %

BIII-8 Present cost for water

Maximum	460 US\$
Minimum	1 US\$
Average	126.04 US\$

BIII-9 Willing to pay for water supply service

Agree	75.9 %
No	11.1 %
Not sure	13 %

BIII-10 Water collection times per day

One time	30 %
Two time	5.8 %
Three time	3.5 %
Not sure	52.3 %
All time	8.4 %

BIII-11 Who collect water

All member in family	71.6 %
Not sure	28.4 %

BIII-12 Means to collect water

Hand pump and motor pump	75.9 %
Bucket	23.4 %
Others	0.7 %

BIII-13 Clean the hauling container

Regular	99.2 %
Not clean	0.8 %

BIII-14 Container cost

Maximum	2,500 US\$
Minimum	1 US\$
Average	59.49 US\$

How long can use

Maximum	12 years
Minimum	1 year
Average	3.01 years

BIII-15 Type and volume of container

Type jar and tank

Volume

Maximum	2,000,000 lit
Minimum	20 lit
Average	9,661.60 lit

BIII16 Get water in dry season

Yes	89.7 %
No	10.3 %

BIII17 New water supply facility near place

Willing to use	78.5 %
No	21.5 %

BIII18 Type of water service prefer

Kitchen and toilet in house	72.4 %
Only 1 point in the house	11.1 %
On the street	0.8 %
Others	15.7 %

BIII-19 Organization prefer

Nothing

BIV-Social Relation

BIV-1 Participated in community activities

Yes	91.2 %
No	8.8 %

BIV-2 Want to participate in future water supply

Finance	73.9 %
Manually working day	13.4 %
No	12.7 %

BIV-3 Women member do an economic activity

Yes	54 %
No	46 %

BIV-4 Think about womens' economic activity

Yes	54.4 %
No	45.6 %

BIV-5 Most important family problem

Drinking water, living and electric

BIV-6 Most important village problem

Drinking water, living, school and electric

BIV-7 Profile of work done by children and women

Households	79.3 %
Firewood	0.4 %
Agricultural	1.9 %
Crafting	1.1 %
Others	17.3 %

BIV-8 Activity profile of children and women

Daily	72 %
Intermittent	2.3 %
Seasonal	0.8 %
No	24.9 %

BIV-9 Children going to school

Primary	270 children
Secondary	154 children
High	128 children
University	7 students

BIV-10 Reason not to go to school

Poverty	2.3 %
Distance to school	0.8 %
Requirement labor	5.4 %

BIV-11 Impact of water supply project

Yes	95 %
No	0.8 %

No comment 4.2 %

BIV-12 Play role in future project

Money contribution 75.9 %

Labor 11.9 %

No participate 12.2 %

BIV-13 Women provide equal proper access to education

Yes 83.5 %

No 16.5 %

BIV-14 Received any type of education other than school

Yes 13.4 %

No 86.6 %

BIV-15 Women equal on health and medical services

Yes 42.9 %

No 57.1 %

BIV-16 Feel discrimination in work place or job seeking

Yes 50.6 %

No 49.4 %

BIV-17 Household work usually perform

Cooking, selling

BV- Public awareness

BV-1 Any exposure to hygiene education

Yes 36.5 %

No 63.5 %

BV-2 Family suffered from disease

how long

Maximum 730 days

Minimum 1 day

Average 32.77 days

time

Maximum 8 times

Minimum 1 time

Average 2.10 times

type

Malaria	36.8 %
Typhoid	11.5 %
Cholera	0 %
Dysentery	9.6 %
Skin diseases	1.9 %
Eye diseases	0.8 %
Hepatitis	1.1 %
Others	38.3 %

BV-3 Know relation between diseases and water

Yes	28 %
No	43.3 %
Unknown	28.7 %

BV-4 Do in case of such diseases

Doctor	62.1 %
Own medical	63.6 %

BV-5 Sanitation system

Open defecation	5.4 %
Pit	21.8 %
Water seal pit	71.3 %
Septic tank	0.4 %
Sewer line	0 %
Other	1.1 %

BV-6 Know open defecation cause diseases

Yes	97.3 %
No	2.7 %

BV-7 Have latrine, because

Convenience	52.9 %
Privacy	0.8 %
Prevent diseases	19.5 %
Others	26.8 %

BV-8 Refuse disposal system

Throw in	3.8 %
Bins	25.3 %
Burning	69.3 %
Others	1.6 %

BV-9 Why should drink well or tap water

Prevent diseases	99.6 %
Richness	0.4 %
Good taste	0 %
Cheap	0 %

BV-10 Rank development work according their importance

Water supply	77 %
Hospital	5.4 %
School	6.1 %
Police office	0 %
Electricity	4.2 %
Road	7.3 %

BV-11 Perception on the impact of water supply

Change of household equip.	8.4 %
Improvement of hygiene	86.7 %
Increase of free time	1.1 %
Construction of parks	0 %
Decrease of hard work	3.8 %
Reduction rural exodus	0 %

BV-12 Use shoe or sandal

Yes	98.9 %
No	1.1 %

BV-13 Know wearing shoes prevent diseases

Yes	95.4 %
No	4.6 %

BV-14 Wash hand after toilet

Water and soap	65.5 %
Ash and water	0.4 %
Water and soil	0 %
Only water	28.7 %
Nothing	5.4 %

BV-15 Often clean toilet

Yes	71.6 %
No	28.4 %

BV-16 Cut nail regularly

Yes	92.3 %
No	7.7 %

BV-17 Should cut your nail, because

Look good	0 %
Prevent scratch	0 %
Prevent disease	98.1 %
Unknown	1.9 %

Non household survey

In Siem Reap Zone 40 hotel, restaurant, shop, state department, school... were surveyed.

CI-3

Total Employee	4,448
----------------	-------

CI-4

Number room	624
Number table	166
Tank	7

CI-5 Seasonal occupancy

High	81.18 %
Low	32.35 %
Average	56.89 %

CI-6 Type of structure

Concrete	75 %
Wood	25 %

CI-7

Electricity	95 %
Refrigerator	62.5 %
Car	47.5 %
Fan	62.5 %
Air-con.	42.5 %
Phone	50 %

CI-8**No. of wells**

Maximum	7
Minimum	1
Average	1.49

Depth (m)

Maximum	60
Minimum	12
Average	33.08

Dial (mm)

Maximum	1,000
Minimum	35
Average	89.29

CI-9 Use of water

Drink	60 % (hotel and restaurant use pure drinking water)
Washing	87.5 %
Cleaning	97.5 %
Bathing	82.5 %
Cooking	80 %
Watering	85 %

CI-10 Swimming pool

Yes	7.5 %
No	92.5 %

CI-11 Water use/day

Maximum	90,000 lit
Minimum	2 lit
Average	5,607.74 lit

CI-12 Water use/room

Maximum	1,000 lit
Minimum	0 lit
Aver.	225.35 lit

CI-13**Pump Description**

Motor pump and hand pump	87.5 %
No	12.5 %

Capacity (lit/hr)

Maximum	221,000 lit/hr
Minimum	1,000 lit/hr
Average	10,560.61 lit/hr

Type

Electricity	87.5 %
Fuel	33.54 %

CI-14 Water Quantity

Enough	95 %
Not enough	5 %

CI-15 Water Quality

Good	82.5 %
Bad	17.5 %

CI-16 Pump operation (hr)

Maximum	11 hr
Minimum	1 hr
Average	2 hr

CI-17 Capacity of Reservoir (L)

Maximum	32,000 lit
Minimum	50 lit
Average	4,228.61 lit

CI-18 Any treatment

Treatment	10 %
No treatment	90 %

CI-20 Present Cost of Water

Maximum	1,005 US\$
Average	163.13 US\$