D24.1 Operation and Maintenance Regulations and Procedure for Hatsady Tai, Laos

PART 1: ENVIRONMENTAL SANITATION O&M REGULATION

Ban Hatsady Tai, Vientiane, Lao PDR

Environmental Sanitation O&M Regulation for Ban Hatsady Tai

"ESS-O&M Regulation"

1. Background

1.1. The environmental sanitation services (ESS) in Hatsady Tai were improved in the framework of a research and development project financed by the NCCR North-South programme, and implemented under the supervision of the Public Works and Transportation Institute (PTI).

1.2. Interventions included (a) construction of a stormwater drainage network, (b) construction of two sewer systems with two semi-centralised wastewater treatment systems (septic tanks), (c) improvement of household infrastructure such as cesspits, household drains and household connections to the sewer line, (d) improved solid waste management system.

2. Purpose of this regulation

2.1. This regulation defines all operation and maintenance (O&M) measures required to ensure long-term sustainability of the improved ESS in Hatsady Tai.

2.2. The regulation defines the institutional arrangement, financing mechanisms, monitoring and reporting procedures required to ensure well-functioning O&M of the ESS.

2.3. The regulation defines the responsibilities of all parties concerned, including residents of Hatsady Tai, the village authorities (Naiban), the Village Environmental Unit (VEU) and the Operation and Maintenance Unit (OMU).

3. Institutional arrangement

3.1. The main body overseeing and coordinating activities related to the O&M of ESS is the Village Environmental Unit (VEU).

3.2. VEU members are selected and appointed by the local authorities, the mass organizations and the head of the neighborhoods.

3.3. 50% or more of the members are women. The VEU reports directly to the Naiban (head of the village).

4. Organisational structure, role of the VEU

4.1. The VEU consists of 10–13 members, organized in 5 groups:

- A president (with assistant)
- A financial team (2 people)
- A technical team (O&M unit, 3 people)
- An advisory team (regrouping the mass organisations including Liberation Party, Lao Women Union, Lao Youth Organisation, Elderly Union, 3-4 people)
- A unit regrouping representatives of the village "units" (neighborhood representatives, 3 people)

4.2. The main role of the VEU is to define and implement O&M procedures, to collect environmental sanitation service taxes (ESST), to manage the environmental sanitation fund (ESSF), to supervise the O&M unit, and to report activities and expenses to the Naiban.

4.3. The VEU also acts as negotiator and facilitator between residents and private service providers. The VEU represents the interests of the village authorities and its residents regarding O&M of the ESS.

4.4. The duties of the different sub-groups of the VEU are presented in sections 5 to 9.

5. Duties of the president

5.1. Organise and chair VEU meetings on a regular basis (at least every 3 months)

5.2. Write annual O&M reports, keep annual reports and minutes of VEU meetings ("archive")

5.3. Approve O&M procedures for ESS, approve working plans and annual O&M budgets (together with Naiban)

5.4. Control the financial statement submitted by the financial team

5.5. Support O&M unit in developing O&M procedures for ESS

5.6. Inspect household infrastructure (together with neighborhood representatives and O&M unit)

5.7. Approve inventory of O&M equipment submitted by O&M unit

5.8. Contact and contract professional service providers for periodic and urgent maintenance work

6. Duties of the financial group

6.1. Manage the ESS fund (with state-of-the-art book keeping system)

6.2. Collect the monthly ESS fees, pay allowances to members of the VEU

6.3. Develop annual budgets for O&M, write annual financial report, submit to president of VEU

6.4. Develop yearly inventory of the O&M equipment and develop replacement plan (together with O&M unit)

7. Duties of the technical team (O&M unit)

7.1. Develop O&M procedures for drainage, sewer system, onsite sanitation (with the support of the president and PTI)

7.2. Develop annual plans for preventive maintenance and monitoring (with the support of the president and PTI)

7.3. Implement O&M plans following O&M procedures approved by VEU and Naiban

7.4. Inspect household infrastructure, suggest required improvements to households, report to VEU

7.5. Support professional service providers in conducting periodic maintenance (community septic tank emptying, sewer flushing)

7.6. Conduct urgent maintenance (urgent repairs), with the support of professional service providers if required

7.7. Responsible for storehouse with O&M equipment (control access, keep clean).

8. Duties of the advisory team

8.1. Suggest potential members for the VEU to the Naiban and the president of the VEU

8.2. Organise community mobilisation

8.3. Respond to users' complaints

9. Duties of the neighborhood representatives

9.1. Suggest potential members for the VEU to the Naiban and the president of the VEU

9.2. Organise community mobilisation

9.3. Support the O&M unit in inspecting household infrastructure

10. Duties of the Naiban

10.1. Supervise the activities of the VEU

10.2. Approve O&M procedures, annual work plans and budgets, annual reports

10.3. Supervise the definition of the level of the monthly ESS fee

10.4. Deal with bad payers (information, education, sanction)

10.5. Report activities related to ESS to Mayor's office and PTI

11. Duties of the residents (service beneficiaries)

11.1. Maintenance of a clean living environment

11.2. Safe and appropriate disposal of household waste products (solid and liquid)

11.3. Ensure correct connection to the village infrastructure

11.4. Avoid damages and illicit discharge of untreated waste into the village infrastructure

11.5. Pay a monthly Environmental Sanitation Service Fee (ESSF) to the VEU

12. Duties of PTI (Public Works and Transport Institute)

12.1. In the first 3 years after project completion (2009-2011), PTI shall support the Naiban and the VEU in implementing the O&M plans, including:

12.2. Develop O&M plans and procedures for the ESS

12.3. Provide training for VEU in O&M aspects of ESS

12.4. Advise VEU based on requests for assistance

13. Classification of O&M activities

13.1. O&M activities are divided in three (3) categories: Routine inspection and maintenance, periodic maintenance, and urgent maintenance.

13.2. *Routine inspection and maintenance*: Activities undertaken on a regular basis (at least 4 times per year and before start of wet season). Routine inspection and maintenance procedures are defined in the different O&M procedures (see section 18).

13.3. *Periodic maintenance*: Activities which usually have a periodicity exceeding one year. These activities are usually costly and require skilled labor. Periodic maintenance activities include e.g. desludging of collection and treatment systems (septic tanks, cesspits), replacement of damaged infrastructure components and O&M materials, etc. The VEU (i.e. the president) is responsible for planning and budgeting periodic maintenance, and contracting skilled labor to conduct these activities. The Naiban supports the president of the VEU in identifying suitable service providers. The O&M unit supports the contracted service providers whenever possible.

13.4. *Urgent maintenance*: Activities required in order to remedy severe damages, such as broken sewer pipes, blocked drainage channels, floods, illicit solid waste dumping etc. Required urgent maintenance activities are identified by the O&M unit, suggested to the VEU, which is responsible for the approval of these activities. Based on the required skills, VEU shall mandate the O&M unit or contract a skilled operator to conduct the approved activities.

14. Financial management

14.1. Costs related to the operation and maintenance of the environmental sanitation system shall be covered by the beneficiaries of the services. For that purpose, an environmental sanitation service fund (ESSF) is established, stored in a bank account of a nearby Bank.

14.2. The ESSF is managed by the Financial Team of the VEU, which is in charge of the accounts.

14.3. Financial statements must be approved by the president of the VEU and the Naiban every year. The financial statement of the ESSF shall be presented to the residents of Hatsady Tai on a yearly basis.

14.4. The ESSF shall be used solely for expenses related to the O&M of environmental sanitation services in Hatsady Tai. This includes expenses related to routine, periodic and urgent maintenance of the stormwater drainage system, the sewer system, the community wastewater treatment systems, and the solid waste management system.

14.5. The ESSF may not cover expenses related to maintenance of household infrastructure.

14.6. Residents of Hatsady Tai are asked to pay a monthly environmental sanitation service fee. The fee shall be calculated based on the expected O&M expenses including amortization of the ES infrastructure, and take into account the capacity to pay of the residents.

14.7. The fee must be reassessed on a yearly basis by the VEU and the Naiban.

14.8. The fee that households have to pay depends on the service provided. Only residents profiting from a specific ESS can be charged.

14.9. The fees are collected by the financial team of the VEU. The financial team shall keep book of fee income.

15. Reporting

15.1. O&M activities must be reported on a regular basis to the Naiban and the community of Hatsady Tai. The reporting procedure is defined as follows:

15.2. The O&M unit submits inspection and maintenance reports to the VEU after every inspection, at least every three months. Inspection reports are developed based on a pre-defined template. These inspection reports are approved by the president of the VEU.

15.3. The president of the VEU submits an annual O&M report to the Naiban (and to PTI until 2011). The annual report is developed based on a pre-defined template. The report is presented to the residents of Hatsady Tai on an annual basis by the president of the VEU or the Naiban. The report is submitted to the Mayor's office for acknowledgement.

15.4. Annual reports and inspection reports are archived at the Naiban's office for a period of 5 years. Residents of Hatsady Tai are given access to these reports.

16. Complains, Sanctions

16.1. Complains related to the O&M of the ESS can be submitted orally or in written form to the Naiban or any member of the VEU.

16.2. The VEU has the duty to analyse complains and to reply to the complainer.

16.3. Any individual or institution that does not follow this regulation must be warned and sanctioned in case of non-compliance.

16.4. The president of the VEU, with support of the Naiban, the neighborhood representatives and the advisory group, is responsible to deal with irregularities. The guilty party must first be warned, informed, and given the chance to correct irregularities.

16.5. Sanctions might be imposed in case of repeated punishable act. The level of sanctions is defined by the Naiban, in consultation with the Mayor's office.

17. Operation and maintenance equipment

17.1. The VEU shall install and maintain a storehouse with basic equipment required for the O&M of the ESS.

17.2. The VEU shall establish an inventory of O&M equipment, and update this inventory on an annual basis.

17.3. The VEU is in charge of replacing damaged O&M equipment. Replacement shall be financed through the Environmental Sanitation Service Fund (ESSF).

17.4. The O&M unit has the right to access and use the O&M equipment.

17.5. The O&M unit shall report damaged equipment and required replacements to the president of the VEU.

17.6. The following minimum inventory shall be guaranteed: 1 hand barrow, 2 shovels, 1 spade, 1 hoe, 1 rake, 1 crowbar, 3 plastic buckets, 3 sets of protective clothing (boots, gloves, trousers, shirts, hats).

18. Operation and maintenance (O&M) procedures

18.1. The VEU develops O&M procedures for all components of the improved environmental sanitation services, including solid waste, wastewater collection and treatment, onsite sanitation, and stormwater drainage. The procedures define inspection, routine maintenance, as well as periodic and urgent maintenance procedures.

18.2. These O&M procedures must be presented to and approved by the Naiban, the president of the VEU, (and PTI until 2011).

18.3. 4 different O&M procedures are defined: Stormwater drainage operation and maintenance procedure; O&M procedure for sewer system and semi-centralised wastewater treatment; O&M procedure for solid waste management; and O&M procedure for onsite sanitation facilities

19. Effective date and modification

19.1. This regulation is effective upon the date of signature by a representative of the Mayor's office, the Naiban of Hatsady Tai, and the president of the VEU as stated below.

19.2. This regulation shall not be modified except by written instrument executed by the Naiban, the VEU and a representative of the Mayor's office at the time of modification. Such modifications shall be effective upon the date of execution and shall be recorded.

PRESIDENT OF THE VILLAGE ENVIRONMENTAL UNIT (VEU)

By: _____ Date: _____

Printed Name of Signer

HEAD OF HATSADY TAI (NAIBAN)

By: _____ Date: _____

Printed Name of Signer

MEMBER OF MAYOR'S OFFICE

By: _____ Date: _____

Printed Name of Signer

ENVIRONMENTAL SANITATION SERVICES (ESS) OPERATION & MAINTENANCE PROCEDURE

Hatsady Tai, Vientiane, Lao PDR

Purpose

This Maintenance Procedure defines the tasks, the frequency and the responsibilities related to the inspection and maintenance of the environmental sanitation services implemented in Ban Hatsady Tai in the framework of the NCCR-N-S funded environmental sanitation project.

The Maintenance Procedure is divided in 4 sections:

Section A: Description of the ESS components

Section B: Overview of inspection and maintenance tasks

Section C: Checklist for inspection of ESS components

Section D: Work plan for regular maintenance of ESS components

Section A: Description of the ESS and its components

The environmental sanitation system consists of a liquid waste management system (toilet wastewater and greywater), a stormwater management system (drainage), and a solid waste management system. O&M of the solid waste management system is defined elsewhere and not further discussed here.

Liquid waste management system (blackwater, greywater)
The liquid waste management system has three main components: (a) collection and pre-treatment system on household level via pour-flush latrines with cesspits or small septic tanks where blackwater (and partly greywater) is being collected; (b) two independent small-bore shallow-depth sewer systems connecting the household systems to the (c) community septic tanks, which treat collected wastewater before it is discharged to the drainage system.

Main operational problems that may occur include:
- Wrong or illicit connection of household sanitation facilities to sewer or drainage network
- Sludge overflow from household sanitation facilities (requires sludge emptying)
- Blockages in the sewer network caused by debris or sediments in pipes or control chambers.

- Physical damages (e.g. cause by excessive traffic loads)
- Decreased efficiency of community treatment system causing pollution and odor nuisance (desludging required)
- Odor nuisance (sealing required)

Main operational tasks:
- Regular inspection of household facilities, sewer system, community treatment systems (i.e. physical integrity, adequate connection to higher level infrastructure, sludge accumulation)
- Cleaning of control and connection chambers (removal of debris and sediments)
- Flushing of sewer system
- Desludging of private and community wastewater treatment systems
- Rehabilitation of physical integrity of system

Drainage system

The drainage system is designed to evacuate stormwater as quick as possible outside the village through a network of closed and opened rectangular channels. The drainage network also transports effluent from community septic tanks and household greywater to the higher-level drainage network, managed by the city authorities.

Main operational problems that may occur include:
- Wrong or illicit connection of household sanitation facilities to drainage network
- Physical damages (e.g. cause by excessive traffic loads)
- Blockages caused by trash and debris or excessive sediments.

Main operational tasks:
- Regular inspection of drainage network (i.e. physical integrity, adequate connection to higher level infrastructure, sediment accumulation)
- Cleaning of drainage network, control and connection chambers (removal of debris and sediments)
- Rehabilitation of physical integrity of system

Section B: Overview inspection and maintenance tasks

No.	Task	Responsible	Frequency of Task
1	<u>Routine Inspection</u>: Inspect ESS following "Routine inspection checklist" (Section C) Write inspection report using the "Routine inspection checklist" (Section C) and submit to VEU for approval.	 O&M unit O&M unit	 Bi-monthly Bi-monthly
2	<u>Routine maintenance:</u> Conduct routine maintenance following procedure defined in Section D Fill out report using template defined in Section D, submit to VEU.	 O&M unit O&M unit	Two times per year (before and after rainy season) and as necessary
3	<u>Periodic maintenance:</u> Empty community septic tanks Empty household cesspits Empty household septic tanks Flush sewer system	 contracted service provider	As necessary, at least every 3 years.
4	<u>Urgent maintenance:</u> Repair damaged drainage network, replace damaged covers, rehabilitate road surface and drainage inlet, etc. Report urgent maintenance activities to VEU.	 O&M unit, contracted professionals	 As necessary

SECTION C:

ESS Inspection Report

HATSADY TAI ENVIRONMENTAL SANITATION SYSTEM

General Information	
Date of Inspection	
Inspector's Name(s)	
Inspector's Contact Information	
Type of Inspection: ❑ Regular ❑ Pre-wet season ❑ During storm event ❑ After storm event ❑ End of wet season ❑ Other:	
Weather Information	
Weather at time of this inspection ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Other:_____ **Temperature:** _____	

Evaluation of Drainage network		
Are trash and debris accumulated in the drainage network? (Trash and debris should not disturb the water flow)	**❑No**	**❑Yes →Removal of trash and debris required!** **Description (problem, location, intervention required)?** _____ _____ _____ _____ _____ _____
Is there excessive accumulation of sediments in the drainage network? (Sediment layer should not be higher than 3cm)	**❑No**	**❑Yes →Removal of sediments required!** **Description (problem, location, intervention required)?** _____ _____ _____ _____ _____ _____
Is there evidence of physical damage along the drainage network (breakings, collapse of cover, etc.)?	**❑No**	**❑Yes →Urgent repairs required!** **Description (problem, location, intervention required)?** _____ _____ _____ _____ _____ _____
Are there illicit connections to the drainage system? (the system should only receive treated toilet wastewater, greywater and stormwater runoff)	**❑No**	**❑Yes →Intervention required!** **Description (problem, location, intervention required)?** _____ _____ _____ _____ _____ _____

Is excessive road erosion visible? Have channels formed around inlets? (roads should show no signs of excessive erosion such as water channels)	❑**No**	❑**Yes →Intervention required!** **Description (problem, location, intervention required)?** _____ _____ _____ _____ _____ _____
Is water ponding on the road? (there should be no water ponding on the road 2 hours after rainfall)	❑**No**	❑**Yes →Intervention required!** **Description (problem, location, intervention required)?** _____ _____ _____ _____ _____ _____
Sewer system		
Is wastewater leaking out of the sewer system? (the sewer system must be water tight)	❑**No**	❑**Yes →Urgent repairs required!** **Description (problem, location, intervention required)?** _____ _____ _____ _____ _____ _____
Are there illicit connections to the sewer system? (the system should only receive toilet wastewater and greywater, not stormwater runoff)	❑**No**	❑**Yes →Intervention required!** **Description (problem, location, intervention required)?** _____ _____ _____ _____ _____ _____
Is there evidence of physical damage along the sewer network (breakings, collapse of pipes, control chambers , etc.)?	❑**No**	❑**Yes →Urgent repairs required!** **Description (problem, location, intervention required)?** _____ _____ _____ _____ _____ _____
Is there excessive accumulation of debris, sediments and sludge in the control and connection chambers?	❑**No**	❑**Yes →Cleaning of control and connection chambers required!** **Description (problem, location, intervention required)?** _____ _____ _____ _____ _____ _____

Community septic tank 1		
Physical integrity: Are there signs of physical damages to the ST (collapse, broken cover, leaking water etc.)?	❑**No**	❑**Yes →Urgent repairs required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Is wastewater inflow and outflow disturbed?	❑**No**	❑**Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Is wastewater ponding around the septic tank?	❑**No**	❑**Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Are there excessive odor problems?	❑**No**	❑**Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Is there excessive plant growth around the system? (the system's surroundings must be kept clean and free of vegetation to secure accessibility)	❑**No**	❑**Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____

Community septic tank 2		
Physical integrity: Are there signs of physical damages to the ST (collapse, broken cover, leaking water etc.)?	❑**No**	❑**Yes →Urgent repairs required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Is wastewater inflow and outflow disturbed?	❑**No**	❑**Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Is wastewater ponding around the septic tank?	❑**No**	❑**Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Are there excessive odor problems?	❑**No**	❑**Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Is there excessive plant growth around the system? (the system's surroundings must be kept clean and free of vegetation to secure accessibility)	❑**No**	❑**Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Community septic tank 3		
Physical integrity: Are there signs of physical damages to the ST (collapse, broken cover, leaking water etc.)?	❑**No**	❑**Yes →Urgent repairs required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____

Is wastewater inflow and outflow disturbed?	**❑No**	**❑Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Is wastewater ponding around the septic tank?	**❑No**	**❑Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Are there excessive odor problems?	**❑No**	**❑Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____
Is there excessive plant growth around the system? (the system's surroundings must be kept clean and free of vegetation to secure accessibility)	**❑No**	**❑Yes →Intervention required!** **Description (problem, intervention required)?** _____ _____ _____ _____ _____ _____

Household sanitation infrastructure		
Are there signs that households do not manage waste (wastewater and solid waste) properly? Examples of wrong management practices: – discharge of wastewater onto ground – solid waste dumping or burning – connection of cesspit to drainage network	❑**No**	❑**Yes →Intervention required!** **Description (households, problem, intervention required)?**
Are there signs of physical damage to sanitation infrastructure on household level?	❑**No**	❑**Yes →Intervention required!** **Description (household, problem, intervention required)?**
Are cesspits or septic tanks visibly full and need to be desludged?	❑**No**	❑**Yes →Desludging of household sanitation facilities required!** **Description (household, problem, intervention required):**

Do households express specific complains related to ESS?	**❑No**	**❑Yes →List complains (household, complains!** _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Solid waste management		
Are there illicit solid waste dumping sites?	**❑No**	**❑Yes →Urgent maintenance required!** ❑ ❑ Other: _____ _____ _____
Are there solid waste burning sites?	**❑No**	**❑Yes →Urgent maintenance required!** ❑ ❑ Other: _____ _____ _____
Any other issues related to SWM?	**❑No**	**❑Yes →Maintenance required!** ❑ ❑ Other: _____ _____ _____

CERTIFICATION STATEMENT

"I certify that this document was prepared under my direction or supervision. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

Print name and title:

_____

Signature:_____

Date:_____

SECTION D:

ESS Routine Maintenance Report

HATSADY TAI ENVIRONMENTAL SANITATION SYSTEM

General Information	
Period of Maintenance	
Name of VEU members involved	
Type of Maintenance: ❑ **Routine** (❑ Periodic ❑ Urgent)	

Approved Procedure for Routine Maintenance

1. *Routine maintenance of the environmental sanitation services (ESS) is conducted twice a year by the O&M team of the Village Environmental Unit (VEU).*
2. *The O&M team follows the routine maintenance plan defined below (column 1) and reports their activities and observations in column 3.*
3. *The completed report is signed by the O&M team and submitted to the President of the VEU for approval.*

Activities carried out are listed below.

Drainage system		
What to do:	*Done?*	*Comments/observations*
Remove accumulated sediments, litter and debris from drainage channels, dispose of properly.	□ Yes □ No	Amount of sediments/litter removed: _____ How and where disposed of: _____ _____ Other comments: _____ _____ _____ _____ _____ _____ _____
Clean manholes and control chambers, dispose of sediments, and debris properly.	□ Yes □ No	Amount of sediments/litter removed: _____ How and where disposed of: _____ _____ Other comments: _____ _____ _____ _____ _____ _____ _____
Clean surroundings of drainage network (i.e. remove excessive plant growth)	□ Yes □ No	_____ _____ _____ _____

Repair small physical damages	□ Yes □ No	
Rehabilitate eroded or damaged road surface.	□ Yes □ No	
Any other maintenance activities related to drainage system?	□ Yes □ No	
Sewer and community septic tanks		
What to do:	*Done?*	*Comments/observations*
Clean manholes and control chambers of sewer system, dispose of sediments, litter and debris properly.	□ Yes □ No	Amount of sediments/litter removed: _____ How and where disposed of: _____ Other comments: _____
Clean inflow chamber to wastewater treatment system, dispose of material properly	□ Yes □ No	
Control sludge and scum layers, organize emptying if necessary (to be emptied by professional service provider!)	□ Yes □ No	Sludge layer depth ST1: _____cm Scum layer depth ST1: _____cm Sludge layer depth ST2: _____cm Scum layer depth ST2: _____cm Sludge emptying required? ST1: □ Yes □ No ST2: □ Yes □ No Sludge to be emptied by: _____ _____(company)

		Other comments/observations:
Clean surroundings of sewer network and community wastewater treatment systems (i.e. remove excessive plant growth, guarantee access to the treatment systems)	□ Yes □ No	
Repair small physical damages	□ Yes □ No	
Solid waste management (WREA!)		
What to do:	*Done?*	*Comments/observations*
Household sanitation infrastructure		
What to do:	*Done?*	*Comments/observations*
Check and protocol sludge accumulation in cesspits, organize emptying if necessary (professional service provider!)	□ Yes □ No	
Check connections to sewer system and drainage network	□ Yes □ No	
Miscellaneous		
What to do:	*Done?*	*Comments/observations*
Clean storehouse and equipment	□ Yes □ No	
Update inventory of O&M equipment	□ Yes □ No	

CERTIFICATION STATEMENT

"I certify that this document was prepared under my direction or supervision. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

Print name and title:
_____

Signature:_____
Date:_____