



Project no. 037099

## NETSSAF

### - Network for the development of Sustainable approaches for large Scale Implementation of Sanitation in Africa-

Instrument: Coordination Action

Thematic Priority: Global Change and Ecosystems

### D44: Identification and mapping of possible regional suppliers of technological requirements

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TTZ

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Dissemination Level		
<b>PU</b>	Public	x
<b>PP</b>	Restricted to other programme participants (including the Commission Services)	
<b>RE</b>	Restricted to a group specified by the consortium (including the Commission Services)	
<b>CO</b>	Confidential, only for members of the consortium (including the Commission Services)	

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## 1. INTRODUCTION

In line with the agenda of NETSSAF, which aims to “coordinate and integrate the current scientific research, technological innovation and execution activities, creating synergies to support large-scale implementation of sustainable sanitation systems in peri-urban and rural areas, in order to propose feasible solutions for the achievement of the Sanitation Millennium Development Goals in Africa”, several activities were carried out under the WP5.

Task 5.1 of the NETSSAF project plans to identify the companies involved in the design, planning, manufacturing, sales, supply, implementation, maintenance, monitoring, evaluation and quality control of the technical aspects of sanitation systems within the West Africa region in specific as well as the rest of the world in general.

The identification of these companies offering services related to the technical aspects of sanitation is aimed at creating an online database of these companies which will be made available to users both in West Africa as well as in other regions. This is to support the other activities being carried out under the NETSSAF agenda, as it is not just enough to create an awareness to sustainable sanitation to sanitation planners, or even to recommend the implementation and adoption of sustainable sanitation systems if these planners of sanitation are not provided a readily available platform where they can easily gain access to the producers and suppliers of the technical components and materials, needed for the implementation of sustainable sanitation.

## 2. DESCRIPTION OF THE QUESTIONNAIRE

In order to have precise and up-to-date information with regards to “which company offers what”, the use of questionnaires was implemented. These questionnaires contained questions related to details about the company and the activities being carried out.

The questionnaire was divided into two sections, with the first section (Section One) dealing with general information about the company such as;

- Company name
- Location
- Company orientation and size of business
- Years of experience
- Region with experience in
- and Selected countries where they offer services to

Section two of the questionnaire contained more specific questions related to the types of sanitation services being offered by the company in the form of services related to “system as a whole” or services related to “individual components of sanitation”.

The “system as a whole” is understood as a configuration of technological components used in the management of waste flowstreams at the different spatial levels with their various management, operation and maintenance conditions. Under this description, option related to various aspects that makes up a sanitation system is listed. They include;

- Implementation of projects
- Design, Planning & Consulting
- Monitoring and evaluating
- Quality control & Stabilisation
- Upgrade of existing systems

The companies filling in the questionnaires are expected to select which service or services is relevant to their activities and proceed to the portion indicated for more questions to be filled in.

Under the part B of section two which addresses the individual technical components of sanitation, companies are expected to select which components they are involved with and what activity they are in to, with regards to manufacturing, sales & services, designing & planning, implementation as well as operation & management. The individual components are listed under categories which include;

- User Interface
- On-site Collection, Storage & Treatment
- Transport
- Treatment off site
- Reuse

Further elaboration is made to fully identify which specific technical component the company deals in.

### 3. METHODOLOGY

To ensure the proper mapping of companies offering these technical aspects of sanitation services in West Africa as well as in other regions, members of the consortium were each assigned countries where they were to carry out the mapping. This will be both help to ensure a wider mapping area as well as to avoid repetition. Tables 1 and 2 show the division of the countries among the members of the consortium.

**Table 1.** Table of West African partners the countries assigned to them

PARTNER NAME	COUNTRIES
CREPA	Togo, Guinea Bissau, Equatorial Guinea, Mauritania
BOATA	Niger and Mali
UAA	Cote d'Ivoire and Sierra Leone

MATAM	Senegal, The Gambia, Cape Verde
Ville de SYA	Benin and Burkina Faso
KNUST	Ghana, Liberia and Nigeria

**Table 2.** Table of European partners the countries assigned to them

<b>PARTNERS</b>	<b>COUNTRIES</b>
TTZ	USA, Canada, China and Japan
TUHH	France and Switzerland
BioAzul	Latin America, Spain and Portugal
ULeeds	United Kingdom and The Netherlands
GTZ	Germany
TUT	Nordic countries

This method of carrying – out this mapping activity by the NETSSAF partners involves the printing out of the questionnaire by the partners, who will then collect the information by interviewing the companies offering related sanitation services. In the absence of a direct interview, information is expected to be gathered through the use of the internet, making phone calls, or screening in the local yellow pages.

Once the mapping has been successfully carried out, partners will be expected to fill in the results obtained into an online questionnaire form that will make up the major structure of the online database of sanitation providers in West Africa and other regions, which is being constructed under the WP5 of the NETSSAF project.

This online database will thus serve as a readily available source of information to planners of sanitation and interested individuals, with regards to the companies offering technical services to and within the West African region.

#### 4. RESULTS

Members of the consortium are still involved in the carrying – out of these mapping activities, but reports have so far been positive as sanitation related companies are eager to be include in the online database due to the wide range of accessibility being offered by the prospects of the database as well as due to the fact that they are not being charged for this. Reports so far have mapped out various companies from West Africa, Africa in general, Europe, Asia and Latin America. These results are provided in tables 3 and 4 below.

**Table 3:** Companies dealing in the technical aspects of sanitation in West Africa

COUNTRY	IDENTIFIED COMPANIES
Benin	1
Burkina Faso	20
Cote d' Ivoire	86
Ghana	4
Guinea Bissau	1
Mali	-
Niger	7
Sierra Leone	-

**Table 4:** Companies dealing in the technical aspects of sanitation in other parts of the world

COUNTRY	IDENTIFIED COMPANIES
South Africa	4
Ethiopia	1
Egypt	-
Germany	10
Spain	3
Portugal	-
Sweden	9
Finland	4
Netherlands	-
India	4
Mexico	5
Brazil	1
Venezuela	-

These already mapped out companies as well others to be consequently mapped will be inserted by the members of the consortium into the online database which is currently in its finishing state.

A copy of the questionnaire used in mapping out the companies involved in the non – technical aspects of sanitation is provided in the Appendix.



## 5. APPENDIX

### NETSSAF - Network for the development of Sustainable approaches for large Scale Implementation of Sanitation in Africa –

#### WP5 – Regional Identification of possible suppliers-

##### Task 5.1

#### QUESTIONNAIRE FOR THE MAPPING OF COMPANIES INVOLVED IN THE TECHNICAL ASPECTS OF SANITATION IN WEST AFRICA AND THE WORLD

This questionnaire is aimed at identifying the companies involved in the design, planning, manufacturing, sales, supply, implementation, maintenance, monitoring, evaluation and quality control of the technical aspects of sanitation systems within the West Africa region.

The questionnaire is divided into two sections. Section one address issues related to the company, in terms of the name, location, size of business, amongst others. Section two deals with the business activities of the company, in relation to sanitation systems as a whole and the individual components of a sanitation system.

This questionnaire is to be printed by the partners, who will collect the information by interviewing the companies offering related sanitation services. In absence of direct interview, information can be gathered by searching in the internet, phoning or screening in the yellow pages. Please ensure only confirmed information is used. The answers will be written in the paper version of the questionnaire. After that, each partner will insert the information manually into the online questionnaire, which will be available in November 2007 at [www.netssaf.net](http://www.netssaf.net).

#### **SECTION ONE**

**(A)** Under this section, each company is expected to fill in the information such as the name of company, address, telephone, contact person, e.t.c.

**(B)** Each company is expected to select the option/ options applicable to it in terms of the business size, orientation, experience and location of services amongst others.

#### **SECTION TWO**

##### **(A) Systems as a whole**

This part aims to collect information regarding the service offered by the company, from the point of view of the sanitation system as a whole.

*A sanitation system is understood as a configuration of technological components used in the management of waste flowstreams at the different spatial levels with their various management, operation and maintenance conditions. It can also be said to be a system that considers all components of adequate management of human waste.*

Under this section, companies involved in such sanitation systems are to select which option/ options best suit their activities and proceed to the related table/ tables for further information

### (B) Individual components

This addresses the type of services that the company offers regarding the individual components that make up the sanitation systems. These components include; toilets, pipes, septic tanks, wetlands, amongst others. Companies involved in these services are expected to select which option best suites their services and proceed to relevant tables, for further information.

## SECTION ONE

### (A)

Name of company: \_\_\_\_\_ Acronym: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ Country: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Web page: \_\_\_\_\_ e-mail: \_\_\_\_\_

Contact person: \_\_\_\_\_

Company profile: \_\_\_\_\_

\_\_\_\_\_ Log

o: \_\_\_\_\_

### (B)

#### 1. Size of business

- Large  
 Medium  
 Small

Others

.....

#### 2. Orientation of business

- Private  
 Governmental  
 NGO

#### 3. Years in practice

- More than 10yrs  
 5 – 10yrs  
 2 – 5yrs  
 Others

**4. Experience, in regard to settlement types**

- Urban
- Semi - urban
- Peri – urban
- Rural

- Asia
- North America
- Latin America

**5. Experience, in regards to region**

- West Africa
- Europe

.....

**6. Please, select all countries where you have, or currently service;**

- Benin
- Burkina Faso
- Côte d'Ivoire
- Cape Verde
- The Gambia
- Ghana
- Guinea
- Guinea-Bissau
- Liberia
- Mali
- Mauritania
- Niger
- Nigeria
- Senegal
- Sierra Leone
- Togo

## SECTION TWO

### Part A: Systems as a whole

*If applicable, select the services that you provide in the sanitation field and proceed to table 1 for more details regarding the type of systems that you have experience with:*

- Implementation of projects
- Design, Planning & Consulting
- Monitoring and evaluating
- Quality control & Stabilisation
- Upgrade of existing systems

**1. Experience with projects** (Please tick the relevant option on the left and give full description of the sanitation systems which you have experience with. If there is more than one option, please select and describe)

Implementation	Design & Planning & Consulting	Monitoring & Evaluation	Quality control & Stabilisation	Upgrade of existing systems	Types of Systems	Short description of type of systems	Examples of projects implemented  (Form to fill in information of specific projects:  Where, when, how much, capacity, people serve) Upload photo
					Water borne systems		





Pour-flush toilets

M  S&S  D&P  I  O&M

Urine diversion toilet (dry or wet)

M  S&S  D&P  I  O&M

Urinal

M  S&S  D&P  I  O&M

Dry toilet

M  S&S  D&P  I  O&M

- M = Manufacturing
- S&S = Sales and supply
- D&P= Design and planning
- I= Installation of technical components
- O&M= Operation and maintenance

**On-site Collection, Storage & Treatment**

*Ventilated improved single pit latrine (VIP)*

M  S&S  D&P  I  O&M

*Alternating Twin-Pit Latrine/ Fossa alterna*

M  S&S  D&P  I  O&M

*Alternating Double Dehydration Chambers/ Deydrating toilet/latrine*

M  S&S  D&P  I  O&M

*Composting chamber*

M  S&S  D&P  I  O&M

*Septic tank*

M       S&S       D&P       I       O&M

*Cesspit or Cesspool*

M       S&S       D&P       I       O&M

*Anaerobic baffled reactor*

M       S&S       D&P       I       O&M

*Anaerobic digester*

M       S&S       D&P       I       O&M

*Long-term storage of urine in different types of containers*

M       S&S       D&P       I       O&M

*Pre-treatment- grease trap and grit trap of greywater*

M       S&S       D&P       I       O&M

*Slow sand filtration of grey water*

M       S&S       D&P       I       O&M

*Constructed wetlands to treat grey water*

M       S&S       D&P       I       O&M

*Greywater garden (mulch trench)/ Green walls/ Tower garden*

M       S&S       D&P       I       O&M

- M = Manufacturing
- S&S = Sales and supply
- D&P= Design and planning
- I= Installation of technical components
- O&M= Operation and maintenance



**Transport**

*Conventional gravity sewers*

M  S&S  D&P  I  O&M

*Small-bore sewers*

M  S&S  D&P  I  O&M

*Simplified Sewerage*

M  S&S  D&P  I  O&M

*Vacuum sewerage*

M  S&S  D&P  I  O&M

*Urine pipes*

M  S&S  D&P  I  O&M

*Manual urine transport*

M  S&S  D&P  I  O&M

*Truck for urine transport*

M  S&S  D&P  I  O&M

*Human powered faecal sludge emptying and transport*

M  S&S  D&P  I  O&M

*Faecal sludge emptying and transport by vacuum tanker*

M  S&S  D&P  I  O&M

- M = Manufacturing
- S&S = Sales and supply
- D&P= Design and planning
- I= Installation of technical components
- O&M= Operation and maintenance

**Treatment off site***Trickling filter*M  S&S  D&P  I  O&M *UASB reactor*M  S&S  D&P  I  O&M *Waste stabilization ponds (WSP)*M  S&S  D&P  I  O&M *Floating macrophyte ponds*M  S&S  D&P  I  O&M *Constructed Wetlands*M  S&S  D&P  I  O&M *Conventional activated sludge*M  S&S  D&P  I  O&M *Off-site urine storage*M  S&S  D&P  I  O&M *Settling ponds*M  S&S  D&P  I  O&M *Drying beds*M  S&S  D&P  I  O&M *Co-composting*M  S&S  D&P  I  O&M *Faecal sludge treatment by worm composting* 14M  S&S  D&P  I  O&M

- M = Manufacturing
- S&S = Sales and supply
- D&P= Design and planning
- I= Installation of technical components
- O&M= Operation and maintenance

**2. Experience in Reuse** (Please tick the relevant option on the left and give full description. If there is more than one option, please select and describe)

Planning & logistics & Consulting	Collection of the treated materials	Sales and supply	Further treatment for conditioning of products	Application in the field	Products from human goods	Short description of systems	Examples of projects implemented (links to relevant information)
					Urine/ Yellow water		
					Faeces/ Brown water		

						<b>Grey water</b>		
						<b>Others</b> <hr/> <hr/>		