



Up-scaling Basic Sanitation for the Urban Poor (UBSUP)

Description & Programme of the Project Preparation Study

UBSUP Document 3 (11.11.2011)



Table of Contents

1.	Introduction.....	4
2.	Project Preparation Study: Background & General Objectives	5
2.1	Concept Development & Project Preparation Study	5
2.2	Who are going to implement the Study?.....	6
2.3	Study Focus Fields	6
3.	Existing Studies and Relevant Literature	6
3.1	The GFA Study.....	6
3.2	WSTF/UPC Activities	7
3.3	Creation of an Accessible Inventory of Relevant Studies & Publications	7
4.	Objectives of the Study.....	7
4.1	Introduction	7
4.2	Key Objectives of the Social Component.....	7
4.3	Key Objectives of the Financial/Institutional Component.....	8
4.4	Key Objectives of the Technical Component	8
4.5	Key Objectives of the Sector Orientation Component	8
5.	Criteria used to identify the Study Locations	9
5.1	Justifying the Focus on Local Conditions	9
5.2	Criteria Sets.....	9
5.2.1	Socio-economic Criteria.....	9
5.2.2	Financial/institutional Criteria	9
5.2.3	Technical and Environmental Criteria	9
5.2.4	Sector-related Criteria	10
5.2.5	Criteria informed by Existing Studies & Programmes/Projects.....	10
5.3	How to Arrive at the List of Study Locations.....	10
5.4	The Criteria Matrix	10
5.5	Specific WSPs and Cities/Towns meeting the Criteria	10
5.6	Study Locations and the Pilot Projects.....	10
5.7	Main Output: A List of Study Locations	11
6.	Proposed Methods & Techniques and Key Outputs.....	11
6.1	Overall Approach	11
6.2	The Technical Component of the Study: Outputs and Methods	12
6.2.1	Inventory Of Existing Practices, Procedures and Technologies: Key Outputs.....	12
6.2.2	Development of Options: Key Outputs	12

6.2.3	Study Methods & Techniques.....	13
6.3	The Social Component of the Study: Outputs and Methods.....	13
6.3.1	Inventory Of Existing Practices, Procedures and Technologies: Key Outputs.....	14
6.3.2	Development of Options: Key Outputs	14
6.3.3	Study Methods & Techniques.....	14
6.4	The Financial & Institutional Component of the Study.....	15
6.4.1	Inventory of Existing Practices, Procedures and Technologies: Key Outputs	15
6.4.2	Development of Options: Key Outputs	15
6.4.3	Study Methods & Techniques.....	16
6.5	The WSS Sector Component of the Study.....	16
6.5.1	Inventory Of Existing Practices, Procedures and Technologies: Key Outputs.....	16
6.5.2	Development of Options: Key Outputs	16
6.5.3	Study Methods & Techniques.....	17
6.6	Need to Consider Up-scaling Specific Requirements.....	17
6.6.1	Up-scaling& Materials	17
6.6.2	Up-scaling: Required Procedures & Tools	17
6.7	Study Activities & Components: Need or Coordination and Cooperation	17
6.8	Overlaps & Linkages (the Study and Other UBSUP Activities	18
6.9	One of the Study's Outputs: The Pilot Project WSPs	18
6.10	Timing of the Study and the Pilot Projects	18
	Definitions	18
	Organisation of the Study.....	18
6.11	Overall Organisation of the Study & Responsible Persons	18
6.12	Required Expertise and Human Resources.....	19
	List of References & Ideas for Further Reading.....	21
	Relevant Internet Sites.....	23

1. Introduction

This document is organised as follows:

- Chapter 2 provides the background of the study.
- Chapter 3 focuses upon the existing studies and literature.
- Chapter 4 presents the main objectives of the studies organised according to the 4 fields and the linkages that exist between them.
- Chapter 5 discusses the criteria used to identify the study locations.
- Chapter 6 presents the proposed methodology and techniques as well as the key outputs of the study. This chapter also identifies the linkages between the Project Preparation Study and the other components and activities of the sanitation programme.
- Chapter 7 emphasises the need to develop a comprehensive set of detailed and annotated definitions.
- Chapter 8 discusses the organisation of the study in terms of human resources and sub-teams.
- Chapter 9 shows the requirements in terms of logistics and other material resources.
- Chapter 10 presents the tentative study work programme.

This document also contains a:

- List of abbreviations
- List of references and ideas for further reading.
- The appendix contains the work plan of the study.

2. Project Preparation Study: Background & General Objectives

2.1 Concept Development & Project Preparation Study

The proposal submitted to the Bill and Melinda Gates Foundation (BMGF) provides a clear insight into the main objectives of the Project Preparation Study (see also pages 14-5 of the proposal):

“The main objectives of the concept development and project preparation study will be to translate the approach presented in this project proposal into a concrete concept which can be successfully implemented, monitored and evaluated. The study will cover all project levels; low income area level > Water Service Provider (WSP) level > Water Services Board (WSB) level > national level [WSTF, Water Services Regulatory Board (WASREB), Ministry of Water and Irrigation (MWI)] and will consist of the following elements:

- An analysis, which makes use of the data collected with the MajiData exercise as well as other available data, of the existing sanitation situation in the urban low income areas. This component of the study will also examine the current sanitation technologies used and toilet usage (used for showering¹, dumping solid waste, etc.).
- A detailed demand assessment based upon a household & plot level survey. The survey locations will be determined on the basis of factors such as soil conditions, water table, climate, religion, population density and area layout.
- An assessment of the willingness and ability of households and landlords to pay for improved basic sanitation including related services, e.g. emptying & faecal sludge disposal services. The study will also be used to develop, on the basis of stakeholders' profiles, the financing model (e.g. paying in installments, including onsite sanitation component in the monthly water bill).
- An assessment of the demand for improved household & plot level sanitation and the factors which are likely to influence that demand.
- An analysis of the capacity and willingness [e.g. incentives and obligations under the Service Provision Agreement (SPA)] of WSPs to prepare project proposals for household & plot level sanitation and to implement and sustain these projects.
- The development and detailed design of appropriate technical options for household & plot-level sanitation options and sludge disposal and treatment.
- The study will also aim to identify the most suitable social marketing techniques and the messages that need to be communicated to the residents of the low income urban areas (LIAs) and to specific categories of residents and other stakeholders.
- A detailed analysis of existing emptying services and entrepreneurs, transportation (including distances), disposal and treatment methods and sanitation business opportunities (value chain analysis).

¹ Double vault pit latrines do not achieve their sludge drying composting objectives if they are also used as showers.

- The willingness & ability to pay component of the study will be linked to the analysis of existing tariffs and the possibilities of introducing incentives, cross-subsidies, etc. The study will also assess the potential usage of (improved) sanitation services by people who do not use sanitation facilities constructed within the framework of the Proposed Project. The study will also result in the design of a project implementation approach which enables WSPs to respond to the demand for improved sanitation once this demand develops. The approach will consider all main objectives of the Proposed Project; its public health, social, technical, financial/commercial and environmental objectives.
- The Study will also incorporate the findings of a BMGF study which, among others, analyses the sludge transport business in parts of Asia and in 5 African countries (Kenya, Ethiopia, Burkina Faso, Senegal and Nigeria)."

2.2 Who are going to implement the Study?

The study will be carried out by the UBSUP team. In order to be able to assess the need for "external" expertise (e.g. for the development of a sustainable sludge management concept), the UBSUP team will have to develop a detailed work programme and terms of reference (ToR) the various persons (including external experts) that will be engaged in the study.

2.3 Study Focus Fields

Within the WSTF/UPC projects a clear distinction is made between the following fields of expertise:

- Social
- Financial/institutional
- Technical

Outputs like the toolkits as well as the support provided to the Water Service Providers (WSPs) are organised around these fields. The organisation and emphasis of the proposed study will equally focus upon the same fields albeit that we would like to add a 4th field:

- The wider sector context/environment.

3. Existing Studies and Relevant Literature

3.1 The GFA Study

The starting point of the detailed study which is planned for year 1 should be the detailed study carried out by a GFA team in 2010-11 (Kenya Sanitation Study Report: First Draft of an Up-scaling Concept for Household Sanitation to be rolled out by WSTF under the UPC).

This study was carried out in order to prepare the WSTF/UPC for the up-scaling of household & plot level sanitation. This study, therefore, provides us with an in-depth understanding of the advantages and disadvantages of the various technical options and approaches.

This study was carried out for the GIZ and the WSTF and its focus is household & plot level sanitation. We, therefore, strongly recommend that all UBSUP team members take the time to read the study. If reading this thought provoking study raises any queries the GFA team in Hamburg (i.e. Katrin Brübach and her team of GFA consultants) is ready to provide answers or suggestions.

The main findings and gaps of this study should inform the main focal points of the study.

3.2 WSTF/UPC Activities

The study will analyse the findings obtained with MajiData (detailed information on all low income areas in Kenya) as well as the lessons learned with the implementation of the UPC (Urban Projects Concept) urban water supply and public sanitation projects. The study will also use the important findings obtained during the GIZ/WSTF visit to Burkina Faso (January 2011)² as well as the UBSUP study visit to Mumbai, India (September 2011). Relevant information obtained during the participation of UBSU team members in such activities as the World Water Week in Stockholm and AfricaSan in Kigali will also be put to good use. Furthermore, relevant experience obtained by KfW through the implementation of various large-scale programs in Kenya and other countries will be taken into account.

3.3 Creation of an Accessible Inventory of Relevant Studies & Publications

On the basis of the general sanitation literature inventory stored in the SaniSource DVD-ROM, the UBSUP team will prepare a categorised list of studies and publications that are relevant to the sanitation programme (see UBSUP Document 2: Chapter 17).

4. Objectives of the Study

4.1 Introduction

In this chapter the main objectives of the study are grouped around the main study focus fields that will guide the study (see also Chapter 2 and UBSUP Document 2: Chapter 8).

4.2 Key Objectives of the Social Component

The specific objectives that will guide the social component (focus field) of the Project Preparation Study are:

- Assess the sanitation gap & needs at household and plot level.
- Assess the market for improved sanitation at household & plot level.
- Assess the ability and willingness of landlords and tenants to pay for improved sanitation.
- Assess current sanitation practices and infrastructure in various parts of Kenya.
- Link needs and willingness and ability to pay to improved sanitation technologies.
- Analyse the relationship between (absentee) landlords and their tenants.
- Link needs and ability & willingness to pay to a social marketing approach.
- Develop a health and hygiene approach (e.g. hand washing).
- Identify what could trigger the demand for improved sanitation.
- Develop monitoring tools and the MajiData add-on.

² The national service provider, ONEA, is still implementing a plot-level sanitation concept which was developed during the mid-1990s. The ONEA approach has been very successful as many urban residents now have access to improved basic sanitation. In some urban areas coverage is as high as 80%.

4.2.1 Key Objectives of the Financial/Institutional Component

The financial/institutional component will focus on the following key issues:

- Assess the expectations of WSPs with regard to the project.
- Assess the willingness and ability (capacity) of WSPs to become active in onsite sanitation.
- Develop a project implementation concept (including disbursements, project duration, success indicators, etc.).
- To identify the roles and responsibilities of all stakeholders (e.g. WSPs, pit emptiers, latrine builders/artisans, animators/social marketers, NEMA, KeBS, MoPHS, MWI, etc.).
- Develop effective, efficient and sustainable incentive schemes at all levels (tenants, landlords, pit emptiers, sanitation technicians, WSP). Subsidies should be adapted to urban settings.
- Develop reporting and (demand-driven) disbursement procedures.

4.3 Key Objectives of the Technical Component

The technical component of the study will consist of the following key activities and be guided by the following key questions:

- Create an inventory of cities and towns where the sanitation programme can be implemented because the Councils or WSP have adopted a sustainable sludge management concept and operate sludge treatment facilities.
- Prepare an inventory of feasible (onsite) sanitation options (technical standards).
- Develop a range of affordable technical options suitable for the Kenyan context (including technical drawings, lists of materials and BoQs).
- Develop feasible sustainable sludge management options (incl. incentive chains).
- Consider the feasibility of introducing advanced sludge management facilities/practices (e.g. bio-gas and/or electricity generation) through partnering.
- Develop a facility construction approach which is linked to social marketing and health and hygiene sensitisation programme.
- Develop impact and success indicators as well as a project duration concept (which is linked to the social marketing, facility construction and health and hygiene programme).
- Develop training and training of trainers programmes.

4.4 Key Objectives of the Sector Orientation Component

The sector orientation of the study will be given content through:

- Its focus on the development on technical standards for onsite sanitation.
- The certification of technical options and training.
- The coordination of public health & hygiene sensitisation/education efforts and programmes (e.g. with the MoPHS).
- The development of definitions of coverage
- Informing sector stakeholders on the current sanitation situation and on progress through MajiData.
- Creating exchanges and working relationships with relevant NGOs.

5. Criteria used to identify the Study Locations

5.1 *Justifying the Focus on Local Conditions*

Kenya is characterised by its variety in terms of social, economic, cultural and environmental settings. The UBSUP aims to develop and implement a national concept and approach. This implies that such a concept consists of components that are able to offer solutions (and not necessarily a single solution) for a wide variety of settings and environments.

The next sections present the criteria which can be used to identify the most appropriate study locations.

The objective is to create a limited number of criteria combinations and on the basis of these sets identify regions and localities within Kenya that meet the criteria. Subsequently the study areas can be identified, using additional information sources such as MajiData data collected with the implementation of UPC projects, etc.

5.2 *Criteria Sets*

5.2.1 Socio-economic Criteria

The identification of study locations should aim to use the following socio-economic criteria:

- Usage of existing sanitation facilities.
- Current sanitation-related hygiene practices.
- Hygienic condition of sanitation facilities.
- Religion-related factors likely to influence toilet design and use.
- Cultural factors such as taboos related to toilet design and use.
- Land ownership (landlords or structure owners; tenants and landlords).
- Income levels and patterns of economic differentiation.
- Housing patterns and materials.
- Population density.
- Current sanitation situation and practices (will the program upgrade existing sanitation or introduce new technologies and practices).

5.2.2 Financial/institutional Criteria

The following financial/institutional criteria can be used to identify appropriate study locations:

- Cost of existing sanitation facilities.
- Services provided by the Council and/or WSP.
- Existing subsidies schemes.
- Loan facilities to households, private sector providers etc

5.2.3 Technical and Environmental Criteria

Technical criteria such as the ones listed below can be used to identify study locations:

- Existing sanitation infrastructure (features of improved and unimproved).
- Soil conditions (e.g. sandy or rocky soils).
- Water table (high, low, prone to flooding, etc.).

- Area topography.
- Space (plot level) for improved onsite sanitation.
- Area layout (road network, drainage, accessibility of plots).
- Exiting sludge collection, transport & treatment procedures, facilities and practices.

5.2.4 Sector-related Criteria

- Services provided by the Ministry of Public Health and Sanitation.
- Existing programmes to promote or build improved sanitation.

5.2.5 Criteria informed by Existing Studies & Programmes/Projects

- Best practices: social marketing of improved sanitation.
- Successful adoption of improved sanitation.
- Best practices: hand-washing and other sanitation-related hygiene practices.
- Best practices: sludge management (emptying, transport, storage)
- Best practices: sludge & facility management (including new technologies such as bio-digesters, energy generation, etc.).

5.2.6 How to Arrive at the List of Study Locations

Using the various criteria the list of study locations can be prepared on the basis of:

- Discussions within the UBSUP team and with stakeholders.
- Experience of the UBSUP staff.
- Existing studies
- MajiData.

5.3 *The Criteria Matrix*

The challenge will be to create sets of criteria which can be used to identify the study locations. It is important to emphasise that it is not necessary that all study activities take place in the same cities and towns (although there may be logistical reasons for wanting to carry out certain activities simultaneously at the same location). For example, the study activities focussing on sludge management do not necessarily have to be conducted in the same cities and towns where the social study is being done.

The final set of study locations can be conceived by preparing a criteria matrix. Preparing a criteria matrix allows for the identification of study locations using the key criteria sets of all four (4) “study focus fields”.

5.4 *Specific WSPs and Cities/Towns meeting the Criteria*

The fact that the UBSUP programme can only be implemented in cities and towns where operating sludge management and treatment facilities exists does not imply that the technical study is restricted to these towns.

5.5 *Study Locations and the Pilot Projects*

It is not necessary that the study takes place in the towns where the UBSUP programme intends to carry out its pilot projects.

5.6 Main Output: A List of Study Locations

The output of this (short) exercise should be the identification of a number of cities, towns or even specific study locations (e.g. a certain slum) that reflect the variety of conditions, practices, requirements found in urban Kenya and where the study can be carried out given logistical and time constraints.

The UBSUP team should remain flexible throughout the study which implies that the possibility exists to add new- or to remove study locations.

6. Proposed Methods & Techniques and Key Outputs

6.1 Overall Approach

The main objectives of the UBSUP programme can be summarised as follows:

- To develop a set of affordable and sustainable onsite sanitation solutions.
- To “link” these facilities to feasible and sustainable (i.e. sustainable from a social, financial & commercial, technical and environmental perspective) sludge management options.
- To develop a set incentives (incentive chain) which motivate stakeholders to follow specific procedures.
- To positively influence the adoption and diffusion of the above-mentioned innovations through the development and implementation of a set of (social) marketing techniques.
- To develop a disbursement chain (Partners > WSTF > WSP > Artisans) which is able to respond to demand (for improved sanitation) as it develops and which reduces risks.
- To develop a (cross-) subsidy/loan approach which starts with the (financial) commitments (payments) made by the future beneficiary (e.g. householder or landlord) and which triggers (further) disbursements. A subsidy approach, also which prevents misuse and the inappropriate use of the facilities constructed (e.g. toilets used as storerooms or cement used to build a veranda).
- To develop a concept for the programme as well as a concept for the individual projects which bundles (in the form of toolkits, drawings, training materials, procedures, etc.) all the above-mentioned outputs in a coherent and user-friendly manner.

The purpose of the study is not merely to come to a better understanding of sanitation in urban Kenya (e.g. an in-depth understanding of current sanitation and sludge management practices). The objective of the study is to develop, on the basis of understanding the current sanitation situation, feasible options and solutions that become the “building blocks” – the constituting parts - of the UBSUP programme.

In other words, the objective of carrying out literature reviews, inventories, surveys and qualitative research (e.g. in-depth interviews and participant observations) is to create a strong foundation for the development (adoption, adaptation & design) of innovative sustainable solutions. The development of these solutions, however, requires the use of a set of additional study methods and techniques.

Techniques such as Customer-Aided Design and (social science research) methods such as the Repertory Grid Technique or Conjoint Analysis (see also Seur 1992).

The aim of the study should not only be to interact with stakeholders (e.g. residents and WSP staff) in

order to *understand* their behaviour and views, but equally to discuss the *options* and *approaches* identified by the UPSUP team and to further develop these options.

For example, In addition to interviewing landlords in order to develop a social marketing strategy, the outcome of the exercise - one or more social marketing approaches deemed suitable - should be discussed (at a later stage) with landlords and other stakeholders (including experts). This means that beneficiaries and other stakeholders are involved in the development of solutions. WSPs will not only be interviewed to understand their sanitation-related views and operations, they will be asked to contribute to the development of feasible options (e.g. and incentives chain, disbursement procedures, etc.).

6.2 The Technical Component of the Study: Outputs and Methods

The technical component of the study can be divided into 2 different sub-components; the inventory and the development of solutions.

6.2.1 Inventory Of Existing Practices, Procedures and Technologies: Key Outputs

The main outputs of the inventory should be:

- A list of towns where the programme can be implemented (from a sludge management perspective).
- A provisional list (including detailed description and a strengths and weaknesses analysis) of affordable, user-friendly and sustainable onsite sanitation solutions.
- An assessment of the existing FSM (Faecal Sludge Management) management system and its shortcomings, including faecal sludge (FS) collection and haulage, its stakeholders, traditional or “modern” treatment (if existing), and use and/or dumping practices (technical, institutional / managerial and socioeconomic aspects).
- Estimating the current and expected FS quantities and the relative shares and characteristic of FS produced in the various types on-site sanitation installations.
- Contacting FSM companies and FSM initiatives & Programmes and develop an overall idea of current practices, their advantages and shortcomings.
- Assessing the cost structure and money flows in the current FSM system to evaluate the current FSM’s sustainability.
- Assessing the potential market for the sale of bio-solids produced in FS treatment.
- A provisional list of feasible and sustainable sludge management options (which are either found in the identified UBSUP programme towns or which can be easily implemented in these towns) including strengths and weaknesses.

6.2.2 Development of Options: Key Outputs

The main outputs of the technical component of the study should be (among others):

A set of affordable, user-friendly and sustainable onsite sanitation solutions which (see UBSUP Document 2: Chapter 9) which include:

- a. Detailed drawings and BoQs.
- b. A mix of construction materials which allows for up-scaling and responding to local conditions.
- c. A construction manual and other training materials.

- d. Training programmes.
- e. A construction-at-scale strategy (e.g. the identification and training of sufficient local artisans, specifying the role and responsibilities of the WSP).
- f. A toilet use, maintenance and repair approach.

A set of feasible and sustainable (i.e. sustainable from a social, financial & commercial, technical, hygienic and environmental perspective) sludge management options (see UBSUP Document 2: Chapter 12) which include:

- g. A set of sludge removal technologies, procedures and techniques.
- h. Sludge transportation technologies, procedures and techniques.
- i. (Intermediate) sludge storage technologies, procedures and techniques.
- j. Sludge treatment technologies, procedures and techniques.
- k. Training materials and programmes focussing on sludge treatment, facility management, etc.
- l. Develop a business model (incl. money flow) for the relevant stakeholders in the FSM-chain taking the given political, socio-economic, institutional settings into account.
- m. Develop regulatory scenarios in the FSM-chain taking the given political, socio-economic, institutional settings into account.
- n. Develop demonstration schemes for testing and demonstration purposes.

6.2.3 Study Methods & Techniques

To obtain the above-mentioned outputs the following study methods and techniques can be considered:

- Collection and analysis of the existing literature.
- In-depth interviews (formal and informal/structured & instructed) with WSP staff, experts and other stakeholders.
- Visits to existing treatment works.
- Availability & skills analysis (WSP staff, artisans).
- An in-depth discussion of sanitation options with landlords, tenants, WSP staff and artisans (for example using Conjoint Analysis Techniques). This activity should be organised together with the sociologists.
- (participant) Observations (e.g. an analysis of infrastructure with an emphasis on technical issues such as durability, safety, design details, etc.
- Customer-Aided Design sessions with WSP staff, artisan, beneficiaries (e.g. landlords, women).
- Short surveys among WSPs, artisans, etc.
- A set of questions prepared by the Sanitation Engineers which can be incorporated into the (social) household survey.
- (UBSUP) Brainstorming sessions focussing on **(1)** onsite sanitation technologies and **(2)** possibilities for sustainable FSM.

Organising and implementing activities such as surveys, CuAD sessions require the close cooperation between the sociologists and the sanitation engineers.

6.3 *The Social Component of the Study: Outputs and Methods*

Also the social component of the study can be divided into 2 different sub-components; the

inventory and the development of solutions.

6.3.1 Inventory Of Existing Practices, Procedures and Technologies: Key Outputs

The main outputs of the inventory should be:

- Collection and analysis of the existing literature.
- An assessment of the current sanitation situation (based on MajiData, existing studies, UBSUP surveys and observations).
- An assessment of the market for improved sanitation (including the tools to carry out a rapid assessment of that market). This requires being able to show the various options to respondents, residents, etc.
- An analysis of the willingness and ability of landlords and tenants to pay for improved sanitation.
- Assessing families' willingness and ability-to-pay for pit emptying and for contributing to a generally improved management of FS (haulage to treatment sites, treatment).
- An assessment of institutional challenges and opportunities (e.g. the role of the WSP, the Council, the MoPHS (PHO)).
- Identification of the gaps related to health and hygiene (e.g. hand washing, toilet cleanliness, etc.).

6.3.2 Development of Options: Key Outputs

The main outputs of the social component of the study should be (among others):

- A list of successful social marketing approaches and techniques (including an analysis of demand triggers) that can be adopted by the sanitation options promotion component of the UBSUP programme. The overall social marketing approach should be able to address the requirements of the various target groups (e.g. landlords, tenants, artisans, WSP) (see UBSUP Document 2: Chapter 10).
- A clear subsidy & construction strategy including the payment modalities (up front in instalments, etc.).
- A targeted hygiene awareness/sensitisation/education programme (hand washing, toilet cleanliness) targeting the various stakeholders.
- Tools to monitoring the real impact of accompanying measures.
- A toilet use and maintenance approach (in close cooperation with the sanitation engineers or technical team).

6.3.3 Study Methods & Techniques

The social component of the study will adopt a combination of both, quantitative and qualitative methods.

6.3.3.1 The Qualitative Study

The reason for using qualitative study methods is that they enable the researcher to acquire an in-depth understanding of specific practices, customs and structures (including toilets). The methods to be adopted are:

- Transect walks.
- Formal and informal interviews.
- (participant) Observations.

- An analysis of infrastructure use (with an emphasis on the social and hygienic aspects, user & gender friendliness).
- Repertory Grid Technique.
- Group discussions.
- Customer-Aided Design sessions (organised with the Sanitation Engineers).

The qualitative elements of the study should precede the quantitative study. The qualitative study should provide the understanding required to compose the household questionnaires.

6.3.3.2 *The Quantitative Study*

In addition to the qualitative study the social component of the Project Preparation Study will also include a household survey and an analysis of the data collected with MajiData.

The main objective of the survey is to provide quantitative support for the key outcomes of the qualitative studies. However, the mere analysis of quantitative data can provide an additional insight into the sanitation situation.

6.4 *The Financial & Institutional Component of the Study*

Even the financial and institutional component of the study can be divided into the same sub-components; the inventory and the development of solutions.

6.4.1 Inventory of Existing Practices, Procedures and Technologies: Key Outputs

The main outputs of the inventory should be:

- Collection and analysis of the existing sanitation literature.
- An assessment of the willingness and ability (capacity) of WSPs to become active in onsite sanitation.
- A clear insight into the expectations (in terms of disbursements, incentives, tariffs, support, etc.) of the WSPs.
- An insight into the capacity of WSPs to sustainably implement plot and household level sanitation projects.

6.4.2 Development of Options: Key Outputs

The main outputs of the financial institutional component of the study should be (among others):

- The key project-level stakeholders (e.g. WSPs, pit emptiers, latrine builders/artisans, animators/social marketers, NEMA, KeBS, MoPHS, MWI, etc.) have been identified and their roles and responsibilities specified.
- Effective, efficient and sustainable incentive schemes at all levels (tenants, landlords, pit emptiers, sanitation technicians, WSP). (see UBSUP Document 2: Chapter 11).
- Subsidies (loans) are adapted to the various urban settings (plots owned by landlords, houses owned by structure owners, one household per plot).
- A procedure which allows households, tenants (etc.) to apply for an improved sanitation facility.
- This procedure triggers additional project-level procedures (the facility construction approach) such as household visit by animators and artisans, on-the-plot site identification and decision on the technology and no of units, transfer of funds to the artisan, construction works, sensitisation, commissioning, inclusion of the facility in the UPC-IS and MajiData, etc.). (all these outputs have to be developed in close cooperation with the sociologists and the

sanitation engineers).

- Reporting and (demand-driven) disbursement procedures for the individual projects.
- A project implementation concept (including calls for proposals, disbursements, monitoring, inventory, project duration, success indicators, etc.).

6.4.3 Study Methods & Techniques

To obtain the above-mentioned outputs the following study methods and techniques can be considered:

- Interviews with WSP staff.
- A survey among WSP staff.
- Interviews with other local stakeholders (e.g. pit emptiers, latrine builders/artisans, animators/social marketers, Public Health Officers, etc.).
- Interviews with landlords and tenants (requires the close cooperation with the sociologists).
- Household survey among households, tenants and landlords (requires the close cooperation with the sociologists).
- The evaluation of developed options (e.g. incentives, procedures) with local stakeholders (WSP, pit emptiers, latrine builders/artisans, animators/social marketers, Public Health Officers, etc.).
- Observing WSP operations and the use of procedures.

6.5 *The WSS Sector Component of the Study*

The water supply and sanitation (WSS) sector component of the study also consists of 2 sub-components:

6.5.1 Inventory Of Existing Practices, Procedures and Technologies: Key Outputs

The main outputs of the inventory should be:

- Collection and analysis of the existing literature.
- The roles, responsibilities of all key sector stakeholders (e.g. WASREB, MoPHS, NEMA, MWI) have been identified as well as the contribution they can make during the development and implementation of the UBSUP programme.
- Identification of relevant NGOs (for the pilot and the programme implementation phase).

6.5.2 Development of Options: Key Outputs

- Technical options are in line with sector (WASREB) and KeBS requirements (technical standards) and can (ultimately) be certified.
- The coordination of public health & hygiene sensitisation/education efforts and programmes (e.g. with the MoPHS).
- The definitions of improved sanitation, adequate access and coverage are in line with the expectations of the sector and are embedded in MajiData (add-on: MajiData projects layer) and UPC-IS (impact monitoring tools).
- The coordination of public health & hygiene sensitisation/education efforts and programmes (e.g. with the MoPHS).
- Informing sector stakeholders on the current sanitation situation and on progress through MajiData.
- Creating exchanges and working relationships with relevant NGOs.

6.5.3 Study Methods & Techniques

To obtain the above-mentioned outputs the following study methods and techniques should be considered:

- Interviews with relevant stakeholders (e.g. NEMA, KeBS, MoPHS, MWI, etc.)
- Meetings (discussion forums) with relevant stakeholders.
- Participation in forums (e.g. the KeBS onsite sanitation certification forum).

6.6 *Need to Consider Up-scaling Specific Requirements*

6.6.1 Up-scaling& Materials

Throughout the study and especially when analysing best practices and developing solutions it will be important to keep in mind that our programme aims to up-scale basic sanitation. For example, if we feel a toilet can be constructed with recycled materials or with bamboo components we have to ask ourselves whether we will be able to construct thousands of onsite facilities with these materials.

6.6.2 Up-scaling: Required Procedures & Tools

Up-scaling is more than the implementation of many single projects. Up-scaling also involves the development and implementation of systems and procedures that allow for the successful implementation, monitoring and operation of a multitude of projects (often simultaneously).

The study, therefore, should also provide us with the building block required for up-scaling:

- A project proposal & appraisal concept which consists of; Calls for Proposals, appraisal of proposals, awarding procedure, etc.).
- A disbursement procedure which can address the needs of many WSPs and which is able to respond to demand for funds (i.e. toilets) as it develops. The disbursement procedure should be compatible with projects which are demand-driven and which, therefore, have a variable duration.
- An integrated projects implementation & monitoring concept (Field Monitors, progress and impact monitoring, reporting templates and guidelines, risk assessments, etc.).
- An assessment of available materials and transport requirements.
- A training of trainers concept (we are unable to train all stakeholders ourselves).
- An incentive chain.

All these outputs will inhabit the Toolkit for Household & Plot-Level Sanitation.

6.7 *Study Activities & Components: Need or Coordination and Cooperation*

It has to be emphasised that many of the study activities & components are linked in the sense that decisions made with respect to one activity (an output) have an impact on the development/design of other outputs.

The implementation of UPC projects has shown that cooperation and coordination between technical works and accompanying measures (community-based activities, financial and institutional activities) at all levels (WSTF, WSP) is the key to a successful project and UPC.

The development of a coherent UPC-Household & Plot-Level sanitation approach requires that also during the study all participants are driven by the desire to work closely together, to benefit from each other's experience and expertise. The coordination of the various study components and activities as well as the cooperation between the various experts are the key to synergy.

This document, including the Study Work Plan, which is presented in Chapter 10 aims to provide

some guidance to coordination and cooperation.

6.8 Overlaps & Linkages (the Study and Other UBSUP Activities)

The proposed study is not carried out in isolation but is embedded in the overall UBSUP programme. It is important, therefore to identify the linkages between the study and the other activities implemented by the UBSUP team.

The mere fact that the study should also provide the building blocks of the overall UPC/household & plot-level sanitation concept means that there will be a close link between the study and the pilot projects. In other words, some of the outcomes of the study (tools, procedures, designs and materials) will be tested during the pilot projects phase but the pilot project itself may also reveal the need for further studies and investigations.

Exchanges with stakeholders, literature studies, interviews, design work (including CuAD) and testing will continue after the study, during the pilot projects phase and beyond.

6.8.1 One of the Study's Outputs: The Pilot Project WSPs

One of the outcomes of the study should be the identification of the WSPs where the pilot projects can be implemented.

6.9 Timing of the Study and the Pilot Projects

The study should be well coordinated with the proposed pilot projects. In other words, some elements and outputs of the study may actually be finalised or tested during the pilot phase.

Definitions

In our proposal words and concepts such as “sustainable sanitation”, “access”, “adequate sanitation”, “impact”, “sanitation-related hygiene practices”, “sludge management” (etc.) are used rather loosely, i.e. they are not well defined. Being able to develop a coherent project preparation, implementation, operation and monitoring approach, requires a common understanding with regard to a set of concepts. In other words, one of the outcomes of the study should be the preparation of a set of detailed and annotated definitions.

Organisation of the Study

6.10 Overall Organisation of the Study & Responsible Persons

The overall organisation of the study can be as follows:

Table 8.1: Organisation of the study

No.	Activity	Persons responsible
1	Overall organisation/orchestration of the study	Simon, Han
2	Preparation of the detailed programme and the Terms of References	Han, Patrick, Simon, Nelson
3	Preparation of study tools, identification of sample sizes, study towns etc.	UBSUP team
4	Preparation of study logistics	Maureen, Abdul, Nicolas
5	Carrying out fieldwork & coordination	Han, Nelson > UBSUP team
6	Analysis of data	Han, Nelson > UBSUP team
7	Preparation of the report & other outputs	Han, Nelson > UBSUP team

8	Preparation of the toolkit	Han, Simon, Sheillah> UBSUP team
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*) : some activities will take place simultaneously

6.11 Required Expertise and Human Resources

The table below (Table 8.2) shows the proposed sub-teams, which together constitute the study team (and in fact the entire UBSUP team).

Table 8.2: The study team, and key responsibilities

No.	Sub-Team	Members	Person(s) responsible
1	Overall coordination of the study	Simon, Han, Nelson, Patrick	Simon, Han
2	Technical study team (A) Onsite sanitation	Nelson, Eden, Simon, James, Cees, Patrick, Katrin, Doreen	Nelson
3	Technical study team (B) Sludge management	Patrick, Cees, James, Eden, Doreen	Patrick
4	Social study team	Sheillah, Fidelis, Han, Eden	Sheillah
5	Finance/Institutional study team	Clarine, Charles, Dennis, Kennedy O.	Clarine
6	Sector study team	Dennis, Roland, Nelson, Philipp	Dennis
7	Support & logistics team	Maureen, Nicolas, Abdul, David,	Maureen

It is important to emphasise that the table above is merely a proposal. At this stage UBSUP team members can ask to be included in another team. Even at a later stage a sub-team can ask other UBSUP team members to participate in specific activities.

In order to achieve the anticipated efficiencies and synergies, it will be of crucial importance that study activities of the various teams are well coordinated. The Study Work Plan shows the activities which require the inputs of various sub-teams or the coordination of activities.

List of Abbreviations

BMGF:	Bill and Melinda Gates Foundation
BoQ:	Bill of Quantities
CEO:	Chief Executive Officer
CPC:	Community Project Cycle
CuAD:	Customer-Aided Design
GIS:	Geographic Information System
GIZ:	German Technical Cooperation (formerly GTZ)
ISP:	Informal service provider
JMP:	Joint Monitoring Programme
KeBS:	Kenya Bureau of Standards
KfW:	Kreditanstalt für Wiederaufbau (German Development Bank)
l/c/d:	Litres per capita per day
MoPHS:	Ministry of Public Health and Sanitation
MWI:	Ministry of Water and Irrigation
NCWSC:	Nairobi City Water and Sewerage Company
NEMA:	National Environmental Management Authority
ONEA:	Office National de l'Eau et Assainissement
SuSanA:	Sustainable Sanitation Alliance
UBSUP:	Up-scaling Basic Sanitation for the Urban Poor
UfW:	Unaccounted for water
UPC:	Urban Projects Concept
UPC-IS:	UPC Information System
WASREB:	Water Services Regulatory Board
WHO:	World Health Organisation
WS:	Water supply
WSB:	Water Services Board
WSP:	Water Service Provider
WSS:	Water supply and Sanitation
WSTF:	Water Services Trust Fund

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