Hygiene Promotion is not simply a matter of providing information. It is more a dialogue with communities about hygiene and related health problems, to encourage improved hygienic practices. (WHO technical note 10)
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1. Introduction

This document describes the Hygiene and Sanitation work carried out by the Regional Coordinator for Rwanda, Burundi and DRC – South Kivu from October 2005 to November 2007. It focuses on the stages of analysis, planning and implementation of the programme and refers to the tools used in the annex. It complements the existing tools developed in collaboration with JESE in Uganda in 2004.

The status of the hygiene promotion programme in Rwanda, Burundi and DRC at the end of 2005 was as follows:

<table>
<thead>
<tr>
<th>NGO</th>
<th>Location</th>
<th>Hygiene Training</th>
<th>Existing Field Actions</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>COFORWA</td>
<td>Rwanda</td>
<td>PHAST in 2003</td>
<td>Working with 79 voluntary hygiene promoters across a district of 230,000 people</td>
<td>15% of infrastructure budget</td>
</tr>
<tr>
<td>ODAG</td>
<td>Burundi</td>
<td>PHAST in 2003</td>
<td>Carried out a small household survey and thought about the design of PHAST pictures</td>
<td>4% of infrastructure budget</td>
</tr>
<tr>
<td>CISV</td>
<td>Burundi</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>PEHA</td>
<td>DRC</td>
<td>PHAST training planned 2006</td>
<td>None</td>
<td>1% of infrastructure budget</td>
</tr>
</tbody>
</table>

The stages of intervention in hygiene and sanitation with partner NGOs not experienced or without a budget or specific hygiene and sanitation capacity are as follows:

**Analysis**

Stage 1 Introduce the importance of hygiene promotion

Stage 2a Carry out an assessment of hygiene behaviours

Stage 2b Carry out an assessment of partners capacities

Stage 3 Capacity building with partners

Stage 4 Target priority hygiene risks and behaviours

**Planning**

Stage 5 Identify a small pilot area

Stage 6 Build a budget

**Implementation**

Stage 7 Selection of voluntary hygiene promoters
Stage 8 Conduct Training i.e. PHAST/Child to Child/Theatre Group

Stage 9 Construct demonstration hygiene facilities i.e. latrine/drying racks and compost pits

Stage 10 Monitor and Evaluate

These theoretical stages are detailed in the document below, followed by boxed field experiences.

2. Methodological approach/Steps

2.1. Analysis

2.1.1. Stage 1 Introduce the importance of hygiene promotion

NGOs that have not worked in hygiene and sanitation before may:
- Lack community mobilisation skills to carry out the project
- Lack technical expertise to construct sanitation and hygiene facilities
- Not understand the relevance of hygiene and sanitation to their projects
- Not know the health benefits gained through improved hygiene and sanitation.

Therefore it is important to start by answering and clarifying some of these concerns. Begin by asking them, ‘Why is hygiene promotion important?’ Build their responses on flip chart paper and complete any missing answers.

Hygiene promotion, as part of an integrated water and sanitation programme, is important because it:
- Is more cost effective than water and sanitation infrastructure, because it brings about a reduction in the days lost due to sicknesses for the population
- Leads to a healthier adult population who are more productive, and so gain more income
- Leads to better education because the number of sick days of school children is reduced
- Reduces the death rates from preventable diseases, like diarrhoea
- Is often cheaper than constructing infrastructure
- Leads to individuals and communities feeling they have the ability to take action to protect their health
- Leads to better use and preservation of water and sanitation infrastructure therefore bringing about sustainability
- Has a longer term impact on changing the behaviours of future generations especially when carried out with school children
- Improves the nutritional status of the population because with less disease, children can eat and absorb more food
- Is more effective than improving the quantity or quality of water in reducing diarrhoea. Studies made by Esrey et al in 1991 reported a 33% reduction in diarrhoea from hand washing alone, 22% for sanitation alone, 17% for improvements of water quality alone, 27% for water quantity alone. (Esrey, S.A., Potash, J.B., Roberts, L., Shiff, C. (1991)).

- Most donors are unwilling to fund water only projects.

In most cases it was the first time the NGOs had considered the relationship between water and health. A general assumption was held amongst partners that providing clean water was enough to reduce the incidences of water and sanitation related diseases.

The level to which these ideas were accepted varied between NGOs. It may have been largely influenced by how financially dependent on PROTOS they were. For example PEHA were 100% dependent on PROTOS funds and therefore were the most abiding, whereas PROTOS funds to CISV, were insignificant in terms of their overall budget and therefore they were the least abiding.

2.1.2. Stage 2a Carry out an Assessment on hygiene behaviour

Once partners understand the importance of having an integrated hygiene program, it is then necessary to carry out an assessment. Two aspects need to be assessed these are:

- the hygiene and sanitation situation in the field
- the capacity of the NGO to undertake the project (2.1.3.)

The hygiene and sanitation situation in the field

An assessment is needed to identify the key hygiene behaviours to be addressed, and the likely success of the promotional activity. An assessment gives baseline data, that can be used at the end of the project to analyse the changes that have occurred. The key risks that are identified are likely to be, excreta disposal, the use and maintenance of latrines, the lack of hand washing with soap or an alternative, the unhygienic collection and storage of water, cohabitation with animals, and unhygienic food storage and preparation. The assessment should look at resources available to the population as well as local behaviours, knowledge and practices so that messages are relevant and practical. It should pay special attention to the needs of vulnerable groups.

Even with no or limited budget and capacity, it is possible to make a visit to regular activities and during the visit carry out a short assessment of the hygiene situation in the communities. This should be undertaken with as many members of the team as possible.

Between October 2005 and January 2006 initial visits were made to the partners, COFORWA - Rwanda, ODAG and CISV - Burundi, PEHA –DRC. Short assessments were carried out of the water, hygiene and sanitation facilities and the knowledge, practices and attitudes of the population. In many cases partners were already carrying out some hygiene activities such as working through water committees on the maintenance of facilities. On the whole the population were recipients of assistance rather than active partners.
Types of Assessment

There are many different ways of collecting information on hygiene and sanitation at the beginning of a project. The tools used in East Africa, and described here are:

- The KAP survey
- The Sanitary survey
- The Exploratory Walk
- Focus group discussions
- Visits to local Health Clinics
- Questionnaires

**The KAP survey**

The KAP survey is a set of questions which focus on gathering information about the knowledge, attitudes and practices of the population. In order to develop the questions with the partners, start by asking them, ‘What questions can we ask the population in order to understand what their knowledge, attitudes and practices are of hygiene and sanitation. Use Annex 1 as a guide to complete any missing questions. Try to keep the amount of questions short in order to create less expectations, and taking the time up of people who have busy schedules. Encourage the partners to ask the questions, rather than to hand out a questionnaire which can receive confused responses. Record the answers into notebooks for analysis on return to the office. As many sites as possible should be visited to compare and contrast findings.

A predefined list of questions was used on the first visits to the partners and beneficiary groups. The questions, were asked to groups of people, who were present at the water points, at the time of visit, usually a mixture of 8-12 women, children and men. These were a mixture of water users and committee members. Responses were noted down in the notebook and referred to later in the office. Discussions lasted no longer than 20 minutes. Short discussions allowed us to visit up to 4 or 5 sites in a day. Visiting many sites gave an overview of the general situation. Reliance on the NGO partner to translate responses may have given bias results. This type of data collection was also chosen because funds and time were insufficient to carry out a questionnaire and because a rapid overview of the field situation was required.

**Sanitary Survey**

A sanitation survey identifies contamination that may effect a water source. The contamination stems from poor environmental hygiene. If possible, design the sanitary survey together with representatives of water point committees and the NGO partner. Begin by asking them what they would check to assess whether the water point was sanitary. List the questions and fill in any blanks where necessary. The sanitary survey does not have to be a complicated long list of questions, it can usually be completed in 10-15 minutes at a water point. An example of a sanitary survey can be found in Annex 2.
• Exploratory or Transect walk

Exploratory or transect walks involve walking through particular areas of a community with local representatives, NGO representatives and members of the hygiene committee. They can be used to determine the status of the water and sanitation situation in a community and to cross check information collected from the surveys. It allows participants to identify the hygiene and sanitation needs in their community, to understand what we mean by sanitation (i.e. that it includes solid waste disposal and drainage). It is also the starting point for making an action plan with the community on hygiene and sanitation. Walkers should be observant and non judgemental in order to gather as much information as possible. All information on sanitation and hygiene is recorded and discussed on return to the office. See Annex 3 for an example of the issues to be considered.

Transect walks, sanitary surveys and focus group discussions were combined on the first visits to partner NGOs. Walking together through communities, with for example COFORWA meant it was difficult to deny that work remained to be done, for example on improving latrine models. In the example of ODAG, developing the surveys together and getting them to carry out their own self analysis and evaluation of their work led to capacity building and a more sustainable approach. It made the NGO take responsibility for their work and come up with ideas on how to improve it. Often with visits to water points of CISV however the same recommendations were repeatedly made on the first five visits. It was not until they agree to start a hygiene promotion programme that changes were seen.

• Focus group discussions

The aim of focus group discussions is to obtain as much useful information as possible, which is often stimulated by the group interaction. The facilitator stimulates the group discussion through broad open ended questions, which are recorded, but not criticised or challenged. Both concrete information and opinions are considered relevant. The membership of each focus group should be as similar as possible, representing a particular segment of the population, i.e. all women, all farmers, all water point committees. A focus group discussion around a latrine or water point can lead to a greater analysis of all the problems about that water point or latrine. Discussions of
20 to 30 minutes should be sufficient to cover 5-10 broad questions. Suggested questions used for focus group discussions are found in Annex 4.

Focus group questions and discussions were held in Rwanda, when gathering information for the development of a Gender Mainstreaming in WaSH programmes manual, which can be found on the PROTOS intranet. The questions were developed by the three facilitators, one specialising in research, one in gender and one in water and sanitation. The discussion was held with only women to try to understand their experiences, constraints and the gender balances in their communities. The information that was gathered was used as case study examples in the manuals as well as to develop activities.

- **Visit to the local health clinic**

Monthly visits to the local health clinics are an essential component of a water and sanitation programme. The data collected on incidences of water related diseases is needed to monitor the impact of the hygiene and sanitation programme, and also to alert the hygiene promoters to the specific diseases on which they should concentrate their campaigns. Visits to health clinics also bring about collaboration between curative and preventative staff, and provide mutual support in what can be isolating work. They should see themselves as working in collaboration with health staff to improve the health of the population. In addition health clinics often have outreach workers who it is important to collaborate with in order to ensure that the same messages are being given. At the start of the project it is important to collect baseline health statistics with which to monitor changes. Annex 5 details the questions to ask at the health clinic.

During every field visit made to partners I collected the latest health statistics (on the first visit, the last 12 months of data). Discussions around the incidences of diseases were held with the health staff. Staff were then taught how to read and analyse this data. In particular we looked at which diseases were the most frequent and asked health clinic staff why this was. We checked at what time of year diseases were most frequent and compared data from different clinics. The most common diseases across the region were malaria, upper and lower respiratory infections, worms, diarrhoea and bloody diarrhoea. Despite continuing to stress the importance of collecting this information, it was rarely done in my absence. NGOs did not respond to epidemics or seasonal changes in incidences of diseases.

- **Surveys and Questionnaires**

Conducting a survey on hygiene and sanitation practices with a list of set questions gives quantitative statistics on knowledge, attitudes and practices. Survey questions should focus around the key areas of excreta disposal, the use and maintenance of latrines, the lack of hand washing with soap or an alternative, the unhygienic collection and storage of water, and unhygienic food storage and preparation. Surveys should try to limit their questions to a maximum of 20. This will focus the information being gathered, minimise the time needed for the respondent to answer questions, and therefore the time spent collecting the data.

Before carrying out the detailed survey it is important to translate the survey into the local language. The interviewers should then practice doing the survey on each other, before carrying
out a pilot study. The pilot involves physically interviewing the population using the survey form and marking any confusing or unclear questions. Even a pilot survey of 5-10 households will highlight problems or confusion with the questions asked. After the pilot it is important to bring the surveyors together, discuss the problems they encountered, check that they had completed the questions in the same way, and amend any confusing questions. A survey should take on average 20 minutes to complete, which includes a short introduction of why the survey is being undertaken. This means that one surveyor could visit a maximum of 20 households in a day. An example of a survey is found in Annex 6.

Random sampling
Sampling is the tool used to select part of a population for data collection and analysis. This sample is then used as a manageable number of people from which to make the analysis. Taking a sample reduces the cost, time and complex logistics of carrying out a survey to all members of the public. In simple random sampling, list all the households in a community on different pieces of paper and then pick them out of a hat. This only works however when you have a complete list of the houses in the community. In systematic sampling, starting from a random point, the surveyor visits for example, every 10th house. If this method is used then a map of the community is required as houses are not always arranged in systematic lines that can be logically followed.

Determining scientifically the sample size involves complex calculations. Normally the smaller the population the higher the percentage of the population that must be sampled. A larger sample will always give more reliable results. Carrying out a survey of this nature requires time, training and financial resources as it can be expensive to undertake professionally. An example of a table demonstrating how to calculate sample sizes can be found in Annex 7.

COFORWA carried out a household survey at the beginning of their programme in 2003, however the results of the survey and legitimacy were doubted by the hygiene evaluation in 2007. ODAG also carried out a survey in 2005 of an unrepresentative sample of the population. During my work surveys were not carried out with partners, due to financial and time restraints.

2.1.3. Stage 2b Carry out an Assessment of partner capacities

A capacity assessment can help to prioritise work to be undertaken with partners and what their training requirements are. The assessment tools that can be used to understand the capacities of the NGOs are as follows:

- Using the information gathered in the field from the sanitary, latrine and KAP surveys as well as focus group discussions, summarise the strengths and weaknesses of the programme.

- List the urgent and important training needs of the NGO. Prioritise which will be addressed, based on the skill set of the cooperant. Develop a budget for other needs.

- Draw a timeline of their activities, when their funding arrives, when trainings take place, when construction takes place. Use this to plan follow up visits.
• List all their donors, the importance of these donors and assistance in terms of training and resources. This allows us to see what is our role and where the omissions and overlaps occur.

Timelines, training needs and donor funding analysis was carried out with COFORWA and PEHA during the first visit. This led to the planning of a series of visits, trainings and follow up over the next 2 years. Where needs could not be met by the cooperant, for example for COFORWA with rainwater harvesting tank design, cross programme visits were arranged with FAO and ADENYA (a local NGO working on the border of Rwanda and Burundi) to visit their projects and infrastructure. Around 80% of what was planned was carried out.

2.1.4. Analysis/restitution with partner NGOs

Analysis of the hygiene and sanitation situation and the capacity of the NGO should be done as transparently as possible with the partners. It is not a judgement of their work, but rather an analysis of the existing situation on the ground.
Summary of the findings from the analysis.

<table>
<thead>
<tr>
<th>COFORWA</th>
<th>ODAG</th>
<th>CISV</th>
<th>PEHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure generally good, well protected and clean</td>
<td>Infrastructure poorly constructed and in need of repair, not protected or clean</td>
<td>Infrastructure poorly constructed and in need of repair, not protected or clean</td>
<td>Infrastructure constructed, variable quality (as PEHA is made up of 7 NGOs) , not protected or clean</td>
</tr>
<tr>
<td>Household latrines present, though not sanitary</td>
<td>Latrines not present</td>
<td>Latrines not present</td>
<td>Latrines not present</td>
</tr>
<tr>
<td>Incidences of malaria, worms, respiratory infections, skin diseases and diarrhoea high</td>
<td>Incidences of malaria, worms, respiratory infections, skin diseases and diarrhoea high</td>
<td>Incidences of malaria, worms, respiratory infections, skin diseases and diarrhoea high</td>
<td>Incidences of malaria, worms, respiratory infections, skin diseases and diarrhoea high</td>
</tr>
<tr>
<td>Population little understanding of the transmission and prevention of diseases</td>
<td>Population little understanding of the transmission and prevention of diseases</td>
<td>Population little understanding of the transmission and prevention of diseases</td>
<td>Population has little understanding of the transmission</td>
</tr>
<tr>
<td>Jerrycans not washed before collecting water</td>
<td>Vessels washed before collecting water</td>
<td>Vessels washed before collecting water</td>
<td>Vessels not washed before collecting water</td>
</tr>
<tr>
<td>Water collected averaged 8/l/p/d</td>
<td>Water collected averaged 8/l/p/d</td>
<td>Water collected averaged 8/l/p/d</td>
<td>Water collected averaged 11/l/p/d</td>
</tr>
<tr>
<td>79 community volunteers trained in PHAST and equipped with pictures, managed by 3 full time staff. Contact made with Ministry of Education for school hygiene programme</td>
<td>Not attended PHAST training, not interested in discussing a possible hygiene programme</td>
<td>Not attended PHAST training, not interested in discussing a possible hygiene programme</td>
<td>PEHA had not attended the PHAST training, but had budgeted for it in June 2006 and were keen to start a hygiene programme.</td>
</tr>
</tbody>
</table>
2.1.5. Constraints

- The Rwandan and Burundian teams were not analytical, critical or open about their work, it was difficult to engage them in a dialogue
- Existing tools for the analysis of the NGOs capacity were not proposed by PROTOS
- A specific budget line was not available to undertake a survey of the hygiene and sanitation situation
- Insufficient budget for hygiene and sanitation within the partners budgets
- Reluctance from CISV to engage in any dialogue about hygiene and sanitation
- No previous links with health departments had been made

2.1.6. Recommendations

- To develop a tool for assessing the capacity of the NGO partner
- To have a small fund within the budget of the cooperator for analysis activities and follow up
- Increase the budget for hygiene and sanitation, or limit the area of intervention
- Include an objective in the plan of action related to collaboration with health clinics/department of health
- Plan, at the beginning of the cooperator’s contract, priority areas of assistance to partners and use this to build objectives.

2.2. Planning

2.2.1. Stage 3 Capacity Building with Partners

After analysis, a list of the priority areas for improvement for each partner was made.

<table>
<thead>
<tr>
<th>COFORWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Budget review</td>
</tr>
<tr>
<td>2. Cross programme visit to CONCERN’s hygiene programme in Tanzania</td>
</tr>
<tr>
<td>3. Strengthening relationships with Health Clinics</td>
</tr>
<tr>
<td>4. Latrine design and Mozambique slab construction</td>
</tr>
<tr>
<td>5. Water testing and analysis</td>
</tr>
<tr>
<td>6. C2C training</td>
</tr>
<tr>
<td>7. Development of indicators</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ODAG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review of budget</td>
</tr>
<tr>
<td>2. Development of monitoring forms for infrastructure, hygiene and sanitation</td>
</tr>
<tr>
<td>3. Repair to infrastructure</td>
</tr>
<tr>
<td>4. Identification of a consultant for 2007 to give in depth support to setting up a hygiene pilot project</td>
</tr>
</tbody>
</table>
2.2.2. Stage 4 Target priority hygiene risks and behaviours and develop indicators

Based on the results of the assessment, priority hygiene risks and behaviours can be clearly defined and prioritised. The understanding gained through assessing hygiene risks, should be used to plan and prioritise assistance. Beneficiaries often can get confused if many messages are given in a short time. It is therefore better to choose 3 priority messages to concentrate on. It is important that the beneficiaries are involved in the identification of the greatest hygiene risks.

Step 2 of PHAST, Problem analysis identifies the good and bad hygiene behaviours and how diseases spread. Step 3 of PHAST, ‘Planning for solutions’ identifies the action that can be taken.

Priority hygiene practices varied between projects and locations, these ranged from construction of latrines, construction of drying racks for kitchen utensils, wearing of closed shoes by school children, construction of compost pits, hand washing after using latrines and before eating, washing of vessels before collecting water, knowledge of the transmission and prevention of diarrhoea. Often the priority risks were already determined in the project description, for example, construction of latrines, and compost pits, in the case of COFORWA. In addition some analysis may have been made in order to write the project and seek funds.

In order to monitor the changes in behaviour it is necessary to develop indicators. Indicators should be developed with the NGO, and hygiene promoters and community if possible. A list of indicators can be found in Annex8. This is a list of all indicators that can be applied to a hygiene programme. Selected indicators can then be chosen from this.
2.2.3. Stage 5 Identify a small pilot area

When starting up a hygiene programme it is important that a small pilot area is identified. A small area is more likely to bring about measurable changes and an impact seen. This can be as little as 3 communities with 100 – 500 families. When identifying the pilot area it is important to choose an area where:

- The NGO is already intervening or about to intervene with water and sanitation
- Local authorities are engaged
- There is good access for regular weekly visits by project staff
- Houses are close together
- The community is interested in improving their hygiene situation
- There is a local health clinic that is willing to collaborate.

2.2.4. Stage 6 Build a Budget

Hygiene promotion is an intensive staff heavy activity. The funding is often insufficient, and staff may not be clear of their duties. As a guide to budgeting, it is important to consider the structure of the team and how they will work. In each community of 100 to 500 (if densely populated) there needs to be one volunteer hygiene promoter. They should be working half a day, every day. This volunteer must meet their supervisor (normally a representative from the NGO) once a week, to discuss their achievements, problems they are having with their work and hand in their weekly report of activities. Volunteers and hygiene promoters from the NGO should have a general meeting once a month to plan activities and discuss problems and
solutions they are encountering. Staff from the NGO should be in the field four and a half days per week, following up and supporting their volunteer staff. The remaining half day is for administration and report writing.

In general try to avoid paying field staff per diem, they are field staff, they are hired to work in the field, not the office. The volunteer however needs some incentives to motivate them. Financial benefits can be problematic as they may not be sustainable and imply that the position is salaried. Incentives and tools for the job such as training, paper, pens, walking boots, a t-shirt, and a sanitation platform for the model latrine is the preferred option. Using this framework as a model, a budget can be written or revised. See Annex 9 for an outline of the main lines of the budget.

A review of the budgets was made with each partner. This showed that hygiene and sanitation represented between 0% (CISV) and 15% (COFORWA) of the infrastructure budget. The budgets were then compared with the plan of action. In most cases the activities in the plan of action were greater than the budget allowed. Discussions were held with partners to see whether money could be freed up from other areas for the hygiene and sanitation programme.

COFORWA agreed on paper to increase their spending on hygiene from 15% to 25% and wrote a new budget detailing additional activities. For PEHA (made up of 7 NGOs), as funds to each NGO had already been assigned, they agreed to continue with their original planning. Interested NGOs, with other funds, could then expand the programme independently. For ODAG, because repairs were a priority, and the exact cost unknown, we agree to postpone writing the budget for hygiene until February 2007. As they were only initiating their programme, they would require more assistance than I could give/had a budget for. It was agreed to find a consultant to assist them. CISV were not willing to discuss hygiene until January 2007 when they found they had 8000 Euros for a pilot project for the final year of the five year program. A consultant was found to carry out an assessment and write this project with them.

2.2.5. Constraints

Financial
- The budgets were insufficient in comparison to the description of activities. For example, COFORWA had planned to make 35% (out of population of 230,000 people) of latrines sanitary by the end of 2007. However they had not budgeted for sanplats or Mozambique slabs.
- Although COFORWA agreed to increase their allocation to the hygiene programme, it was only when the final receipts were submitted in March 2007 that it became apparent that they had not increased their spending for hygiene. As the numbers of activities had increased, the coverage became poor and superficial.
- Whilst ODAG had hygiene activities in their plan of action they complained of insufficient funds and were not carrying out activities.
The budget for hygiene and sanitation for all partners varied between 0 and 15% of the infrastructure budget, much lower than the amount recommended by Oxfam of 40% to ensure an integrated programme.

All partners complained that over the 5 year programme, the cost of inflation or sudden price increases (for example for fuel or cement) was not taken into consideration.

No additional budget was available for training, therefore whatever the partners needs were, I had to find time and money in my existing schedule/budget to train them myself.

Culture
- CISV did not think it was appropriate to do any hygiene and sanitation and dialogue on hygiene was postponed until they were ready to engage in discussions.
- When it came to choosing a few indicators to focus on, volunteers had difficulty to prioritise which hygiene activities to tackle first.

Technical
- There was an urgent need to repair infrastructure on the ODAG project (due to a recent evaluation) before starting hygiene promotion.
- The area that COFORWA were serving was too large and they were unwilling to reduce it. Due to their multiple staff changes over the two years and constant absence of the Mobilisation Team Coordinator results were poor and achievements lower than anticipated.

Political
- Governmental hygiene and sanitation guidelines only existed in Rwanda and these were not detailed.

2.2.6. Recommendations
- Ideally funds should be set aside for project formulation including funds to carry out assessments and collect detailed data.
- To ensure an integrated water, sanitation and hygiene programme, Oxfam recommend the budget for hygiene and sanitation should represent 40% of the infrastructure budget. This budget can include, didactic materials, transport, per diems, training, incentives for volunteers, infrastructure such as sanplats, hand washing units, tools for digging etc.
- Define a small target area, and choose communities with good leadership and genuine interest. Start hygiene promotion activities preferably before or in conjunction with infrastructure construction.
- At the beginning of the cooperants contract identify the priority areas for partner assistance. Write measurable objectives based on this planning. Decide with the partners the most appropriate weeks for the follow up visits/trainings, based on their schedules (so allowing the coöperant to prepare the trainings).
- Taking pictures of problematic infrastructures and then reviewing them at the end of the day, in the privacy of the office, allowed staff to be more open about improvements that could be made.
- Developing and forming the indicators together with the voluntary hygiene promoters gives them greater ownership in their program.
2.3. Implementation

2.3.1. Stage 7 Selection of volunteer hygiene promoters

Each community of 100 to 500 households (depending on how dispersed they are) needs a voluntary hygiene promoter from that community working with them. (Sphere 2000 and WHO technical note 10) This person should be elected by the population itself, after the program has been introduced to the community. The population should be facilitated to come up with the criteria for selection, and any blanks filled in. The hygiene promoter should be:

- Available and willing
- Respected and a role model in their community
- Ability to read and write in the local language
- Physically fit in order to carry out house by house visits
- Ability to convey a message/some experience of mobilisation
- Some knowledge of good hygiene and sanitation practices
- Demonstrate a good standard of hygiene

The volunteers should be set a task before the training, for example data collection about their community, number of households, protected and unprotected water sources, number of latrines, hygienic practices etc. This task can be used to evaluate their commitment, ability and availability to do the work before they are trained.

| A variable selection of volunteers were chosen by the communities. There may be political reasons why certain people are selected. In Burundi we found there were only a few people in a community who could read and write and so these people were selected for many tasks by different NGOs, becoming eventually too busy to perform any task well. As a result some communities such as the Batwa demonstrated significant changes in hygiene behaviours, whilst others, who were not motivated by the hygiene promoter remained almost the same. |

2.3.2. Stage 8 Training

- PHAST
- Child to child
- Theatre group training

- PHAST – Participatory Hygiene and Sanitation Transformation is a participatory approach used to improve hygienic behaviours, prevent diarrhoeal diseases and encourage community management of water facilities. It does this by demonstrating the relationship between hygiene, sanitation and health, and empowering the community to take action for change. The guide is a 7 step approach, the first five taking the community through the process of developing a plan to prevent diarrhoeal diseases by improving hygiene, sanitation and water supply in their community. The last 2 involve monitoring and evaluating the program.

Step 1 – Problem identification
Step 2 - Problem analysis
Step 3 - Planning for solutions
Step 4 - Selecting Options
Step 5 – Planning for new facilities and behaviour change
Step 6 – Planning for monitoring and evaluation
Step 7 – Participatory evaluation

PHAST is therefore the most appropriate tool to use when you would like to carry out participatory construction of latrines, drying racks and composting or rubbish collection in a community. PHAST training should begin before the construction of infrastructure so that the community is aware in advance of their role in the construction and maintenance of facilities.

In advance of the training the pictures should be developed and trialled and reproduced.

- Reproduction of the pictures

PHAST suggests about 100 different pictures which are used to stimulate discussion amongst community members. It is ideal when dealing with illiterate people. PHAST recommends that the pictures are developed locally by an artist in conjunction with the NGO. A line drawn simple picture is better than a photograph which can be confusing as it has too much information inside, or the presence of familiar people or places can give a misleading impression. Development of the pictures can take a long time, so allow 2 months to find an artist, brief them and start to make the drawings. The artist should make some examples, that can be tested in a community to see that they are not misleading. Ensure that there is a budget line for developing the pictures or adapting them to the local context, which includes photocopying, laminating, or copying on to card, and also a carrying case for the pictures. The artist should be encouraged to visit the local community and study the people and the buildings etc in which they live. Pictures should be, as much as possible open ended, so that they allow for the imagination of the population. A list of these pictures is described in Annex 10.
Two weeks should be allowed for the training. Training should be carried out by hygiene promoters experienced in carrying out a PHAST programme. The PHAST guide can be downloaded from the WHO website at: www.who.int/water_sanitation_health/hygiene/en/index.html

<table>
<thead>
<tr>
<th>How is the disease transmitted?</th>
</tr>
</thead>
<tbody>
<tr>
<td>How is the disease prevented?</td>
</tr>
<tr>
<td>How is the disease treated?</td>
</tr>
</tbody>
</table>

As statistics had been collected for the whole year and presented month by month, we were able to see when certain diseases occurred more often. The volunteers and staff were asked why they thought they were higher at certain times of the year. For example skin diseases in the dry season, malaria in the wet season. From this information we were able to schedule which was the most appropriate promotion to do at each time of year.
Child to Child training

Child to Child is a training specifically for teachers and children who want to promote behaviour change in their communities. The training is based on a training prepared in conjunction with CONCERN in Tanzania for use in primary schools and was adapted from the Child to Child manual produced by the London School of Hygiene in 1978. It comprises of an introduction to the Child to Child approach, the 6 steps of C2C, and skills training in how to convey a hygiene message, through drama, music, posters, community campaigns and house to house visits. The 6 steps of Child to Child are:

Step 1 – Group Work
Step 2 – Our ideas
Step 3 – Choosing a problem
Step 4 – Finding out more
Step 5 – Planning and taking action
Step 6 – Reflection

The advantage of Child to Child is that it is easier to make lasting changes in a community working with children. The children become community role models, and develop confidence and presentation skills. The Child to Child approach can be used in conjunction with PHAST or alone. It is best to start the Child to Child programme before the construction of water facilities. The Child to Child training manual can be found on the PROTOS intranet site.

The schools and teachers should be selected in conjunction with the department of education. The teachers who take part in the training should:

- Have the time to follow up on hygiene promotion
- Have an interest in the hygiene and sanitation at the school
- Have experience in either music, dance or drama

Teachers are trained first by the Hygiene Promoters for 5 days. At the end of the training, each school should make a plan of action for the following months. This comprises of selecting the children, training them and setting up the monitoring committee in conjunction with assistance from the partner NGO. The teachers then train the children in the school. Children should be a mix of 50% girls and 50% boys selected on the following criteria:

- Were respected members of the school
- Have an ability to clearly convey a message
- Demonstrate good personal hygiene
- Talented in either music, drama or dance.

Once the children have been trained, the school should be facilitated to develop targets that they want to reach in their schools. For example:

- Numbers of children wearing closed shoes
- Numbers of children in full, clean uniform
- Number of latrines constructed
- Availability of hand washing outside the latrine or on the way into the class room
- Use of hand washing after the latrine
- Clothes pegs for coats
- Knowledge of the transmission and prevention of diseases
• Cleanliness of classrooms
• Cleanliness of the area surround the school
• Cleanliness of latrines

The NGO should facilitate the set up of a monitoring committee comprising of two children, two
neighbours/parents, the teacher responsible for the training, and the head teacher. Their
responsibility is to monitor the progress of the programme and to feedback on the reception of
the programme by the community.

Incentives can be provided to the school depending on the availability of the budget. These can
comprise of:
  • The initial training of the teachers
  • Papers and pens to carry out the training of the children
  • A manual in local language
  • Musical instruments
  • T-shirts for the children to identify them in the community
  • A hand washing unit

The role of the NGO is to monitor and support the schools, on a monthly basis.

If the programme is expanded in the second year, exchanges can be made between the old and
new schools to demonstrate the work they have done.

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When I arrived, COFORWA had already written into their planning for 2007 school hygiene
promotion. They had made contact with the department of education for which this was part
of national policy. They had pre-selected primary 45 schools. As this would be the first time
that they made school hygiene promotion, I encouraged them to train only 12 schools
intensively and provide closer follow up.

Each school was then responsible for finding money within their budget or from parents to
build infrastructure and carry the programme forward.

Within 4 months of the initial training, all children had been trained and the committees set
up. The children then carried out regular activities of short plays, songs and dance that
conveyed the hygiene messages. In many cases schools had raised funds and constructed new
latrines, had cleaning timetables and in the classroom, shoe racks and coat hooks.

In the second year, 12 new schools were identified. Before the training was carried out, one
of the first pilot schools from each sector visited the new schools in the same sector for an
exchange visit. This comprised of talking about the training, but mostly demonstrating the
plays, songs and posters they had made. One teacher from the first group was also a co-
facilitator during the second training. This proved to be a very successful event and presence
of the teacher during the training, also allowed the new teachers to ask practical questions
about implementation. Due to over committing themselves in their hygiene programme
COFORWA could not give the same support to schools they requested.
Theatre Group Training

Theatre groups are used to carry out role plays, and songs in a community in order to promote behaviour change. They are advantageous in that they can communicate a message to a wide audience quickly, and are in general popular entertainment. They can be very effective promoting messages when there are risks of the outbreak of epidemics. The manual found on the PROTOS intranet site is a guide used to train theatre groups in Tanzania. It is important that there are interactive elements within the groups work, for example at the end, asking the audience which were the hygiene messages, or getting children in the audience to join in games. If this is not done, there is a risk that the public will not link the event to changing their own behaviours.

2.3.3. Stage 9 Demonstration Latrine model

In hygiene promotion programmes it is advisable to build a demonstration latrine model in the community. The allows the community, first hand, to see a sanitary latrine model, proves that it can be built with local materials, and avoids misinterpretation of pictures. As part of their work, volunteer hygiene promoters should construct these models. By doing so they become a role model and can use the model to advise others on construction.

Begin by visiting existing latrines in the community with the volunteer hygiene promoters and NGO staff, to compare and contrast models. Then develop a list of minimum standards that should be followed to ensure a sanitary latrine, for example depth of pit, height of walls, roofing, doors, drop hole cover, hand washing facilities etc. Encourage the hygiene promoters to use as many local materials as possible, so that they can be easily adopted by the local population.

To ensure the latrine is sanitary the base must be cemented. The easiest options are using sanplats or Mozambique slabs.

According to their plan of action, COFORWA agreed to raise the coverage of sanitary latrines by 35%. However there was no model design, and as the base of the household latrines were earth, they were not sanitary. A day with the technical team and animators was spent on the design of a sanitary latrine, based on the VIP model. Two options were offered for the base, the Mozambique slab and the sanplat. COFORWA were trained in the production of both.

First animators built demonstration latrine models at their homes. These they built using their own time and resources, roughly based on the VIP latrine. They also installed sanplats and a tippy tap style hand washing unit. The community was encouraged to come and inspect these latrines.

Once a week volunteers held community meetings in their sector, following the PHAST methodology step by step. On the other days, volunteers made house by house visits, to answer questions and give guidance on latrine construction. They used the table in Annex 10 to monitor the progress of the sanitation programme.
• Mozambique slabs

The domed pit latrine slab, also known as the Mozambique slab is commonly found in refugee camps in East Africa. The dome shape minimizes the required thickness, making it cheaper than typical reinforced concrete slabs; a tight fitting lid creates a tight seal to keep the smell in and the flies out; and the metal handle heats up from sunlight, killing germs and reducing contamination. The round design means that reinforcement bars are not needed and the slab can be rolled from one point to another. The greatest advantage of the slab is that it completely covers the pit, unlike the sanplat which rests on logs. These slabs must be cast within a few metres of the latrine because they can weigh up to 60-70kg.

The mould is easily made from a mound of sand and metal sheets, and a half day of training is sufficient. The step by step guide to producing the Mozambique slab can be found in Annex II.

If made in the field, masons need to be closely supervised to ensure that they do not reduce the cement content.

Training in the production of the Mozambique slab was made by a visiting consultant, who had constructed Mozambique slabs in camps in Tanzania. Six COFORWA masons were trained in one day. COFORWA never adopted the Mozambique slab in their programme complaining that the weight was too high to make them practical, they use a lot of cement (normally one bag per slab) and so would not be affordable to the local population.

The Sanplat or Sanitation platform is a smaller, (about 80cm square and 7cm deep), reinforced slab, weighing about 15-20kg. The sanplat normally rests on logs which lay across the pit. However it can be also placed on top of a concrete slab. Moulds can normally be sourced for free from UNICEF. Alternatively a frame can be made from iron bars. Care should be taken that the logs are regularly inspected to ensure they are not being eaten by termites.
COFORWA had previously produced sanplats under a UNICEF funded programme and preferred them because they were cheaper and lighter to carry. Plastic moulds were sourced for free from UNICEF. Each PHAST committee, elected by the community, comprising of 6 people, attended a one day training in the production of the sanplats and was given 6 moulds to make sanplats. This training was made in their sector by 1 mason from COFORWA and 1 animator. The committees were given cement, and iron bars to produce the first batch of sanplats.

The aim of this project was to sell the sanplats, and with the profit continue to buy and produce sanplats. COFORWA estimated that the PHAST committee should sell the sanplats at 5 Euro, in order to make sufficient profit to pay themselves an incentive and buy materials. They were also insistent that the sanplats should not be given away, as it would lead to dependency. In reality local people could not afford to buy sanplats, and so only a few were sold to local authority offices and health clinics.

In the pilot stage of the project, PEHA trained local field based masons to produce sanplats. However they found that the quality of production was poor and that there was a risk that they would break which would cause the population to loose faith in them. To resolve this problem, members of PEHA agreed to buy the cement together and produce the sanplats in town at an NGO office, and then distribute them to each NGO. This method proved successful, and the quality was of an acceptable standard.

Both ODAG and CISV chose to produce 1m by 1m reinforced latrine slabs. It was possible to do this because the sites they had chosen were flatter, in small villages and both NGOs had set aside funds for their production. They used their existing knowledge in construction to produce the slabs.

Within this project beneficiaries had to meet certain criteria in order to be given a free slab, such as:

- Had adopted and demonstrated hygienic practices, i.e. has a clean house and surroundings
- Had dug a latrine hole to 9-11m number of metres
- Had constructed a drying rack and compost heap
- Were willing to pass on the message to others, showing them how to build their own latrine.

During a monitoring visit to one community we realised that these criteria were not being respected, and the promoter had given slabs to his friends. It was agreed that the NGO has to sign off on the final list before distribution was made.
2.3.4. Water testing training

In order to monitor the effectiveness of a hygiene promotion programme, it is essential to regularly test water at the point of distribution and of consumption, i.e. at household level, as most contamination takes place during the transport and storage of water. The mobile water testing kit, developed by the University of Surry known as the Delagua Kit is designed for this. Random samples should be taken by a technician and the results reported to the hygiene team. Based on the results, further promotion can be made on the safe water chain. At the same time, inspections of the vessels used for transport and storage of drinking water should be made. Ideally one technician working a minimum of 3 days a week is required for this task.

COFORWA had owned a Delagua kit for some time, though it had not been used and the consumables were out of date. After the new consumables arrived, a 3 day training was conducted comprising of a mix of theoretical, lab based and practical training in the field, collecting, testing and analysing samples. As no dedicated technician was assigned to this task, poor follow up was made after the training. Other staff complained of having insufficient time, no pressure cooker for sterilisation, no refrigeration for the growth agent and no transport to carry out the tests.

ODAG carried out extensive tests of water quality at sources. Due to poor planning their tests had to be halted while they waited for new consumables to arrive.

PEHA bought a Delagua kit and were trained in its usage. However due to a lack of budget for a pressure cooker and stove, no refrigeration for the growth agent and difficulty in coordinating its usage between 7 NGOs it was rarely used.

2.3.5. The sensitisation of communities

Sensitisation of communities for hygiene promotion is usually done through:

- Community meetings
- House to House visits
- Community meetings

Community meetings are good for disseminating information quickly to a large group of people. In planning community meetings, it should be recognised that women are generally more constrained in their ability to participate. To facilitate their attendance the following factors must be considered.

- **Time and Place.** Organise the meeting at a time and place that are suitable for both men and women. Meetings should not be held at times when women have to prepare food or are working in the field. Meetings should not be held at places that are too distant or culturally not appropriate for women to be in.
- **Size and Setting.** Smaller neighbourhood-level meetings are easier for women to attend and speak out in than larger mass meetings.
- **Announcement and Encouragement.** Make sure that information about the place and purpose of the meeting reaches both men and women promptly and in good time. If necessary, use several information channels that are appropriate for women. Emphasise the importance of the meeting for women and encourage them to attend.
Seating Arrangements. Do not leave seating arrangements to chance, as the women tend to sit at the back or outside. Rather, arrange the meeting in a way that men sit on one side and women on the other, or in a circle/square.

Meeting Language. Conduct the meeting in the local language.

Leading the Meeting. Reactions from participants are stimulated by the way the meeting is led. A non-authoritarian style and encouragement of opinions and questions from both men and women will help. Forming smaller groups to discuss the information given and to formulate questions will facilitate interaction, with a spokesperson appointed by the women to report back to the larger group.

Use of Participatory Techniques. Organising a local play or puppet show, or displaying a series of drawings to start the program, often makes discussions easier.

- House to House visits
House to House visits allow the promoter to see health risks in the household setting. They are very effective because information communicated one to one has a greater impact than impersonal messages received through the media for example. They may also be one of the few places where women feel comfortable to discuss sensitive issues and to talk openly. During house visits the promoter can make real and practical suggestions for improvement. They can also monitor the changes over time. It is important that the promoter stresses solutions to health risks rather than criticising existing practices.

2.3.6. Gender

In order to ensure gender mainstreaming in a hygiene project, staff can be trained using the Gender manual found on the PROTOS intranet. Points worth considering are:

- Recruit a balance of male and female hygiene promoters and volunteers
- Schedule meetings and house to house visits at a convenient time to ensure women’s participation. Daily timelines can be drawn with women to work out when these times may be.
- Incorporate the views of women and girls into the location of sanitation structures in order to reduce their security risks for women and girls after dark
- Ensure good sanitation facilities in secondary schools to reduce absences from girls
- Ensure latrines are private with a secure lockable door.
- Consult women on the placing and height of clothes washing slabs
- When developing pictures in PHAST, for example on planning for change, it is important to show men and women working together, rather than just one sex.
2.3.7. Financing sanitation infrastructure

Simple household latrines constructed out of local materials are affordable and possible to be constructed by the local population in most countries. However in order to make them sanitary they must have some sort of concrete base. This could either be the sanplat costing around 5 Euro or the Mozambique slab at 11 Euro.

The Gender mainstreaming manual was piloted at COFORWA and was received enthusiastically. For many of the participants it was the first time that they had considered the views of women and girls in the design of facilities.

In Burundi the height of washing slabs is set by national guidelines, therefore the views of local women are not taken into consideration before construction.

COFORWA claimed that culturally women in Rwanda do not like to wash their clothes in public, but when asked, women said that a washing slab by the water point would reduce their work load.

Girls views were not taken into account during the construction of school latrines in Rwanda. The placing of the latrine hole too close to the wall, made it virtually impossible for girls to squat and aim.

2.3.8. Constraints

- PHAST is extremely time consuming for hygiene promoters, to monitor and motivate the volunteers, the pictures are expensive to produce.
- PHAST concentrates on diarrhoea transmission and prevention, whereas the greatest water and sanitation related disease risk in the region is malaria.
- There is a risk that volunteer animators become bored with facilitating community meetings and instead start to lecture.
- Each volunteer hygiene promoter at COFORWA was responsible for 3000 dispersed households, making regular follow up difficult.
- COFORWA staff had little in-depth knowledge on disease transmission and prevention.

The majority of the population in the project sites in Rwanda, Burundi and DRC said they could not afford to buy sanplats, and were not buying them. World Vision provided heavily subsidised sanplats selling them at 1% of production price. In emergency situations they are generally given away for free. Some organisations disagree with this approach because it is seen to create dependency. Training local masons in their production and providing them with moulds and start up materials, as was done in Burundi and Rwanda, means that these entrepreneurs can at least sell to richer clients, local authorities or institutions.
• It is difficult to determine how much access the population has to viewing the demonstration latrines. It is also debatable as to where the demonstration latrine should be located. The animators house, the local bar or the house of a vulnerable person.

2.3.9. Recommendations

• Ideally one community volunteer is needed per 100 households, where the population is dispersed. One volunteer per 500 is recommended where the population lives in close proximity. It is good practice to select volunteers that are representative of the population, 50% of which are women.

• The Child to Child programme is very effective in reaching many households through the children. It is quick to implement and changes are noticeable during a short space of time. It is cheap to run and it is possible to influence behaviour changes to many households through the children. The children are generally enthusiastic and good role models for their communities. Ideally the schools should be visited by animators once per week for at least half a day to ensure proper support and follow up.

• One hygiene promoter in the team should have a background in health or environmental health.

• PHAST is a useful step by step guide for starting up a programme in hygiene and sanitation, where the team has no previous experience. An ample budget must be planned allowing for sufficient volunteers to carry out the implementation.

• Collect health statistics on a monthly basis from health clinics and carry out joint analysis and planning with them.

• Construct demonstration latrines to show the community sanitary models. Construct them out of as many low cost, local materials as possible. If they are located in an animators house, they should be open for public viewing at certain times. If they are in a public place, such as a bar, it is important that they are regularly cleaned.

• Heavily subsidise or give away for free the sanplats in Burundi, DRC or Rwanda where the majority of the population cannot afford to buy them. Ensure that they have demonstrated good hygiene practices before by constructing drying racks, compost heaps and latrine pits.

• As a matter of good practice, all water sources should be tested before protection is carried out. Sample household tests should be carried out weekly to determine the water quality at point of consumption and adjust the hygiene programme accordingly to increase hygiene promotion around the water chain if necessary.

• For analysis to be done seriously, one dedicated member of staff, with their own transport, is required to work on this 3 days per week.
3. Lessons learnt

- It is difficult to influence partner NGOs without being involved on a day to day basis and located within close proximity to them.
- Partners would sometimes agree to carrying out an activity and then not do it. Close follow up of the agreements made should be done.
- The coverage area must be small and compact, preferably in a location where houses are close together.
- Sanplats made by local masons in the field require very close supervision to ensure that they do not reduce the cement content.
- NGOs, if given the choice will choose sanplats rather than Mozambique slabs, as they are cheaper. It is advisable not to give them the option.
- It is almost impossible to sell sanplats in Rwanda.
- Promoters that say the community is difficult or will not change are not good promoters.
- Some volunteers are better than others, it is preferable to have some kind of trial period and replace those who are poor or cannot undertake the commitment.
- Volunteers must be given some sort of incentive for examples, soap, buckets, walking shoes, raincoats etc
- The cost of setting up and running a hygiene and sanitation programme should not be underestimated, it is costly to carry out regular monitoring and to provide training and didactic materials.

4. Factors of success

Partners understand the importance of hygiene and sanitation projects and are willing to replicate what they have learnt if they have sufficient funding to do so. ODAG, AVEDEC and PEHA were interested to learn about C2C and start a schools hygiene promotion programme.

The greatest success was achieved when a small pilot area was identified. For example, 9 communities with 8000 Euros in the case of the CISV PHAST programme, 5000 Euros for ODAG’s programme in 9 communities and 2000 Euros to work in 12 primary schools for C2C with COFORWA.

The most successful communities who demonstrated the greatest change were those whose leaders and animators were fully engaged in the activities, had no other commitments and were not being funded by other NGOs.

Completing a visit report that detailed activities to be followed up by the NGO, with completion dates was more effective when tracking progress than relying on verbal agreements.

All populations were very enthusiastic about both the sanplat and Mozambique slab and were motivated to dig latrine pits and construct drying racks and compost pits, within 6 months of the start of the programme.
5. Annexes

5.1. Annex 1 KAP Survey

Knowledge
- How is malaria transmitted?
- How is malaria prevented?
- How is diarrhoea transmitted?
- How is diarrhoea prevented?
- What sicknesses can you get by drinking unclean water?
- Why is it important to cover the latrine hole after going to the toilet?

Attitudes
- What would you do if your young brother or sister (under 5) had severe diarrhoea?
- How many times in one week would you wash your body if you had access to water?
- If you had a mosquito net would you sleep under it?

Practices
- When do you wash your hands?
- What do you use to wash your hands? Ask the individual to show you.
- Do you have a latrine? Visit the latrine to see what condition it is in and whether hand washing is available?
- Where do you collect water from?
- Do you do anything to this water before drinking it?
- How do you store the drinking water? Check to see how it is stored and whether there is a separate vessel for taking out water and drinking it.
- Where do you dispose of rubbish? Have a look at where the rubbish is disposed.
- What illness or diseases have your family experienced in the last month?
- Did you sleep under a mosquito net yesterday? Can I see where you slept?
- How many jerry cans of water do you collect per day and how many people are there in your family?
5.2. Annex 2 Sanitation Survey

<table>
<thead>
<tr>
<th>Name of village</th>
<th>Location of water point</th>
<th>Date of visit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For a well</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is there a latrine more than 10m of the well?</td>
<td></td>
<td></td>
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<tr>
<td>• Is the nearest latrine on lower ground than the well?</td>
<td></td>
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</tr>
<tr>
<td>• Is there any other source of pollution (animals, excreta, rubbish etc) within 10m of the well?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Are the ropes and buckets clean and not exposed to contamination?</td>
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<td></td>
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<tr>
<td>• Is the height of the headwall around the well adequate?</td>
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<td></td>
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<tr>
<td>• Is the headwall adequate and not broken or cracked?</td>
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<td></td>
</tr>
<tr>
<td>• Is the concrete apron around the well 1m or more?</td>
<td></td>
<td></td>
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<tr>
<td>• Is there good drainage and no stagnant water within 2m of the well?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is the concrete apron around the well not cracked or broken?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Are the walls of the well adequately sealed?</td>
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<td></td>
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<tr>
<td>• Is the drainage channel not cracked or broken, so preventing pollution?</td>
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<td></td>
</tr>
<tr>
<td>• Is the fencing around the well adequate to keep animals away?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>For a Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is there a latrine more than 10m of the spring?</td>
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<td></td>
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<tr>
<td>• Is the nearest latrine on lower ground than the spring?</td>
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<td></td>
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<tr>
<td>• Is the catchment area of the spring fenced?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is the excavation of the spring more than 3m?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is there any other source of pollution (animals, excreta, rubbish etc) within 10m of the spring?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is there good drainage allowing no stagnant water within 2m of the spring?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is the concrete apron around the spring not cracked or broken?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is the drainage channel not cracked or broken, so preventing pollution?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is the fencing around the well adequate to keep animals away?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>For Latrines</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Are latrines available?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Are they more than 10m and downhill from a water point?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Are they clean?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Are flies present?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Do they smell?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is a cover for the drop hole available? Is it used?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is the depth of the latrine higher than the water table by 1.5m?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Does that latrine allow privacy, with a door or curtain?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Does the door shut adequately to create a dark atmosphere inside?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Are hand washing materials, water and soap available?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is their a roof in the latrine that stops rain?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is the latrine located in a convenient place for use by women and children?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is the path to the latrine clean and free from contamination?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is the path accessible?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is ash or lime used in the latrines?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.3. Annex 3 Exploratory Walk

- Are rubbish pits regularly available, used or full?
- Is there rubbish in the community, is this biodegradable rubbish?
- Are people washing their clothes or bodies at the water point?
- Are people washing cooking pots, utensils at the water point?
- Are animals drinking or walking through the water point?
- Are animals fenced?
- How do people dispose of children’s faeces?
- What vessels are used to collect water? Are these clean and covered?
- Is there open defecation in the community?
- Are there flies around rubbish pits?
- What signs of disease are there in the children? Malnutrition, worms, eye infections, skin infections?
- Are the children clean and dressed?
- How are utensils dried and stored?
- Are the outside of houses swept and clean?
5.4. Annex 4 Questions for focus group discussions

- What are the current water and sanitation related diseases in this community?
- What is the daily/weekly frequency of the water supply?
- Are there alternative sources nearby?
- What are the key hygiene issues related to the water supply?
- Are people familiar with the construction and use of toilets?
- What local materials are available for constructing toilets?
- What traditional beliefs and practices relate to vectors and vector borne disease? Are any of these either useful or harmful?
- How do people dispose of their waste?
- What is the normal practice of solid waste disposal for the population? (compost/refuse pits? collection system? bins?)
- What special security risks exist for women and girls?
5.5. Annex 5 Questions for the health clinic

- What is the number of people served by this health clinic?
- How many people used the clinic in the last month and year?
- Are there outreach workers? How many are there and what is their role?
- How many people did you treat in the last month for malaria, diarrhoea, skin diseases, eye infections, and worms?
- What are the top 6 diseases that you treat at this clinic?
- How do incidences of water and sanitation related diseases compare with other diseases?
- What is the cost of consultation and treatment?
5.6. Annex 6 Survey form

MERCY CORPS ZALINGIE KAP BASELINE SURVEY

Village:__________________________ Interviewer:__________________________ Date of Interview:__________________________

1. Household Identification name:____________________________________________________

2. Number of Household members

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 5 Yrs</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>6 to 14 Yrs</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>15 to 64 Yrs</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Above 65 Yrs</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Total</td>
<td>M</td>
<td>F</td>
</tr>
</tbody>
</table>

3. Do you have a latrine? Yes No

4. If yes, how many of the family members use it?

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 5 Yrs</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>6 to 14 Yrs</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>15 to 64 Yrs</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Above 65 Yrs</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Total</td>
<td>M</td>
<td>F</td>
</tr>
</tbody>
</table>

5. What are the reasons for latrine use {Assign priority(1 to 5)}

Reasons Priority No.
1. For better health
2. Privacy
3. Persuaded by NGOs or others
4. Social status
5. Others Specify

6. Are there any problems with the latrine?
   1. Water not available for cleaning
   2. Flies/or Mosquitoes
   3. Superstructure does not ensure privacy
   4. Foul smell
   5. Flooding in rainy seasons
   6. Difficulties for younger children to use
   7. Pit filled up
   8. Slab not stable(Fear to fall)
   9. Other Issues
7. What are the diseases or illness your family experienced during the last three weeks?

<table>
<thead>
<tr>
<th>Diseases/Condition</th>
<th>Length of sickness</th>
<th>No of family members sick</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Malaria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Diarrhea among &lt;5 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Diarrhea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Jaundice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Eye diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Bloody diarrhea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Skin disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Others, please specify</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. How do you protect your family from the above diseases?

1. Keeping clean
2. Use safe drinking water
3. Use and cleaning latrine
4. Follow the health advice
5. Wash hands and personal hygiene
6. Mosquitoe net
7. Environmental cleaning

9 a. Do you wash your hands?  Yes  No

9 b. If yes why do you wash your hands?
1. To be clean  Yes  No
2. Free from bad smell  Yes  No
3. Prevent diseases  Yes  No

10. When do you wash your hands?
1. Always when my hands are dirty
2. After visiting latrine
3. Before preparing food
4. Before eating food
5. After eating food
6. After cleaning children
7. Before breastfeeding

11. What do use to wash your hands?
1. Soap
2. Ash
3. Plain water
4. Sand
5. Nothing

12. Do you clean your child after defecation?  Yes  No

13. What do you do with children stools?
1. Leave it where it is
2. Throw it in the street
3. Throw it in the latrine
4. don’t see it as harmful
5. Others, specify

14. What are the signs of dehydration
1. Dryness of the mouth
2. Watery stool
3. Sunken eyes
4. Fever
5. Others, specify

15. Non food items and Hygiene utensils in the household
Item No. Available Type/size specific use
Plastic sheet for shelter
Washing basin
Toilet soap
Laundry soap
Jerry can for drinking water
Vessels for storage of drinking water
Bucket
Comb
Cooking utensil
Cups
Straw mats
Blankets
Mosquito net
Sanitary material for women

16. What do you do to keep your food safe?
1. Cook it
2. Cover it
3. Wash it
4. None of the above
5. All the above

17. What do you do prevent skin disease?
1. Bathe and change clothes regularly
2. Wash all clothes and bedding regularly. Hang them out in the sun to dry
3. Keep flies away from face
4. Wash face everyday with soap and water
5. All the above

18. What are important actions to maintain good hygiene?
1. Bathing regularly
2. Keeping food away from flies
3. Keeping compound clean
4. Washing hands all the times

19. Do you clean your water container? Yes No
20. If yes how often?
   1. 2 days
   2. 5 days
   3. Two weeks
   4. Once a month
   5. Don’t clean

21. Why do you clean your water containers?
   1. To keep it clean
   2. Prevent disease
   3. Persuaded to clean

22. What type of detergent do you use in cleaning?
   1. Water
   2. Soap
   3. Sand
   4. Gravel
   5. Soap and gravel
   6. None

23. Where do you bathe?
   1. In the house
   2. Latrine
   3. In the river
   4. Don’t bathe

24. How often would you like to bathe
   1. Once a week
   2. Once a day
   3. Twice a week

25. Why not more often?
   1. Lack of water
   2. No private place to bathe
   3. No materials to wash with (soap, buckets, jerrycans)
5.7. Annex 7 Statistical Accuracy - Confidence and Error

http://www.custominsight.com/articles/random-sample-calculator.asp

In order to understand random sampling, you need to become familiar with a couple of basic statistical concepts.

1. Error - This is that "plus or minus X%" that you hear about. What it means is that you feel confident that your results have an error of no more than X%.

2. Confidence - This is how confident you feel about your error level. Expressed as a percentage, it is the same as saying if you were to conduct the survey multiple times, how often would you expect to get similar results.

These two concepts work together to determine how accurate your survey results are. For example, if you have 90% confidence with an error of 4%, you are saying that if you were to conduct the same survey 100 times, the results would be within +/- 4% of the first time you ran the survey 90 times out of 100.

If you are not sure what sort of error you can tolerate and what level of confidence you need, a good rule of thumb is to aim for 95% confidence with a 5% error level.

Error is also referred to as the "confidence interval" and Confidence is also known as "Confidence Level." In order to avoid confusion, these concepts will simply be referred to as "Error" and "Confidence" in this article.

Determining the "Correct" Sample Size

Determining the "correct" sample size requires 3 pieces of information

1. The size of your population
2. Your desired error level (e.g. 5%)
3. Your desired level of confidence (e.g. 95%)

<table>
<thead>
<tr>
<th>Population size</th>
<th>3% error</th>
<th>5% error</th>
<th>6% error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90% confidence</td>
<td>95% confidence</td>
<td>99% confidence</td>
</tr>
<tr>
<td>100</td>
<td>88</td>
<td>91</td>
<td>95</td>
</tr>
<tr>
<td>500</td>
<td>301</td>
<td>340</td>
<td>393</td>
</tr>
<tr>
<td>1 000</td>
<td>431</td>
<td>516</td>
<td>648</td>
</tr>
<tr>
<td>5 000</td>
<td>657</td>
<td>879</td>
<td>1347</td>
</tr>
<tr>
<td>10 000</td>
<td>703</td>
<td>964</td>
<td>1556</td>
</tr>
</tbody>
</table>
### 5.8. Annex 8 Indicators

Global indicators for hygiene

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygiene of the body</td>
<td>% of people who take 7 baths per week for women and children and 3-4 bath a week for men</td>
</tr>
<tr>
<td>Hygiene of the cloths</td>
<td>% of people with clean, short nails</td>
</tr>
<tr>
<td></td>
<td>% of men with clean short hair and women with clean short of plated hair</td>
</tr>
<tr>
<td></td>
<td>% of people who clean their teeth one time per day with toothpaste or a stick</td>
</tr>
<tr>
<td></td>
<td>% of people who keep their noses and ears clean</td>
</tr>
<tr>
<td></td>
<td>% of people who wear closed shoes</td>
</tr>
<tr>
<td></td>
<td>% of people who wash their clothes with soap and iron them</td>
</tr>
<tr>
<td></td>
<td>% of people who clean their bedclothes regularly</td>
</tr>
<tr>
<td></td>
<td>% of people who wash their clothes and dry them in the sun</td>
</tr>
<tr>
<td></td>
<td>% of people with an absence of lice</td>
</tr>
<tr>
<td></td>
<td>% of people with an absence of eye diseases</td>
</tr>
<tr>
<td></td>
<td>% of people who have water and soap available for hand washing after using the latrine</td>
</tr>
<tr>
<td></td>
<td>% of people who never take a bath in the river</td>
</tr>
<tr>
<td></td>
<td>% of people who have access to private showers</td>
</tr>
<tr>
<td></td>
<td>% of people who give their children anti worming tablets every 3 months</td>
</tr>
<tr>
<td></td>
<td>% of people who know how diarrhoea, skin disease, malaria and worms are transmitted</td>
</tr>
<tr>
<td></td>
<td>% of people who have been sick with diarrhoea and malaria in the past month</td>
</tr>
<tr>
<td></td>
<td>Statistics from the health clinic</td>
</tr>
<tr>
<td></td>
<td>% of people who dry the mattress and bed cloths in the sun each day</td>
</tr>
<tr>
<td></td>
<td>% of people who prevent children playing in the rain</td>
</tr>
<tr>
<td>Environmental and Sanitary hygiene</td>
<td>Incidence of stagnant water in the community</td>
</tr>
<tr>
<td></td>
<td>Incidences of tree nurseries planted for wood for latrine construction</td>
</tr>
<tr>
<td></td>
<td>% of households without long grass or bushes around their houses</td>
</tr>
<tr>
<td></td>
<td>% of people who have dug rubbish pits and use them</td>
</tr>
<tr>
<td></td>
<td>% of people who have clean latrines with drop hole covers</td>
</tr>
<tr>
<td></td>
<td>% of people who brush around their house each day</td>
</tr>
<tr>
<td>Food hygiene</td>
<td>% of people who wash hands before cooking</td>
</tr>
<tr>
<td></td>
<td>% of people who eat well prepared food</td>
</tr>
<tr>
<td></td>
<td>% of people who wash food and fruit before eating it</td>
</tr>
<tr>
<td></td>
<td>% of people who clean pans and utensils before cooking</td>
</tr>
<tr>
<td></td>
<td>% of people who have a drying rack and use it</td>
</tr>
<tr>
<td></td>
<td>% of people who wash hands before and after eating</td>
</tr>
<tr>
<td></td>
<td>% of people that don’t eat food that is not fresh</td>
</tr>
<tr>
<td></td>
<td>% of people that cover food before and after cooking</td>
</tr>
</tbody>
</table>
### 5.9. Annex 9 Budgeting

<table>
<thead>
<tr>
<th></th>
<th>Unit price</th>
<th>No of units</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessments</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Production of survey form, photocopying and piloting</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Training for survey team</td>
<td></td>
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<tr>
<td>Per diem for survey team</td>
<td></td>
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<tr>
<td>Transport for survey team</td>
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<td></td>
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</tr>
<tr>
<td>Data entry, analysis and production of report</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>PHAST training</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Translation of PHAST manual in local language and copying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selection of volunteer hygiene promoters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptation of pictures to local context</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Food, accommodation and transport for the voluntary hygiene promoters for 2 week training</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Rental of training room</td>
<td></td>
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</tr>
<tr>
<td>Materials for training paper, pens etc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production of pictures for voluntary hygiene promoters</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Report of training</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PHAST field work</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hygiene promoters salary</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hygiene Promoters per diem</td>
<td></td>
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<tr>
<td>Hygiene Promoters transport to the field</td>
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<tr>
<td>Voluntary hygiene promoters incentives</td>
<td></td>
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<tr>
<td>Pens, and note books for voluntary hygiene promoters</td>
<td></td>
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<tr>
<td>Production of sanitation platforms</td>
<td></td>
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<td></td>
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<tr>
<td>Transport of materials for sanitation platforms</td>
<td></td>
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<tr>
<td>Training of local masons</td>
<td></td>
<td></td>
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<tr>
<td>Distribution of buckets, soap, hand washing units</td>
<td></td>
<td></td>
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<tr>
<td>Cost if any of building a model latrine</td>
<td></td>
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<tr>
<td>Transport for monthly voluntary hygiene promoters meetings</td>
<td></td>
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<tr>
<td><strong>Evaluation</strong></td>
<td></td>
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<tr>
<td><strong>Child to Child</strong></td>
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<tr>
<td>Translation of the training manual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reproduction of the training manual</td>
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<td></td>
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</tr>
<tr>
<td>Food, accommodation and transport for training the teachers for 1 week training</td>
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<td></td>
<td></td>
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<tr>
<td>Materials for the teachers to train the children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-shirts for the children</td>
<td></td>
<td></td>
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<tr>
<td>Exchange visit from one school to the other</td>
<td></td>
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</tr>
<tr>
<td>Distribution of buckets, soaps and hand washing units to schools</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
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</tbody>
</table>
5.10. Annex 10 List of PHAST pictures

1. 10-15 pictures showing every day life, some of the pictures can be dramatic, like of celebrations, hospital visits, deaths, disputes etc, others quieter or more normal, people, walking, cooking or eating for example. The pictures should be as open as possible so that they can be interpreted differently and arranged into different orders.
2. Two women talking, one holding a baby
3. A man and a woman
4. A celebration
5. A meeting
6. Someone walking toward an unmarked building
7. Two people talking to someone who is behind a desk
8. A man and woman thinking about something deeply
9. Two people arguing
10. People running away from something
11. A group of men socialising
12. A group of women socialising
13. People laughing
14. A picture of a nurse at a health clinic
15. A local witchdoctor
16. An adult wiping a babies bottom
17. An adult cleaning a latrine
18. A child defecating in the back yard of a house
19. An adult covering a latrine hole
20. An adult sweeping up faeces from the yard
21. An adult putting ash down a latrine pit
22. A person using a latrine pit
23. A adult showing a child how to wash their hands
24. A girl washing her hands outside a latrine
25. Hand washing with soap and water
26. Hand washing with water
27. Hand washing with ash
28. A dog or pig eating faeces
29. A tank of water outside a house
30. A dog drinking from the drinking water container
31. A chicken drinking from the drinking water container
32. An adult washing a child’s face
33. An adult washing a baby
34. An adult using a jug of water to take water out of a container and give to a child
35. An adult drinking from a water collection bottle
36. An adult washing dishes and drying them on a rack
37. A series of pictures of an adult collecting water from various sources
38. A woman boiling water
39. A person using his hands to scoop water out of a drinking water container
40. A person washing himself
41. People washing and swimming in a water source
42. A person defecating in a river
43. Animals standing in or around a water source
44. An adult preparing food
45. A child and a cat eating out of the same bowl
46. A person washing food before cooking it
47. A family eating with their fingers
48. An uncovered water container
49. Pots, pans and utensils lying on the ground
50. Dishes and utensils lying uncovered outside
51. Prepared food lying uncovered
52. A person’s mouth or face
53. A hand
54. A field of crops
55. Flies, cockroaches, rats or other vermin
56. Milking a cow
57. Open defecation
58. Someone collecting water without the pot being covered
59. Animals eating from household plates
60. A dirty latrine
61. Someone preparing food
62. Covered food
63. A fenced water source
64. A person burning rubbish
65. A person collecting faeces from the yard
66. Fly or insect spray
67. Storing water in covered containers
68. A man
69. A woman
70. A man and woman
71. Washing cloths
72. Showing children how to use a latrine
73. Feeding children
74. Constructing the walls of the latrine
75. Disposing of household rubbish
76. Digging a pit
77. Collecting the building materials for latrine construction
78. Cleaning up the inside of a house
79. Buying soap
80. Agricultural tasks
81. Taking care of the animals
82. Open defecation
83. Someone burying faeces
84. Pit latrine
85. Pit latrine with squat slab
86. Pit latrine with drop hole cover
87. Pit latrine with hand washing facilities
88. Pit latrine with ventilation pipe
89. Pit latrine with ventilation pipe and hand washing facilities
90. Poor flush latrine
91. Flush toilet
92. Communal toilet block
93. Flush toilet with hand washing
94. Two pictures of the same village, one now, with poor hygiene and sanitation and one of the future with achievable improvements in hygiene and sanitation
95. Community meeting
96. Collecting money
97. Buying building materials
98. Digging the pits for latrines
99. Pouring the concrete for the slabs
100. Building the walls
101. Putting the roof on
102. Putting in hand washing facilities
103. Teaching children how to use the latrine
104. Building a new fence around a water point
105. Repairing a damaged water point
5.11. Annex 11 Mozambique Slab training guide

How to make dome-shaped SanPlats
SanPlats can be made in different shapes and sizes. The size will depend on the moulds used. The method for making them is, however, the same.

Left--Circular SanPlat 1.5m diameter; dome-shaped SanPlats are used where wood is in short supply
Right--Circular SanPlat 1.2m diameter

Moulds
The following moulds are required; the number depends on the daily production:
- Girdle moulds (one per slab and day)
- Drop-hole moulds (one per slab and day)
- Arch moulds (one or two should be enough)
- Foot-rest moulds (one or two should be enough)

Tools
As for the ordinary SanPlat, a set of normal mason's tools is a minimum requirement. The number of tools needed depends on the daily production.
- A wheelbarrow for transport of material
- One or two buckets for measuring the material
- A hammer for various purposes
- A hacksaw or a chisel for cutting the reinforcement bars (they can also be cut with a hammer against the edge of a pick-axe or any other sharp edge)
- A piece of a water pipe is useful when bending reinforcement bars for the handles.

Material
The SanPlat slab is made of unreinforced concrete. To avoid unnecessary breakages the material should be clean and of good quality.

The quantities will depend on the dimensions.
You will need:
- Normal cement (standard Portland)
- River sand
- Gravel (12mm or similar)
• Plaster sand (if cheaper than river sand) can be used for the moulding. Plaster sand can also be used to 'modify' the river sand if it is too coarse.
• A roll of sisal cord or any other string for tying the ends of the girdle mould together unless the girdle clip is used. (Iron wire is not recommended as it will damage the girdle mould when it is pulled with the pliers.)
• 6mm mild steel reinforcement (for the handle of the lid).

The casting yard
Before you start, make an assessment of the area and the use of the space in your casting yard. You will need a flat, hard and smooth surface for mixing the concrete and later you will need space for spreading out the slabs for making footrests and lids. Finally you may need some space for storing finished slabs.
The example illustrated is designed for a daily production of five to ten SanPlats of 1.5m diameter. In selecting a site you should try to find a place which people normally pass by. Seeing the slabs being cast makes people curious and is very effective publicity. In planning the site, you must consider carefully where and how to off-load the site vehicles, as heaps of sand are difficult to move. Pay attention to the vehicle turning radius and to the strength of the road as manoeuvering large heavy vehicles may cause damage. The mixing area should be horizontal and flat. To make cleaning easy, it should be very smooth and have no elevated edges.

Good workmanship is always appreciated. It is also a quality which is important for hygiene and cleaning, as people prefer to care for a SanPlat which is smooth and well shaped. No part of any surface must be rougher than the surface of a well-stretched-out palm of a hand and the shape should always be the same as that of the moulds.
Keep the moulds clean. Remove concrete leftovers before they get too hard.
1. Start by placing the peripheral girdle mould in a circle on the ground and tie the ends together with a piece of string and fill with sand.
2. Place the drop-hole mould in the middle on a heap of damp sand and check its position with the arch mould.
3. Well-positioned, you should be able to turn the arch mould around within the girdle mould.
4. The tips of the arch should move just inside the edge of the girdle mould. Compact the sand and add or remove sand as necessary until you have just the right shape. Be careful that the two wings of the arch mould are resting on sand all the time.
5. Now take the drop-hole mould out of the sand...
6. .... And cover the hole gently with sand without disturbing the shape of the mounded sand.
7. Finally check the height of edge (the thickness of the SanPlat) and remove excess sand as required. The thickness at the edge should be 4cm (1.5in) which can be best checked with a piece of wood of the same thickness.
8. Cover the sand with paper from cement bags or with newspaper starting from the sides and finishing at the top. The papers should cover the sand as tiles cover a roof to prevent concrete later flowing between the papers. Fix the papers temporarily with stone or cement lumps so that they do not blow away.
9. Now place the drop-hole mould in the centre on top of the paper and check the position with the arch mould. If another slab should be cast on top it is important that the mould is placed exactly in the middle. If not you will experience problems when rotating the arch mould.
10. You are now ready to cast the slab with concrete in the proportions 1+2+2 of cement, sand, and half-inch (12mm) clean gravel (or finer). Start by filling very carefully around the drop-hole and pound gently with the edge of the trowel to make sure that the concrete fills well and you get a smooth edge around the hole.
11. Spread out the concrete with the help of a straight batten to ensure correct thickness of the concrete.
12. The inclination inwards around the drop-hole is made by hand 'digging' with a mason's trowel down to the threshold of the drop-hole mould and
possibly 1 or 2mm below that level when you finish the surface, to make sure that the edge does not break when you later remove the mould. Pay special attention to the inclination in front of and behind the mould where some extra concrete may be needed.

13. Now the surface of the slab can be worked out to final finish, preferably using a steel-float (floor trowel). You may need to wait for some of the water to be soaked up by the underlying paper and the sand in order to get a good surface. Some cement powder sprinkled on the surface may also be helpful.

14. After an hour or two, when the concrete is stiff, the drop-hole mould can be removed. This is done more easily if you hit the two ends of the mould gently with a light hammer.

15. This is the right time to make the inscriptions in the slab. Each slab should have the concrete mix, the casting date, the number of the slab and the initials of the slab maker written on the concrete as indicated in the illustration on page 00. (The numbers of the slabs should be consecutive numbers starting from 1, independent of the size and shape of the SanPlat.)

16. Before the concrete becomes too hard you should scratch the surfaces of the foot-rests to get a rough surface for the foot-rests themselves to stick better. Use the foot-rest mould as a template.
Multiple slab making

A number of slabs can be cast on top of each other. This saves space in the casting yard and facilitates curing as only the top slab will be exposed to the sun, and the moisture from the fresh concrete will prevent the underlying slabs from drying during the curing time.

17. To make another slab the girdle mould can be pulled up with a pair of pliers. Before you start to put on more sand as a base for the next slab, place the drop-hole mould in the centre, in the hole of the underlying slab.

18. Now you can continue to make one or more slabs on top of the first one, following the same principles as for the first

Curing
The curing is best done while the slabs are still stacked.
The recommended curing time is one week.
- Make a hole in the paper through the drop-holes and add water. The sand will soak up the water until the whole stack is well soaked.
- Even if the top slab will receive some water from beneath, the surface must be protected from drying out. Pull up the girdle mould a bit and cover with more sand and water. Keep the stack wet for one week by watering at least once a day.
- After one week the slabs can be removed from the stack and put flat on the ground for completion with foot-rests and lids for testing.

Making the lid
The lids and the foot-rests are made in the same way as for the small SanPlats. (See beginning of this chapter for further details.)

Test for safety
When at least one week old, the SanPlats should be test-loaded with the weight of six people, when supported by four diagonally placed wooden wedges as in the diagram (click on the top photo for an enlarged view of this. All slabs should be test-loaded. When the slab has cured for at least seven days (check with date inscription) it can be test-loaded with six people on top of it, standing in a row along the length of the slab. Start by checking the date inscription. With a piece of chalk or charcoal, mark out places for a set of wedges to be inserted, first along the length axis and then at right angles. Insert the wedges, checking that all four wedges provide good support for the slab. Ask people to stand in a row on the slab. If the slab does not break, it has passed the test and should be marked with a small "s" (for security tested).
5.12. Annex 12 Table to monitor the construction of latrines

Community name
Number of households in Community

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