# Evaluation of the

# Strategic Sanitation and Hygiene Promotion

# -for Schools

# Pilot Projects

# Nkhata Bay and Kasungu Districts

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## Abbreviations

| | |
|---|---|
| AIDS | Acquired Immune Deficiency Syndrome |
| CBM | Community-Based Management |
| CDA | Community Development Assistant |
| COMWASH | Community Water, Sanitation and Health Project |
| COWASAC | Community Water and Sanitation Advisory Committee |
| CU | Concern Universal |
| DA | District Assembly |
| DCDO | District Community Development Officer |
| DDC | District Development Committee |
| DDF | District Development Fund |
| DEC | District Executive Committee |
| DEHO | District Environmental Health officer |
| DEM | District Education Manager |
| DEO | District Education Officer |
| DFID | Department for International Development |
| FRESH | Focussing Resources for Effective School Health |
| GoM | Government of Malawi |
| HEP | Hygiene Evaluation Procedure |
| HESP | Hygiene and Environmental Sanitation Promotion |
| HIV | Human Immunodeficiency Virus |
| HSA | Health Surveillance Assistant |
| IEC | Information, Education and Communication |
| IMEP | Integrated Monitoring and Evaluation Plan |
| KAP | Knowledge, Attitude, Practice |
| MASAF | Malawi Social Action Fund |
| MESA | Malawi Education Support Activity |
| MIE | Malawi Institute of Education |
| MoEST | Ministry of Education, Sports and Technology |
| MoGYCS | Ministry of Gender, Youth, and Community Services. |
| MoHP | Ministry of Health and Population |
| NGO | Non Governmental Organisation |
| PCoSP | Malawi Primary Community Schools Project (DFID) |
| PEA | Primary Education Adviser |
| PHAST | Participatory Hygiene & Sanitation Transformation |
| PIC | Project Implementation Committee |
| PIF | Policy & Investment Framework |
| PMT | Project Management Team |
| PTA | Parent Teacher Association |
| SMC. | School Management Committee |
| SSHP - S | Strategic Sanitation and Hygiene Promotion - for Schools |
| SSHP | School Sanitation and Hygiene Promotion |
| SWA | Social Worker Assistant |
| SWAP | Sector Wide Approach |
| TDC | Teacher Development Centre |
| ToTs | Trainer of Trainers |
| UNICEF | United Nations Children's Fund |
| USAID | United States Agency for International Development |
| VLOM | Village-level Operation and Management |
| WES | Water and Environmental Sanitation Group of UNICEF |
| WHO | World Health Organisation |
| WMA | Water Monitoring Assistant |

## Executive Summary

The main purpose of the report is to evaluate progress made in achieving the five objectives of the School Sanitation and Hygiene Promotion Project.

1. **To establish and develop capacity at national, district and sub-district levels to support the development and implementation guidelines to deliver effective sanitation, hygiene and water to schools and surrounding communities.**

While the **National Steering Committee** has not formally met for over a year, members of the have taken part in the Study tours, evaluation meetings for sanitation technology and HEP. The evaluation team endorses a previous recommendation that a national forum for school sanitation should be revived for Phase 2 as a working and learning body, to participate in SSHP pilots by applying and developing policies, guidelines and strategies; and this may be done under the WASH initiative.

The **District Assemblies** were involved in setting up the PMTs and the school selection criteria, but ways must be explored on how they can better internalise SSHP. This can be done by involving them more in planning and monitoring of activities in Phase II. In Nkhata Bay the District Assembly requested quarterly feedback from the PMT and the DEC, and the PMT was accountable to it.

The policies and guidelines of the various line ministries are well understood by the **Project Management Teams**. However, the District Executive Committees and the PMTs need to realign their activities to include more training on policy, coordination, supervision and enforcement. It is recommended that the project should consider initiating a participatory review of the implementation processes

Similarly, **extension staff**, although having taken a role in the implementation of SSHP still need to integrate themselves into its activities; this is especially so for the Health Surveillance Assistants. Nkhata Bay has recommended that extension workers conduct joint supervision and present joint reports to the PMT; this can be seen as a very positive development. It is recommended that the project also explores ways of facilitating a forum, whereby the School Management Committees request the services of various extension workers.

2. **To develop gender sensitive school sanitation and hygiene promotion systems and materials.**

The project was designed so that **communities** should be involved in every stage of the project cycle, and that their **participation** should go beyond the provision of materials. To a large extent this has been achieved. The evaluation team noticed that the various school committees had grown in their roles through their involvement. It is recommended that in order to further develop the communities' level of participation, during the Phase II of the project, the extension workers should review the participatory processes with the communities so that they can assume a greater role. In the long term, future project designs should incorporate the strategies described in the National Strategy for Community Participation in Schools, as well as the lessons learnt in the Malawi Education Support Activity.

The process of developing the **school selection criteria** should be reflected on, as the criteria tend to favour a needs based approach, rather than supporting a rights based approach where the duty bearers have already taken some initiatives. One such criterion is the existence of low cost hygiene and sanitation activities.

The use of the Participatory Hygiene and Sanitation Transformation (**PHAST**) has been used effectively as a Hygiene and Sanitation Promotion tool. The project should conduct a review of the way PHAST has been implemented so that its transformational capacity can be effective.

**Community Based Management** of water points is effective, and communities have funds and are purchasing parts. Spares are readily available to support Village Level Operation and Maintenance activities. The CBM training content should be reviewed to take into account the particular issues faced by water point committees managing the users of school water point. This should reflect the co management of a water point by teachers' families and the communities. Capacity for advanced repairs of hand pumps does not yet exist, and the required materials are unavailable locally.

Most of the **sanitation clubs** were not very active on hygiene as sanitation promotion. They often limited their roles to organising rotas for latrine cleaning, and some acted as a type of sanitation police force. One school had a very energetic club with a wide range of activities and was lead by an enthusiastic sanitation teacher; this school had exceptionally clean facilities! Nkhata Bay is in the process of developing terms of reference for the clubs; this is a positive development as it appears that clubs are inactive because of a lack of imagination in devising the scope of activities.

Group discussions with **children** showed a high level of **knowledge** on hygiene and sanitation issues, in particular the faecal-oral route. Sources of knowledge were varied, but school assembly appears to be the main focus of behaviour change. Children claimed that they influenced behaviour change at home: more frequent hand washing, and more frequent cleaning of latrines. However their involvement in the selection of **latrine technology** was limited.

The evaluation team did not observe the new **Life Skills** syllabus being used. The syllabus needs revision to take better account of the **social and economic context** in which the majority of students live.

### 3. To develop a range of options for sanitation facilities suited to various geological, socio-economic conditions and gender considerations.

A costing exercise shows that a full complement of two four by four latrines, two urinals and two hand washing facilities costs **$10 700 per school**. Assuming a reasonable life span of 20 years, and the costs appear as **$0.50 per child per year**.

The project should review the various **cost saving** measures suggested in this and other reports. This may make implementation of activities faster, and also reduce costs for the communities.

The latrines are **child friendly**, and some schools have provisions for older girls. For **ease of cleaning,** it is recommended that the sanplats be installed flush with the floor. The promotion of **empty-able latrines** is not recommended.

The **school sanitation options catalogue** needs reiewing so that it helps communities make better informed choices. This will also assist the PMTs and extension staff in their supervision. The catalogue can be complemented by sani centres, models, posters and decision trees. Contractors also found the catalogues difficult to use. The revised catalogue should also include detailed drawings of **hand washing facilities** and **urinals**.

### 4. To develop health promoting schools with hygiene, sanitation and water facilities.

The evaluation team is convinced that **hand washing tanks** should continue to be promoted. At one school, all children were observed to wash their hands on leaving the latrine – if it can work in one school it can work in others. Observations showed that tanks were not used because they were poorly designed or poorly constructed. An optimum size appears to be 200 litres.

**Urinals** are a big success, especially girls' urinals. There is no doubt about their use and advantages.

In the 10 schools visited, the pupil to latrine ratio is **69 pupils per drop hole**. This appears to be sufficient, especially in view of the urinals. The **allocation** of one class per latrine needs to be reviewed, as the junior classes are much larger than the senior classes and go to the latrine more often. Although the catalogue latrines are fully **VIP**, none of the latrines inspected were fully VIP.

The **construction quality** indicates that the latrines are durable, and that the pit sizes are adequate

for this. One concern is the generally poor quality of the drainage.

The latrines in all the schools visited were well maintained, especially in those schools with urinals.

5. **To extend sanitation and hygiene promotion to families.**

Both districts have higher traditional **latrine coverage** than the national average; this is a good starting point for sanitation promotion. **Access to water** is significantly lower than the national average.

**Hand washing** remains a challenge; communities are becoming aware of the critical times, but the method, especially before eating is still poor. Schools should still continue developing small tanks for demonstrating their use at home.

The project has yet to tackle on a large scale the extension of hygiene and sanitation promotion to the communities; this has been proposed as part of phase 2.

Evaluation of the Primary Community Schools Project concludes that expensive latrines may have limited **demonstration value** because of their inappropriateness to the community. Consultations with the community strongly suggest that communities do not aim to replicate school latrines at home. The latrines have forced the communities to ask the question: *children have facilities at school, how can they have facilities at home?* So in this sense the latrines may succeed to promote sanitation. Sanplats and dome slabs are seen primarily as ways of improving the life span of a latrine. Communities expressed a **willingness to pay** at least part of the cost of a SanPlat or a dome slab; this needs to be investigated further. Payment will also reduce the number of uninstalled platforms. The project now has to rise to the challenge of facilitating the meeting of the demand. It is recommended that a household level sanitation catalogue be devised, and a strategy for making sanitation platforms available to buy or to make.

# Evaluation of the Strategic Sanitation and Hygiene Promotion Project

## 1 Introduction

### 1.1 Background:

In the promotion of hygiene and sanitation, there has been a programmatic shift of focus to schools and children, as it is recognized that schools offer an important point of entry for raising the profile of hygiene and sanitation, as well as improving the environmental health conditions in schools and communities. Children, can be effective change agents for behavioural practices such as washing hands, using latrines and maintaining hygienic environments. Moreover, children who adopt good hygiene practices at a young age, not only work as peer advocates but are likely to grow-up to be equally conscious adults and further transfer these knowledge, skills and practices to their families.

UNICEF in conjunction with other partners has designed a school sanitation and hygiene promotion programme with three components that make up a school-based programme:

- Provision of the gender and child-friendly facilities
- Life skills Hygiene Education- with a focus on skills and not content based education
- Outreach activities to communities- for sanitation improvements in the household.

School Sanitation, Hygiene Education and Life Skills Development Programme directly supports the attainment of rights related to Girls Education. To achieve these rights, the Government of Malawi/ UNICEF are currently implementing a pilot project 100 schools in two districts of Nkhata Bay and Kasungu districts known as the Strategic School Sanitation and Hygiene Promotion project. The purpose of the project is to develop and adopt programmatic guidelines and standards for the implementation of school sanitation and hygiene promotion. The project has five key outputs to achieve this purpose, which are:

1. To establish and develop capacity at national, district and sub-district levels to support the development and implementation guidelines to deliver effective sanitation, hygiene and water to schools and surrounding communities.
2. To develop a range of options for sanitation facilities suited to various geological, socio-economic conditions and gender considerations.
3. To develop gender sensitive school sanitation and hygiene promotion systems and materials.
4. To develop health promoting schools with hygiene, sanitation and water facilities.
5. To extend sanitation and hygiene promotion to families.

### 1.2 Purpose of the Evaluation:

The purpose of the evaluation of the Strategic School Sanitation and Hygiene Promotion Project is to assist UNICEF and partners to determine to what extent and 'value' have the interventions led to achieving the project purpose and to what extent have the interventions assisted in attainment of rights for education, especially for girls. The evaluation has also examined key methodologies used in the project, such as PHAST.

The evaluation of the objectives will consider the five standard evaluation criteria: relevance, effectiveness, efficiency, impact and sustainability.

### 1.3 Methodology and Geographical Coverage

The methodology of the evaluation is as follows:

a) Review of relevant documentation used and developed by project

b) Visit sample schools and surrounding communities in Nkhata Bay and Kasungu,

c) Review activities: Facilitation of meetings with school management committees, , teachers, pupils, communities. Also to meet with project management teams and district staff.

The evaluation team had consultations in 10 schools and 10 surrounding communities in Nkhata Bay and Kasungu Districts, as well as the school sanitation and hygiene promotion project in Dowa District.

# 2 Strengthening national and district capacity to develop and implement guidelines

This section describes and analyses in the objective of establishing a network and capacity developed at national, district and sub-district-levels to support the development and implementation of guidelines to deliver effective sanitation, hygiene & water to schools & communities.

## 2.1 National level steering committee

At national level there is a Steering Committee which is meant to plan and review progress. The one outcome has been the plans of action. However the committee has not conducted any monitoring or coordination activities or produced reports. The committee was supposed to meet quarterly and produce quarterly reports, but has as yet only met once in 2002 and conducted 2 field trips. Members of the committee also took part in the COMWASH, Ethiopian and Mozambican study tours, as well as the sanitation review and hygiene promotion meetings held in 2003, 2004 respectively.

By not involving themselves on a regular basis in SSHP through planned quarterly meetings, the line ministries have missed an opportunity to put practical application to policies, guidelines and strategies, and to use SSHP as a learning platform to further develop these tools. At present this role is being fulfilled by UNICEF. If the ministries are unable to take the initiative to participate in the process, this report endorses a previous recommendation that another body under the COWASAC (Community Water, and Sanitation Advisory Committee), together with the Ministry of Education, take the lead, with other relevant ministries invited to participate if available. It is essential to start again during Phase II of the project, as the national body can start working on post project issues such as support on policy issues and coordination to participating ministries and NGOs.

***Recommendation***

A national forum for school sanitation should be revived for Phase II as a working and learning body, to participate in SSHP pilots by applying and developing policies, guidelines and strategies; this may be done under COWASAC and the Ministry of Education.

## 2.2 District level set up and roles of stakeholders

### *2.2.1 The role of the District Assembly and the District Executive Committee in SSHP*

The District Assemblies in Nkhata Bay and Kasungu accepted the project to be implemented in their respective districts. The Assemblies were involved in the formation of the Project Management Team and in the recruitment of the PMT coordinators and chairs.

The District Assemblies and the DECs were involved in developing criteria for the selection of the schools to participate in the project, with the District Assembly making the final selection. The District Assemblies also took part in the identification of the implementing NGOs, and in resource mobilisation.

In Nkhata Bay the District Assemblies requested quarterly progress reports from the PMT and the DEC.

In both Nkhata Bay and Kasungu districts, the Ward Councillors and Traditional Authorities (TA) took a leading role in the initial sensitisation of the school communities that had been selected to

implement the project. At the school level some Ward Councillors and TA's in close proximity of the school were involved in the actual implementation of the project activities. In two schools the Ward Councillors participated by personally contributing materials such as bricks, mobilising communities for works and provided leadership and guidance to the school committee during the construction of sanitary facilities. In most schools the Ward Councillors and the TA's did not play any role, even in issues such as dispute resolution.

#### *2.2.2 Improving the effectiveness of the District Assemblies in promoting school hygiene and sanitation*

The District Assemblies, through the District Coordinating Teams need to establish mechanisms that will ensure that the specific line ministries are able to support school development programmes including delivery of sanitation and water provision services. To achieve this, the assemblies need to develop district level policy guidelines and strategies for fostering complementarities of the various sectors in the district. Furthermore the assemblies need to exercise more powers on the District Executive Committees, by taking over control of line ministry services within the district as stipulated in the decentralisation policy.

In Nkhata Bay and Kasungu Districts, the assemblies have not yet assumed control over the line ministries at district level, as such the personnel from different sectors tend to focus more on implementation of what they call their 'core activities' and are therefore not able to effectively support each other on a multisectoral initiative such as the delivery of sanitation and hygiene services in schools. The members of DEC therefore have a tendency of choosing the activities to get involved in more actively, and the activities with allowances attached are more attractive, such as training. Other activities, such as supervision, where allowances were not attached tended to suffer. The relatively few numbers of supervision trips made by Assembly and PMT members to schools and communities had far-reaching repercussions as described in later sections of this report. The district level structures have therefore not internalised the SSHP strategies as being part of their roles and responsibilities.

One recommendation from Nkhata Bay is that the Assembly should be more involved in planning and supervision; this is endorsed by the evaluation team.

The project should therefore consider initiating a participatory review of the project implementation processes by the various district level structures during which stakeholders should be able to have a critical review of their input to the delivery of sanitation and hygiene services to schools and develop future strategies.

### 2.3 District Project Management Teams

One of the objectives of the District PMT is to support the development and implementation of guidelines to deliver effective sanitation hygiene and water to schools.

#### *2.3.1 Awareness on line ministry policies and guidelines*

The implementation of the SSHP is envisaged to take a multisectoral approach involving several line ministries. The main role of the district line ministries is to mobilise communities; promote gender sensitive planning and delivery systems; to facilitate and coordinate the sector and maintain a safe environment; and to monitor and evaluate facilities and hygiene behaviour to identify needs.

The implementation processes of the activities should be guided by the policy guidelines and strategies of the concerned line ministries. One of the key roles of the PMT was that of creating awareness of extension workers, teachers, school management committees and traditional leadership on specific line ministry policies and their associated tools, and monitoring the interpretation and implementation of the policies as they relate to the SSHP.

Within the PMT there was a good understanding of the above policies. The coordinators in particular were conversant with all the relevant policies. The district PMTs worked hard to create awareness of the stakeholders at the sub district and school levels through the various briefing and training sessions on specific line ministry policies and policy related tools.

While there have been some varying degrees of success in the application of some of the policy guidelines in both districts, the evaluation team noted some positive application of these policies.

Though not fully developed, some schools have established functional community based management systems of water points. At some schools there is a water point committee with clearly shared roles and responsibilities (between schools and communities); the committee is able to meet and make joint decisions; and has established a fund for buying spare parts for maintenance of their water point. Sales of spares by Chipiku confirm this trend.

Some communities are beginning to assume a higher level of involvement in school management. They were able to make significant contributions in terms of decisions on the project implementation processes apart from contributing materials such as bricks, sand and stones. In Nkhata Bay for example, one school committee was able to raise about $500 to purchase bricks and to hire a truck to transport materials to the project site instead of waiting for the PMT to provide transport. Whilst another school, realising that they could not mould bricks in the rainy season the school management committee in consultation with the village headmen and the PTA were able to borrow money to buy bricks and meet the time schedule.

In Kasungu district, some schools have outstanding management structures that were able to effectively manage the project implementation processes. One school with a community of six group village headmen, and 23 villages, through a discussion meeting for PTA members, school management committee and the GVH and village headmen, had put in place an effective management system that motivated all the village communities to effectively participate in the mobilisation of materials, and digging of pits. The management system had mechanisms for resolving conflicts, for monitoring participation of the various stakeholders and accountability of use of project materials.

### *2.3.2 Improving mechanisms for wider application of policies*

Apart from training and briefing of the stakeholders on the policies of the line ministries, the SSHP implementation process should have adopted a more participatory approach that would have encouraged the school management committees, community members and the sub-district level extension workers to take a more leading role in the management of the construction of the facilities, as well as in the promotion of hygiene and sanitation in the schools and surrounding communities.

The evaluation team observed that the implementation process did not always apply the participatory principles advocated in the guiding policies, or at least only nominally so. For example, the way the project was introduced to the communities was very much in a top down manner that did not always allow for their own contribution towards decision making – people were involved only after the major decisions were made. Most communities look at the project as a 'gift' where they took what they were offered. However, all communities claim that they now own the project. It is likely that as committees have grown in capacity and confidence, they would like to assume greater responsibility.

This implies that the roles of the PMT and sub-district extension workers should have been more process oriented, rather than issuing directives and instructions. Such a process would have enabled the stakeholders particularly at the school management level to be able to further develop their own indigenous management systems. In Dowa District which is implementing a small scale SSHP project in 5 schools, the project was introduced using PRA and PHAST principles, and it would be worthwhile to study the effectiveness of this approach. In the meantime, this approach could be used in the remaining schools during Phase II.

The project implementation needs to have a special focus on promotion of ownership of the interventions and processes by all the stakeholders. Each player in the school sanitation and hygiene promotion project needs to integrate the activities of the project in its own core activities and day to day programmes. It was observed that despite being briefed on their roles, many stakeholders at the district, sub district and school levels have not done this. The districts therefore need to develop a more serious long term strategy for sorting out these issues other than focusing on a short-term project approach implemented by a PMT. This can be done with more appropriate policies and strategy guidelines that will ensure that the current district planning structures (District Assembly,

DEC), become more functional and effective in dealing with issues of coordination, setting standards, reinforcement and supervision. The sub-district extension workers are to be more involved in capacity building of the communities; and community structures (such as the SMCs) to empower them to develop their own project proposals, make more decisions, including administration of finances. These issues may be discussed during a participatory review of the project early in phase II

***Findings***

- District Assemblies have yet to improve the internalisation of SSHP
- District structures are more busy in implementing activities, rather than in coordination, setting standards and supervision.
- Line ministry extension workers need better coordination to work together to support the schools
- Communities have responded well to SSHP activities by providing money, materials, labour, as well as managerial and organisational capacity.

***Recommendations:***

- The project should consider initiating a participatory review of the project implementation processes by the various district level structures
- In Phase II, the Assemblies should be more involved in planning and supervision
- This report endorses the suggestion that extension workers conduct joint supervision and report writing

## 2.4 Co-ordination of the SSHP activities

One of the major roles of the PMT was to co-ordinate the inputs of specific sector services to the schools hygiene and sanitation programme by developing and implementing a joint strategy, plan and approach. In the promotion of school sanitation and hygiene the District Water office, the District Environmental Health Office, District Community Development officer and the District Education management office have to work in close collaboration.

### *2.4.1 The roles of the PMTs*

The Nkhata Bay PMT described it self as having the following roles:

- planning & coordinating activities
- monitoring extension staff
- monitoring and evaluation of project progress, certify payments
- to identify a technical support to local contractors
- meeting reviews with extension staff, communities, other stakeholders to examine cause of problems and discuss solutions

These activities were budgeted for: funds were held in DDF and handled by district assembly accounts section. Occasionally there were problems regarding the release of funds by CPAR for fuel for monitoring activities in CPAR areas. In Kasungu, funds were largely controlled by Concern Universal. This has been discussed in various progress reports.

### *2.4.2 Lessons learned by PMT*

In Nkhata Bay, in the PMT coordinator's evaluation, the main lessons learnt include:

- To consult the communities at an earlier stage
- To involve all stakeholders so as to improve transparency
- PMT feels that peoples' readiness was not sufficiently taken into account.
- Construct urinals first while waiting for latrine

Starting with urinal construction, and improving existing facilities has already been recommended to the project, and this report endorses this approach. This will also provide a step by step approach for building a relationship and a learning experience between PMT and school/community.

### *2.4.3 Analysis of achievements*

The PMTs were able to facilitate the development of district operational plans and school action plans. This provided some basis for the various stakeholders at both district and school level to work together.

In both Kasungu and Nkhata Bay, the PMT was able to effectively facilitate the mobilisation of financial, material and human resources for training programmes (PHAST, HESP and CBM), and construction work including mobilisation of contractors, locally contributed materials and community participation.

### *2.4.4 Improving Coordination*

There was need for a clear definition of roles of the DEC versus those of the PMT. For Kasungu, where the DEC was not functional, the district PMT was an essential forum for bringing together the various stakeholders to be able to make joint plans, review and share information on the project on a regular basis.

Notable, were also a lack of clear distinction of the roles between the PMT chairperson and the Project coordinator. There has been confusion as to who does or controls what; there is need for clear ToRs for each officer. This was a serious problem in Kasungu, where the chair has since been replaced. This could be one of the activities for Phase II.

***Findings***

- The roles of the various PMT partners and individuals was not always clear
- There is a need to for the PMTs to consult the communities at an earlier stage, to improve transparency, and to better supervise activities
- The ability of communities to participate needs to be taken more seriously in order to avoid delays

***Recommendations***

- The roles of the various partners should be negotiated at an early stage and written in contract form, e.g. terms of reference should be written for the coordinator and the chair.
- The PMTs have generally been effective teams and this report endorses previous recommendations to improve their financial autonomy.

## *2.5 School staff and extension staff*

### *2.5.1 Education staff*

Primary education advisors work in zones; there are 16 such zones in Kasungu, and 12 in Nkhata Bay. The main roles of the PEA were to mobilise and build the capacities of school communities and teachers through ongoing training and facilitation of the school management processes; to advise and provide encouragement to SMCs and the PTAs; and to monitor the progress of works at the school and inspecting the hygiene facilities at the school. The evaluation team noted that many PEAs took a leading role in the project, but it was reported by the PMT that some lacked initiative even to supervise activities at their own TDC. In Kasungu, about 50% of the PEAs have had additional training and support through MESA, the Malawi Education Support Activity, with the objective of facilitating the SMCs and the PTAs to be “functioning” committees, but the impact of this project has yet to be seen.

Throughout the project implementation, the head teachers and teachers provided a means of communication to and from the communities with the district, the project committee. During

construction, they limited their participation to mobilising school children in construction works by carrying bricks, sand and water.

In the long term, they also supervise the children in maintenance of hygiene and sanitation of the school premises, advising and ensuring that children use sanitary facilities. They are also involved in monitoring / inspecting the facilities to ensure that they are used properly and are kept clean. They tell children to fill the hand washing facility with water. They supervise the locking of the facilities after school. And they encourage the children to practice in their homes what they have learnt at school. In Nkhata Bay, headmasters and sanitation teachers were trained in PHAST.

#### *2.5.2 Community Development Assistants*

The responsibility of the Community Development Assistants in the school development programme is to work in partnership with the PEA in facilitating the establishment and building the capacities of the school level structures for community participation. Within the SSHP, the following were some of the key roles of the CDA: Training of the SMCs and the PTAs; advising on the integration of gender issues and HIV / AIDS issues; facilitating the development of school action plans

#### *2.5.3 Health Surveillance Assistants*

There are 125 HSAs throughout Nkhata Bay District, and 160 in Kasungu. The HSAs could have had a crucial role to play in the school sanitation and hygiene programme. These could include the facilitation of participatory hygiene and sanitation promotion campaigns both within the school and surrounding communities; training the contractors and in casting of san plats; and supporting the SMC in the inspection of the school hygiene and sanitation. Only a few of the HSAs took on these roles – and mainly related to sanplat casting. This is because HSAs tend to see their core activities within the communities and not with schools. This issue has to be addressed through the respective DEHOs.

#### *2.5.4 Water Monitoring Assistants*

There are 4 Water Monitoring Assistants in Nkhata Bay, 2 specialising in borehole water supplies, and 2 in gravity fed schemes. Kasungu has 3 Water Monitoring Assistants, all specialising in boreholes. The Water Monitoring Assistants have been mainly involved in supervising borehole construction and rehabilitation, and in assisting in the CBM trainings.

#### *2.5.5 Achievements and recommendations for improvement*

In some schools the CDAs and PEAs had taken up an active role of facilitating and training of the school management structures.

To effectively support the community participation and empowerment in the management of hygiene and sanitation in the school and surrounding communities, the extension workers and teachers have two key inputs – facilitation of processes and capacity building of the school management structures. There is need for good strategies and guidelines to be developed and tested on how best this facilitation should be delivered. The majority of the extension workers lack facilitation skills or do not understand the concept of facilitation.

There is need for the establishment of functional linkages between the PEAs, school sanitation teachers, head teachers and sector extension workers such as HSAs and CDAs. In the majority of the schools visited, HSAs have not been adequately participating in the facilitation of hygiene and sanitation promotion in school and surrounding communities. It is recommended that extension workers form the lone ministries conduct joint supervision and reporting. The reports on SSHP activities should be presented to the SSHP PMT, as well as to their respective offices as part of their monthly reports.

There is need for a forum at the school level where all the service providers, the sector extension workers (CDA, HSAs, PEA, School Sanitation teacher, and Head teachers) and the community school management structures (SMC, PTA group village headmen and village headmen) should be meeting. Such a forum would help in the monitoring and evaluation of the school development activities, joint development and review of school development strategy and plans, sharing of roles

and responsibilities in the school development programme including the promotion of hygiene and sanitation in the schools and surrounding communities. This forum should be convened by the SMC and the service providers should only be invited otherwise the top down tendencies would continue. This activity can be carried out in Phase I schools where construction has been largely completed, and in the impending Phase II, which will commence with hygiene promotion activities, and extend to facilities in schools and communities. This is in addition to the recommendation above that extension workers should conduct joint supervision and report writing on SSHP activities.

Generally, as a result of their experience, communities are now clearer about their abilities and their limitations, about the type and levels of service they require, but are less clear about how to access these services.

***Findings***
Although teachers and extension workers have participated in the implementation of the project, they have yet to integrate themselves into SSHP ongoing activities

***Recommendations***
- There is need of a forum where extension workers meet with the community to provide a service. This forum should be in the hands of the School Management Committee who call the meeting.
- HSAs need to be more centrally involved in the project; ways of doing this should be discussed during the review session. In addition they should be part of the team of extension workers supervising and reporting SSHP activities.

## 2.6 Building the capacities of the field extension workers, teachers, school management committees and school children through training and advice

The project conducted training at both district and sub-district levels in PHAST, HESP and HEP, and CBM and VLOM.

Training on HESP covered PMT members, PEAs, head teachers, sanitation teachers, school management committees and project implementation committees in both Nkhata Bay and Kasungu districts.

In Nkhata Bay district PHAST training covered PMT members, Primary Education Advisors (PEAs), head teachers and sanitation teachers. Whilst in Kasungu apart from PMT members, head teachers and selected teachers, health extension workers and community development assistants were trained as well. PMT members were expected to train teachers and extension workers barely a month after being trained themselves.

In all schools where the SSHP project financed the construction or rehabilitation of water points, the water point committee was trained on community based management (CBM). In most other schools CBM training had taken place in the past, but in several cases the committee required (and requested) refresher courses.

### *2.6.1 Achievements and recommendations for improvement*

There is a high level of awareness on hygiene and sanitation messages amongst the school management committee, the school sanitation committees, traditional leadership and school children of all ages. This is an indication of the effectiveness of the training on HESP. The schools have adopted a wide range of methods for disseminating the hygiene and sanitation messages to the children. In the majority of the schools visited in both Nkhata Bay and Kasungu the teachers disseminating messages during the morning assembly. In some schools, hygiene and sanitation topics were covered in science class. The majority of the schools have sanitation captains who supervise fellow children on the cleaning and the use of sanitary facilities at school.

The communities in all the schools visited were able to clearly describe the concept of community based management of water points and indicated that they had tried to put in place some form of community management system for their water points. However, at some schools with broken down hand pumps, the WPCs were unable to identify the fault. All committees knew where to purchase hand pump spares.

Out of the ten schools visited in Nkhata Bay and Kasungu, only one school had started applying the knowledge and skills learnt during the PHAST training for promoting good hygiene and sanitation within the school. The school sanitation club has been able to use pictures drawn locally at the school by children with artistic talents, drama, songs, poems, debates etc. in the promotion of hygiene and sanitation transformation amongst the children and teachers. This was due to the efforts of the School Sanitation teacher who has been trying to apply what he learnt during the PHAST training.

*drawing showing before and after scenarios*

The evaluation team noted that PHAST facilitation sessions should have covered more stakeholders such as the school committee, PTA members, school sanitation clubs and, sub-district level extension workers, as well as parents and pupils. There needs to be a better distinction between training in PHAST for facilitators (a ToT), and facilitating a PHAST process. At a school level, as many community members and committee members and school children can participate in a PHAST orientation.

# 3 Developing gender sensitive school sanitation and hygiene promotion systems and materials

This section continues from the previous sections to examine how the SSHP has applied the various policy guidelines, strategies and best practice to developing participatory systems and materials for promoting sanitation and hygiene in schools.

## 3.1 Community participation in SSHP

The project proposal recognizes that community participation goes beyond the provision of materials. It envisages the involvement of the community in all stages of project planning, and to involve such structures as the Village Development Committees (VDCs) and the Village Health and Water Committees (VHWCs). It has attempted to improve participation through training in CBM and VLOM.

The district PMTs have made serious attempts at involving the communities. This is evidenced by the level of participation, including provision of money, in some schools. Whether the communities – i.e. the schools - can be involved at earlier stages of the project cycle may be discussed during a project review. One suggestion is that schools can participate by the process of "self selection", and that the selection criteria include existing low cost activities.

The VDCs have been involved by merit that the membership includes the Group village head, the village heads, and the extension workers. The VHWCs, a sub committee of the VDC, has yet to be involved; this committee should be at the forefront of community hygiene and sanitation promotion.

Content wise, for the specific objectives of SSHP, the CBM standard training needs to reinforce its content of gender awareness, as well as conflict resolution, and the ability to make action plans.

For the long term, the models of participation envisaged by the PHAST approach and the National Strategy for Community Participation in Schools offer a vision of participation that should be considered in designing a scaled up SSHP project.

## 3.2 Use of PHAST as a Process and Tool for Community Participation

Although many extension workers and teachers were trained in PHAST methodologies, subsequent training has been a repetition of the original training. The evaluation team noted that while PHAST was seen as a tool for hygiene and sanitation promotion, there was little understanding of PHAST as a process that transforms communities' roles and levels of participation.

While the training syllabus used is standard WHO, one telling feature was that only 5% (ie 1 hour 20 minutes out of 6 days training) was devoted to "Involvement of the community in problem solving and planning for the promotion of hygiene and sanitation in the schools", which is a major topic, setting the theme for PHAST (see annex 8.3). PHAST is treated almost exclusively as a HESP tool. Furthermore, there is little idea on how to conduct training sessions at community level, either in terms of participants, or setting a time table.

It is recommended that after training extension workers –HSAs and CDAs, including PEAs - the communities should be mobilized to participate in PHAST process. The participants can include the members of the School Management Committee, the PTA, and the sanitation clubs, as well as teachers, parents, and traditional leadership. The number of participants can easily be 30 or 40, breaking up into groups when necessary. It is also necessary for extension workers to move away from the traditional training mentality, where "participants" are brought together for long hours over a period of days. With PHAST, the approach is different. Participants discuss a session or module, for a couple of hours, and move on to the next session or module when they feel ready. It is up to the participants to decide the pace at which they move, and they decide on the timetable; the process can (and should) take several weeks or months.

***PHAST***

PHAST has been used as an effective HESP tool, but less so as a transformational process

***Recommendation:***
There needs to be a review on the application of PHAST as a methodology; this can include the experiences of other districts such as Dowa.

### 3.3 School selection criteria and processes

The project document provided possible selection criteria for schools, to be done in consultation with the districts. The districts adopted slightly different approaches to developing criteria for participating schools.

#### *3.3.1 Nkhata Bay*

There are 160 government and government assisted school in the District. Within the district there are 12 education zones, and 22 (political) wards. The criteria for selecting the schools were developed independently by the District assembly and by the DEC, who then came up with a joint list of criteria:

- each of the 22 wards should benefit 2 schools. There is an average of 8 schools per ward. In 1 ward, all the schools were well served so they only constructed urinals and transferred the latrines to other wards.
- all UNICEF assisted schools
- all schools in feeding programmes
- schools in areas with problems of soil stability
- schools with high enrolment
- schools with permanent structures, ie classrooms

The assembly gave a list of 100 schools, and the PMT selected 50 according to the criteria and baseline information, but the final number was put to 51. In Phase I the District targeted 19 schools, with 1 school for urinals only, and CPAR was assigned 7 schools, all within its project area (but took on a total of 11). However, this final selection also took into account the baseline study to determine data (permanent structures, consideration of water point, enrolment) as well as the capacity and willingness of community.

The PMT feels that peoples' readiness was taken into account. Some DRA principles were applied – for example the schools had to write to say they are prepared for construction. Furthermore, the PMT used a social action approach to prioritize needs and problems. However the PMT acknowledged that they need to be more "aggressive" in assessing the capacity and willingness of the communities.

#### *3.3.2 Kasungu*

In Kasungu there are 318 government and government assisted schools, in 15 zones. The process was somewhat different from Nkhata Bay. Following guidelines, the 45 members of the District Assembly, requested the health and education sub-committees to suggest criteria. The other group was the 15 PEAs, who also suggested the criteria and schools. The DEC consolidated the criteria and the schools. The criteria suggested that participating schools should include;

- school with high enrollment
- schools with high girl enrollment
- schools in rural areas
- schools with permanent structures (classrooms and teachers houses already in place)
- schools with a TDC
- schools lacking access to safe water
- prevalence of diarrhoeal diseases (i.e. high risk areas) information obtained from MoHP

### *3.3.3 Developing criteria for school selection*

The criteria suggested by the districts tens to favour a needs based approach at the expense of a rights based one. The Manual on School Sanitation and Hygiene suggests that one of the most important criterion is that some low cost SSH activities have already begun. This is because it is an indicator of their existing commitment to sanitation and hygiene. This can also indicate commitment to future activities, such as maintenance and ongoing learning.

In hindsight, criteria should take into account the readiness of the communities to participate, and peri urban schools (as these have large enrolments, and are only assumed to be well served).

It is estimated that 20% of schools have no access to basic sanitation facilities. One role of the project can be to discuss with the communities the reasons for this situation and to explore means of improving it.

***Findings***

School selection criteria has tended to emphasised need over capacity

***Recommendation:***
School selection criteria needs to reflect more a balance between the capacity of the duty bearers to participate in SSHP; by including schools with existing activities, and those schools with special needs, such as unstable soils or large enrolments.

## 3.4 CBM, VLOM, spares supply and Advanced Repairs

The water point committees have been trained in CBM and VLOM. In schools that have benefited from SSHP improvement in water supply, the management is so far effective. In other schools visited, and presumably many schools, there are unresolved issues about co managing the water point between the school and community. This is an issue that should be addressed in Phase II CBM training.

The guidelines from the Ministry of Water Development stress that there should be some financial contribution to construction or rehabilitation costs, and communities should meet 100% of recurrent operation and maintenance costs. While many committees had a maintenance fund, SSHP did not make contributions to capitals cost a requirement.

The evaluation team was impressed to note that the communities were being supported in the maintenance of the Afridev hand pumps by the ready availability of fast-wearing spares at the Chipiku stores (annex 8.12). The turnover figures prove that communities are willing and able to spend money to repair their hand pumps.

The SSHP should consider training of individuals in “advanced repair”, who would support communities by conducting repairs in broken riser mains and fish dropped components. These individuals could make a small business out of this activity. It was observed that Chipiku does not support advanced repairs as solvent cement, riser mains and plain sockets were not available.

***Findings:***

CBM and VLOM training is effective and water points are well managed; spares for hand pumps are readily accessible

***Recommendation:***
Water point committees need to be supported by people with skills in advanced pump repairs, as well as with spares.

## 3.5 Setup and roles of stakeholders at school level

The two key institutions at school level are the School Management Committee (SMC) and the Teacher Parent Association (PTA). These should be linked to and supported by the district planning structures – the village development committee (VDC), Area Development Committee (ADC) and District Assembly; and District line ministry teams particularly Community Development Assistants (CDAs) and the Primary Education Advisors (PEAs).

### *3.5.1 School Management Committees*

In both Nkhata Bay and Kasungu the school management committee assumed overall management responsibilities of the SSHP activities at school level. Some of the specific roles included the following:

- Urging the traditional leadership to mobilise their subjects to participate in the implementation of the school sanitation and hygiene project activities.
- Monitoring and supervision of the implementation of the project activities at school level including participation of the various community member in the implementation of the agreed upon activities.
- In collaboration with the traditional leadership mobilising financial resources from the community for purchase of some materials such as bricks or for hiring transport.
- The SMC formed the link between the school and the community particularly where the communities needed the support of the children
- Monitoring school sanitation through inspection of the sanitary facilities and the school surroundings and reports the findings to the head teachers
- In only one school did the SMC inform the VDC about the project and provided progress reports of the project activities to the VDC.
- Selection of the sanitation design
- Identifying contractors

During discussions with the evaluation team, many of the participants demonstrated a good understanding of the need for their participation in the project, but they need some assistance to understand the processes they were involved in.

### *3.5.2 Project Implementation Committees*

Schools had project implementation committees reporting to the SMC. The members were elected from the communities. SMCs reported that these committees were useful in that they did the day to day functions, relieving pressure from the SMCs. These committees have the following roles:

- Keeping project materials, issuing to contractors to ensure that there was transparency and accountability on the way the materials are used
- Assessing material availability at the project site during the course of the project implementation and making requests for supplies of materials by the NGO or the community.
- Direct monitoring of the progress of the project activities by both the community and the contractors.
- Hygiene and sanitation promotion in the school and communities surrounding the school

One of the sub committees of the SMC is the Technical Committee that is responsible for ongoing development and construction of the school. It appears that as these project implementation committees are an additional structure as they were set up specifically for SSHP, the question arises about long term activities. In view of this, it is recommended by the Ministry of Education that overall responsibility for long term school activities, such as hygiene education and maintenance of the facilities rests with the SMC, which reports to the PTA.

### *3.5.3 Parent Teacher Associations*

Within the school development set up the PTA has the overall responsibility of linking school children, teachers and parents. The following were the specific roles of the committee in the SSHP:

- Resolving disputes between teachers, parents and pupils.
- Community awareness on the importance of hygiene and sanitation at school
- Participating as key stakeholders when the school community leadership was meeting to discuss more serious issues such as to develop strategies for wider community participation in the project activities
- Monitoring progress of activities checking and facilitating solutions of problems such as conflicts.

## 3.6 Achievements

In general, it may be remarked that whereas the SMCs are long established structures, most schools did not have a PTA. The SSHP has, by giving these structures something concrete to work on, facilitated in the process of increasing their confidence and capacity. All in all the school visited, the school leadership structures were able to successfully mobilise the communities for the project activities particularly during the construction of the sanitary facilities, even though targets were not always met. There was good commitment, and participation by the various stakeholders at school level.

There was high level of community organisation in terms of how activities were scheduled, and roles shared for leadership as well as for physical labour amongst the village. The school leadership institutions were able to effectively work together in a complementary manner.

The traditional leadership (GVH, VH) were able to effectively use their authority to mobilise and supervise their subjects for works. This promoted ownership of the works. This is especially true of those villages surrounding the school. For villages further out in the school catchment, children may actually be enrolled in different schools, making mobilisation more difficult

The school level institutions were able to effectively mobilize traditional leadership to resolve conflicts amongst the village communities. For example, when the turn out by some villages was low, the group village person would summon the village headman.

Potentially the school level institutions have a lot managerial abilities. Some schools were able to raise significant sums of money, and manage it. They were also able to manage conflicts. Also in the majority of the schools, the communities through the project committees had put in place strict mechanisms for monitoring the use of materials to ensure transparency and accountability.

## 3.7 Recommendations for improvement

***Findings***

Through the SSHP, the school structures have demonstrated considerable management capacity, they are now more aware of their roles, duties and powers.

***Recommendations***

- School structures should be sensitised on their roles and responsibilities in school management. SSHP and MESA should collaborate to strengthen this activity in Kasungu.
- In a phased approach to implementing SSHP, communities and extension staff should periodically review their roles and responsibilities through an appropriate forum
- Lobbying should be included as a component of training

### 3.8 Sanitation clubs and sanitation teachers

Each school visited had 10 to 12 boys and girls appointed into a sanitation club by the teachers. These were often representative of Standards 3 to 8 depending on the school. Members of sanitation clubs were able to clearly explain some of the hygiene and sanitation messages being promoted in the schools such as the importance of hand washing, hand washing facilities.

While sanitation clubs have been formerly constituted, they are generally not very active and not engaged in hygiene promotion. During focus group discussion, most of the sanitation club members did not have a clear idea of their role. In some schools the sanitation club has never met and most students do not know of its existence.

When the club is at all active, its main activity is monitoring and organizing the use, operation and cleaning of sanitation facilities. Similarly, the main task of sanitation teachers is overseeing and enforcing this. The sanitation teachers and clubs become a kind of sanitation police force, necessary in some cases, but a much more limited role than originally envisaged.

There was one notable exception to this, in Nkhata Bay. In this school the sanitation teacher is very active and, as a result, the sanitation club is involved in a wide range of activities, including hygiene promotion to fellow students and parents. It has an impressive repertoire of songs and skits promoting hygiene and the correct use of the sanitation facilities that is performed for pupils and, on occasion, for parents. At the sanitation club performance during the evaluation team visits, younger pupils especially were highly engaged by the process. The club also produced didactic material for use in the school including a sanitary map of the school and drawings illustrating positive and negative hygiene behaviour (this was the only school where the team saw such material).

*Scene from the sanitation club skit, Chihame 2*

In another school, the sanitation club had organised a series of activities for the school including digging of seven rubbish pits, general cleaning of the school surroundings, cleaning of pit latrines. Two other schools had clubs that had started activities such as drama, and songs, but had not yet had a promotion campaign to those outside the club. Children in some schools had special briefing on the importance and use of the sanitation facilities after completion of contraction works. The briefings were conducted by teachers and some members of the sanitation committee.

***Findings***

A few sanitation clubs are very active and effective

***Recommendations***

- Terms of reference need to be developed with the sanitation clubs to provide some activity guidelines; this process has already started in Nkhata Bay.
- School sanitation clubs need stimulus and challenge; one way is to outreach to the community

### 3.9 Recommendations for improvement

In general, the SMCs and the PTAs were initially unaware of the full compliment of their roles. It would be to the advantage of SSHP and MESA to collaborate in Kasungu where both are piloting a project. This would be an opportune learning process in a scaling up process where the SMCs may assume more decision making capacity as outlined in the National Strategy for Community participation in Schools.

The SMCs need to be more proactive: i.e. to initiate school action plans and develop priorities and proposals. SMCs should also be able to proactively demand services at the school level from line ministries and NGOs. It should be the responsibility of the school level structures to pull specific extension workers whose services are required at the school whether that extension worker is at district level or within their community. In this way, they would take over coordination of the services at school level. This would be a more long-term programmatic strategy that could get round the problem of allowances and provide sustainable vertical support necessary, especially in a scaling up process.

The communities felt that they should have been given more freedom to make decisions e.g. managing the finances. For instance, payments were issued to contractors even when they had not certified work as complete. They felt that they should be fully involved in the selection of contractors whether from outside or from within their communities (refer to Annex 8.9).

In Kasungu, the community complained that the NGO was not accountable to them. For example they were not told the cost of each latrine and some of the materials were taken away from the school without proper explanation. They also complained that NGOs and District people were rude to them, and called them “difficult people”. This was a serious issue in Kasungu where the NGO threatened to pull out of the school when the communities complained.

There were also cases of school communities not being able to mobilise adequate bricks and other materials. In some cases, this was because they were not informed of the quantities required, or else they started to mobilize outside the brick making season. In other cases it was because some participants expected payment.

The school needs to establish a system whereby if members of the committee are trained, they should be able to assist in the training of new members joining their committees. It was observed that due to high teacher turnover some of the water point committees have very few remaining trained members. One approach is to link up with existing structures, such as nearby WPCs and VHWCs that can provide informal and ongoing peer training, assisted by the extension workers.

For the school level water point community based management to be effective, there is need for a co management , where mechanisms are to be established for resolving conflicts between teachers and communities that use the water points. There are different cases such as teachers refusing to contribute money for water point maintenance, and this created conflicts with the community. The PEAs and CDAs need to take up mediation roles.

The process of developing the school action plans needs to be reviewed. There is need for each school structures to develop a more comprehensive long-term strategy and action plan based on a

thorough analysis of the issues and problems affecting the school during a PHAST process. Such a strategy and action plan should be used as a basis for any interventions by any service providers or project supporting the school. The evaluation team observed that the schools tend to have a different action plan for each project or NGO. The action plans, consequently become donor or project driven.

The SSC needs to start implementing action plans for promoting hygiene and sanitation at school as well as in the communities surrounding the schools. The schools should consider using the sanitation clubs for the reaching out to the communities with hygiene and sanitation promotion campaigns.

Proper terms of reference should be provided to sanitation clubs in all schools and appropriate training be provided in order to build their capacities in the promotion of hygiene and sanitation (e.g. orientation in PHAST principles) An example of proposed ToRs is given in annex 8.4.

***Recommendations***

- CBM training needs be reviewed to emphasize more on managing users, gender issues, conflict resolution, etc.
- Water point committees need ongoing support from extension workers in order to train new committee members. This can be done through the forum whereby SMCs request the services of extension workers.
- Schools need to start developing long term strategies and action plans; this can be part of the PHAST activities.

### 3.10 Talking with children

During the consultations, the evaluation team met with children from 10 schools, to discuss sanitation and hygiene issues at school and at home. The team met with a total of 17 groups of children, desegregated according to age and sex: 4 groups each of standard 6-8 boys and girls, 3 groups of standards 3-5 girls, and 2 groups of standards 3-5 boys, and 2 groups each of standard 1-2 boys and girls. Each group was of 15 pupils. The children were very open in their discussion, not exhibiting any shyness in expressing their views. The team was assisted by female and male PEAs as appropriate.

These discussions were very informative, and with other documented information, can form a basis for the review of the Life Skills materials, which the team feels does not reflect the context in which the majority of children live. Although a KAP survey was conducted at the beginning of the project, the findings are of such a general nature that they are difficult to analyse.

*Group discussion with girls*

### *3.10.1 Involvement in project at implementation phase:*

Only some senior pupils were involved in selection of latrine designs – in reality they understood the choice was between a VIP and a simple traditional latrine. However, they tended to be happy with designs because they are modern and "technological". Their involvement in implementation was in the collection of materials – bricks, sand quarry, and water, usually outside school hours, but sometimes during school time.

### *3.10.2 Knowledge:*

The pupils displayed good levels of knowledge on the importance of hand washing at critical times and the safe disposal of faeces. They had good understanding of the link between faeces and diarrhoea, and of the importance of barriers. They also displayed a good knowledge of the importance of using clean or running water, and using soap to get rid of germs. Many were able to distinguish the signs and symptoms of diarrhoea, cholera and dysentery. Even the most junior pupils had a good awareness of these issues.

### *3.10.3 Sources of knowledge and behaviour change:*

Pupils claimed that they got most information from home, and were already practicing good behaviour at home. They said a lot of things were "common sense". At school, they had occasional classes on hygiene and sanitation, but most of the information was given during assembly. In only one school was there a well trained and experienced drama group. Sanitation clubs were largely dormant. Few claimed to have seen either the SARA booklet or any life-skill booklets, even though 5000 of these booklets were distributed by UNICEF.

### *3.10.4 Hand washing practice at school*

Children claimed to wash hands after defecation but not usually after urinating, after cleaning the latrines, and before buying snacks. They also said that they washed their hands before drinking from a tap or a hand pump.

It was difficult for most pupils to wash hands at school, as either there were no facilities, or the facilities were not functioning properly for a variety of reasons – poor design or construction of the tanks, stolen or broken taps, or no easy access to water. However, in some schools the team observed

behaviour from a distance and noted good practice, with almost universal hand washing at one school.

#### *3.10.5 Use of school latrines:*

One topic of discussion was the toilet habits of pupils at school. An average of about 30% of pupils in standards 1-2 and standards 3-5, and an average of only 5% of older pupils claimed to have used the school latrines to defecate that day. This underscores the need to allocate the latrines on a different basis as the senior classes are not only smaller, but they use the latrines less frequently. The vast majority of pupils urinated at school that day, and if no urinals were available, usually in the bush.

In the past, most pupils used to use the bush to urinate and defecate if the latrines were dirty or there was a queue. In addition, children were afraid to use some latrines during the rainy season for fear that they might collapse.

Now all pupils report that the latrines are more convenient and also they feel better because the environment is cleaner, without faeces lying around the school campus. Many students say this is the biggest change. However, some latrines are still over crowded, especially the junior classes. In some cases latrines are locked, but in most cases, pupils have access to the keys.

The urinals are a very positive feature, with about 95% of pupils using them on the day. Girls find them very good, although there were some mild complaints about lack of privacy.

Older pupils reported that the smaller children did not as yet know how to use the latrines properly. The evaluation team noted that during break, some of the smaller boys urinated just outside the urinals. The SARA booklets address these very issues!

#### *3.10.6 Care of school water points, latrines and hand washing facilities*

There are rotas for cleaning the latrines – in most cases 3 times a week before the start of class. Cleaning involves sweeping and mopping. This is usually the chore of older pupils – standards 1 and 2 are exempt. This is the same with filling of and washing tanks. In some schools, girls filled the tanks, while the boys clean the grounds and cut the grass.

Generally the latrines were very clean. At Chihame 2 School, which had extremely clean latrines, half the pupils said that the school latrines were cleaner than those at home.

***Findings***

- Most behaviour change issues are addressed during assembly
- Children have good levels of knowledge with clear understanding of faecal-oral routes
- Children are happy with the latrines - improved school environment
- Children claim not to have seen the SARA booklets, or the Life Skills booklets
- 30% of standards 1-5, but only 5% of standards 6-8 defecate at school. Almost all children use the urinals every day. Hand washing is still deficient in most schools.
- Transfer of behaviour from school to home includes better care of latrines and improved hand washing

### 3.11 Life skills

One of the outputs of SSHP is to integrate hygiene and sanitation related knowledge and behaviour into the main syllabus through the Life-Skills approach. The evaluation team examined the teachers' manuals and guides: "Supplementary Primary School Teaching Syllabus: Life skills education. Stds 1-4" (which incorporate more aspects of hygiene and sanitation) and "Malawi Primary Education: Life skills for you and me". MoEST 2003. To date all Standard 4 primary school teachers in

Kasungu have been trained in the syllabus (3 – 5 days)[1]. This is because standard 4 is claimed to be the terminal class for most children.

Although the distribution of teaching materials started in December 2003, the evaluation team did not notice that these were being used in the schools.

#### *3.11.1 The life skills hygiene and sanitation syllabus*

This section comments on the sanitation and hygiene aspects of the topics, taking into account the school environment and the home environment most of the pupils are likely to be in, which is a key requirement of the UNICEF School Sanitation and Hygiene Manual. This is in view of a future revision of the syllabus.

The syllabus is strong on helping children learn in a practical way the link between health and hygiene and sanitation. It is also wide in scope, covering many situations.

The syllabus is poor on relating real needs of children in sanitation and personal hygiene, within the social and economic context of the majority of pupils. This can make the syllabus irrelevant in places, and misses out on opportunities to address important issues.

Older pupils reported that many young children did not know how to use the facilities properly. It was also observed that the older pupils teach the young children how to use and clean the facilities; these activities could be supported by the syllabus.

The section on bringing food from home should also include buying food at school, how to identify food that is safe for consumption. The washing of hands before eating snacks and drinking water from a hand pump should be encouraged. The importance safe water storage and of cup hygiene is generally missing.

Given the severe overcrowding in some schools, especially in standards 1 and 2, where there can be over 300 pupils in one classroom, personal hygiene issues of easily transmitted diseases, such as scabies, lice and fungus, should be discussed. Proper body hygiene (e.g. cleaning of genitals and anus) starts at standard 4, whereas it should start at standard 1.

In the section on the transmission of diarrhoeal diseases, the link should be made clearer that it is mostly through eating food or drinking water that is contaminated with faeces. In the section on effect of diarrhoeal disease, there should be a distinction between the symptoms of diarrhoea, dysentery and cholera. The treating of most diarrhoeal diseases with ORS, and to report serious cases to a health worker should be discussed. Given the growing number of households where one or both parents are absent, children need to know when to seek treatment and the various forms of treatment available.

The syllabus has a few errors of fact. One example is that contaminated water cannot always be identified by smell, appearance, taste or feeling, as contaminants may be bacteriological or chemical.

Life skills education is described as providing "a foundation that will help young people to overcome obstacles, avoid risky situations, and develop and sustain positive behaviour through active involvement and participation in the teaching and learning process". The syllabus should facilitate children being involved and participating in plans and decisions in the school, e.g. school plans for constructing or rehabilitating, latrines, urinals and hand washing facilities. There is also scope to develop organisational skills, working with groups, in maintaining facilities, etc. It can also provide a scenario to learn (participatory) monitoring – e.g. the use and condition of facilities, to monitor (social) structures such as sanitation clubs, and to use the information to come with recommendations. One example can be the promotion of H2S bottles as a water quality monitoring tool. Another indicator that would be useful is water consumption at home. This (proxy) indicator can assist children to monitor whether they are practicing good hygiene by using sufficient quantities of water (at least 30 litres per person per day). Such activities would also actively support and stimulate school sanitation clubs.

[1] Report on Life skills Education Project, MIE, February 2004

***Recommendation:***

The Life Skills syllabus needs to be revised to take better into account the practical situation in and around schools. Knowledge of this context needs to be consolidated, and desegregated into age and sex. Further input of a hygiene and sanitation specialist is required.

# 4 Developing a range of options for sanitation facilities suited to various geological, socio-economic conditions and gender considerations

This section examines the progress achieved in attaining the above objective.

## 4.1 Design criteria and process description

A central component of the project is the development of a range of sanitation and hygiene facilities for schools, and of a set of tools for communicating these options effectively to stakeholders at the community and district level.

The design criteria for the school facilities in the project proposal are comprehensive (see Box 1). The key criteria are affordability, reliability (both in other schools and in households) and usability by children and of girls in particular. Drawing on lessons learned from school sanitation projects world-wide, the proposal emphasizes the need for urinals (to reduce pressure on latrines), for dedicated hand-washing stations near latrines, and for separate facilities for boys and girls.

***Box 1: Proposal design criteria – extracts from the project proposal (Section 9):***

"Sanitation facilities will be simple, affordable, appropriate to local conditions and easy to maintain."

"The designs will be attractive to the users based on local preference and replicability by the community themselves. Selection of technology and building materials will be made in close consultation with parents and students so that the designs are both sustainable and replicable."

"Hand washing facilities are a priority for encouraging behaviour change in schools. Alternative designs will be tried and variations of siting near latrines with separate ones for girls and boys to determine what encourages use most effectively."

"Options for urinal construction will take account of the needs of different age groups as well as the importance of smell minimization and the potential value of using the urea from urine as a fertilizer."

Inherent in the project design is the need to develop and promote not a single option, but a range of options to ensure that appropriate designs are available to meet the needs of local conditions and of community and user preference. Although not listed as a requirement *per se*, the proposal encourages the development of environmentally sustainable ecological sanitation (ecosan) design alternatives.

The process followed for developing the sanitation and hygiene options included:

- a baseline survey of the target schools and communities, including an assessment of the water and sanitation status of schools and of the knowledge, attitudes and practices of children with respect to hygiene;
- consultation with a wide variety of stakeholders, including two national workshops;
- reviewing other school development initiatives in Malawi, including a tour of the DFID-supported Malawi Primary Community Schools Project;
- development and revision of a catalogue of design options.

The project design originally envisioned two tools for communicating the sanitation and hygiene facility options to community members and other stakeholders: the sanitation technology options catalogue and real working models of the design options in "sani-centres". The sani-centres were to be located in existing gathering points for teachers and communities, possibly in Teacher Development Centres (TDCs). The sani-centres have not been constructed mainly because design options were not finalised and because some stakeholders at the district level questioned the idea of constructing facilities that would only be occasionally used when the actual needs in schools is so great. Wooden scale models of some facilities were developed by CPAR in Nkhata Bay, but these were not seen by the evaluation team.

## 4.2 Assessment of technical design options

This section assesses the actual design options produced by the project in relation to the design criteria described above. See the section 4.3 below for an assessment of the catalogue itself, and Section 5 for an assessment of the actual facilities constructed in schools.

The latest version of the sanitation technology options catalogue presents nine different latrine designs, three urinal designs and two hand-washing facility designs. These options are summarised in Annex 8.6.1.

### *4.2.1 Replicability and affordability: other schools*

Using actual material, transport and labour costs at the district and community level, the evaluation team has calculated the costs of a minimum package for schools using the lowest cost options of the designs that have actually been chosen by districts and communities (see Table.1 below, and Annex 8.7). The minimum package, based on SSHP criteria, includes separate latrines, urinals and hand-washing tanks for boys and girls, and special washing and privacy features for senior girls.

Table.1: Actual costs, minimum sanitation and hygiene package

| **Item** | **Cost Estimates (USD)** |
|---|---:|
| Four compartment (4x4) latrine costs with internal washing facilities and extra doors for four compartments (senior girls) | $2,500 |
| Four compartment (4x4) basic latrine costs (as above with no internal washing facilities) | $2,350 |
| External hand-washing tank | $250 |
| External urinal | $325 |
| Total cost, basic minimum package including:<br>• 1 four-compartment latrine with extra privacy and internal hand-washing facilities for senior girls<br>• 3 basic 4-compartment latrines for other students<br>• 2 external hand-washing facilities<br>• 2 external urinals | $10,700 |
| Total community costs | $1,700 |
| Total external (project costs) | $9,000 |
| Total cost for 100 schools | $1.07 million |
| Note: based on Kasungu district costs and quantities, adjusted for inflation – see Annex 8.7 for additional information. | |

A total package costs $10,700 per school. Put in another perspective, given a life span of 20 years, with an average school population of 1000 pupils, provision of safe sanitation and hygiene facilities works out at around $0.50 per child per year.

However, it is difficult to compare this cost with costs from other countries because few countries in fact have school sanitation programmes that actually include hand-washing facilities, urinals for girls and facilities to meet the needs of menstruating girls.

Costs can, of course, be much lower than this. In Malawi the project cost for improved latrines can be as low as $4 per latrine, where the project supports the cost of a sanplat and the school covers all other latrine costs, as was done in the UNICEF Nsanje Chikwawa Nestdale Memorial Project.

Given the total number of primary schools in the country is over 5,000 and the majority require new latrines, urinals and hand-washing facilities, the total cost (external costs) of going to scale with this minimum package would be in the order of $45 million (if only half of the schools also require new water points, the total package would rise to more than $55 million). If teachers' latrines are included, the overall cost will be higher still. To replicate on a wide scale, it may be necessary to reduce costs substantially. These include issues such as:

- lower cost designs;
- rationalising cement use;
- facilitating improved supervision;
- redefining the standard school hygiene and sanitation package;
- encouraging the rehabilitation of existing facilities; and
- making cost a factor in the decision making process.

See Annex 8.8 for detailed recommendations for reducing costs.

***Findings***
The project hygiene and sanitation facility designs cost around $10700 per school, or $0.50 per child per year.

***Recommendation:***

The project should consider the possibility of cost savings to the communities and the project through without compromising effectiveness and durability of the facilities

#### *4.2.2 Usability: child- and girl-friendly designs*

The designs developed by the SSHP project have, on the whole, satisfied the special requirements of children in general and girls in particular.

The needs of older girls who require more privacy have been taken into account throughout the catalogue. Design alternatives are presented that include washing facilities inside latrine compartments, which is especially important for menstruating girls. Latrines intended for the use of older girls also include doors on individual compartments, and all doors extend to the floor. Clear siting recommendations stress physical separation between boys and girls facilities also contribute to privacy and security for girls.

*Wash basin in latrine compartment for older girls, Chankhozi, Kasungu*

All designs are child-friendly: latrine compartments are not too dark and they are big enough for a helper to enter with a smaller child if necessary, taps and door handles are not too high, and steps have been included in hand-washing tank designs.

The project has not designed special smaller facilities (smaller footpads and drop holes) for the youngest children, which is recommended in some sectoral guidelines. However, young children did not identify this as a problem during focus group discussions conducted by the evaluation team. In some schools where standard designs from the catalogue were not used, latrines had very small entrances which would prevent helpers from entering latrines with small children and also impede cleaning.

No facility design includes special provisions for physically disabled children (such as support handles in latrine compartments). However, most of the designs do not impose barriers, such as steps. In any case, few schools had any pupils with physical disabilities. According to headmasters most disabled children don't go to school at all, and a few go to special schools.

#### *4.2.3 Usability: designs that facilitate cleaning*

Latrines and other facilities should be as easy to clean as possible. This is especially important in the school setting where facilities are heavily used and cleaning is carried out by children.

In some cases, the SSHP project designs promote ease of cleaning. Some urinal designs, for example, make use of run-off from hand-washing taps to help keep the urine channels clean and the need for high quality, highly-polished concrete sanplats in latrines is stressed. However, these same sanplats – as applied in the project designs - make cleaning of latrines more difficult for children. The designs stipulate that the sanplats rest on top of the concrete floor slab. This results in latrine compartment floors that are difficult to clean, because it is not possible to easily sweep material on the floor (including faeces and anal cleaning material such as paper and corn husk) into the drop-hole. The result (as seen in several schools visited) is floors that are not properly cleaned. In some cases the design of urinals used in schools (not in the catalogue – see Section 5.2) do not have adequate drainage for the removal of rainwater or water used for cleaning.

*Sanplats not flush with the floor make cleaning more difficult*

| |
|---|
| ***Recommendation*** |
| Ensure that designs stipulate that sanplats are flush with the rest of the floor in latrine compartments to facilitate cleaning. |

#### *4.2.4 Sustainability: empty-able latrines*

Two of the SSHP latrine designs are 'permanent' – they are designed to be emptied when full. Given the size of the pits in these designs, the only practical way to do this is with a standard municipal-size vacuum tanker truck. Such trucks are not common in Malawi and in any case, only available in larger towns. The cost of hiring such trucks to travel to rural areas is likely beyond the reach of most schools and communities, and there are no provisions at district level for meeting such costs (in most cases, several visits will be required by the tanker truck to each school to empty all latrines). Another issue is whether or not there are systems in place to dispose the faecal matter safely. Simply dumping the contents of the tanker nearby the school or community can cause a significant health hazard.

Note also that due to the fact that relatively few children defecate at school (less than 20% of those asked) the large pits used in the 'standard' latrines in the SSHP project will take many years to fill, and thus an empty-able option is not really required.

See Annex 8.6.2 for more details.

| |
|---|
| ***Recommendation:*** |
| Discontinue promoting empty-able permanent latrine designs within the SSHP project. |

### 4.3 Assessment of the Sanitation Technology Options catalogue

#### *4.3.1 As a tool for supporting the decision-making process*

Discussions with stakeholders over the course of the evaluation have shown that, in general, people were not making informed choices on design options (see Section 4.4 below for more discussion on the issue of choice).

This can be partially attributed to the design of the catalogue itself. Designs are presented in the catalogue in no particular order and there is little indication of why one design should be chosen over another.

If the catalogue is the primary tool for assisting communities in the choice of design options, it should provide guidance on the relative merits of each design. Parameters such as number of bricks required, amount of river sand and quarry stone, size of pits, soil and geology (in some schools boulders prevent digging the large pits for 4 x 4 latrines), water table levels, space required, maintenance factors and – most importantly – the relative cost of each design should be clearly specified in the catalogue.

The good way to present such information would be in the form of a decision tree as used in similar tools in other countries and elsewhere in Malawi (for example, in the COMWASH latrine manual, reproduced in Annex 8.5). The decision tree could work in conjunction with the sanitation ladder. A decision tree would help process facilitators (usually PEAs and members of the PMT) guide the community in making informed choices.

See Annex 8.8 on cost reductions for additional information on how better information on relative costs of designs and a decision tree approach can reduce overall package costs.

***Recommendation:***

The technology options catalogue should include a decision tree as a resource for facilitators to promote more informed choice of facilities by communities. The decision tree should include the following parameters: relative and estimated absolute costs, concrete estimates of community inputs (number of bricks, pit size, etc.), space required, maintenance requirements, space requirements, soil conditions, water table level).

#### *4.3.2 As a tool for presenting designs to people unfamiliar with technical drawings*

On the basis of earlier assessments, the current version of the catalogue has been simplified and split into two parts: the catalogue itself in one volume and the construction drawings in the other (there is a third volume of supplementary information that is no longer being distributed by UNICEF). This separation will help make the catalogue easier to use by facilitators.

However, the catalogue continues to rely on sketches and floor plans to illustrate designs. Now that at least some of the options have been constructed, it would be possible to include photographs of actual facilities in the catalogue to improve its effectiveness.

Supplementary tools will also help, including poster-sized drawings and photographs (in Kasungu, the facilitators drew the designs on a blackboard – a process highly dependant on individual drawing skills). The best resource will be the sani-centres, now planned for Phase II of the project. Visiting actual latrines will definitely help people to visualize the designs.

***Recommendation:***

Include photographs of existing or model facilities in technology options catalogue to improve usability by non-technical people. Provide supplementary materials for choice facilitators including poster-sized drawings and photographs.

#### *As a tool for contractors, NGOs and the district PMT*

Contractors and project managers identified two additional requirements not currently available: a detailed and accurate bill of quantities for each design, and more detailed construction drawings.

Bills of quantities have been prepared at the district level, but they are not complete or accurate. The Kasungu bill of quantities prepared by Concern Universal, for example, is unclear on the quantities of some material (notably cement) and does not cover all designs. An accurate set of bills of

quantities will improve implementation and facilitate supervision. The bill of quantities should also include bricks and other local materials.

The lack of detailed design drawings for some designs has had repercussions in the quality of finished facilities. The fact that there is no drawing that clearly shows fly screen on vent pipes, for example, have contributed to the fact that most contractors did not install them, even though fly screens are discussed in the catalogue's introduction (see Box 4 for further information on the use of VIP design concepts).

The most serious instance of lack of detailed drawings contributing to poor facility construction is for concrete hand-washing tanks. A wide variety of poor designs have been constructed in the field (some too high to fill, some with covers that can't be removed, some much too small and some that leak badly – see Section 5.1.1) due largely to the fact that there was no detailed design for hand-washing tanks in the previous version of the catalogue (the current catalogue now includes one drawing of a tank, but without dimensions or multiple views).

***Recommendation:***

Each design option presented in the technology options catalogue should include (in the detailed drawings section) a complete set of technical drawings and a detailed bill of quantities to improve construction standards and facilitate supervision.

### 4.4 Community choice of facility designs

The evaluation team had extensive discussions with all stakeholders involved in the process of choosing facility designs for schools, including children, teachers, community members, contractors and district officials. It is clear from these discussions that the choice process was flawed: it was (in varying degrees) not participatory and not – in general – the result of an informed analysis of the advantages and disadvantages of each design option.

As described above, part of the reason for this is that the primary tool for presenting design options – the sanitation options catalogue – did not contain sufficient and organized guidance material on the relative merits of each design. But the problem goes beyond the catalogue itself.

Only three different latrine designs were chosen by communities in the 10 schools visited by the evaluation team (and that included one of the only two schools that chose an "ecosan". Two designs were overwhelmingly the most popular: the twin pit latrine in Nkhata Bay and the four compartment 4x4 latrine in Kasungu.

In Nkhata Bay, it appears that the design was chosen by the district and not by the community itself. In each of the five schools visited by the evaluation team, all stakeholders who were present at the time agreed that only a single design was presented by the PMT or CPAR to the community. In discussions with the Nkhata Bay SSHP project coordinator it appears that a single design was preferred by the district to facilitate monitoring and supervision. Although there are some indications that a process of choosing alternative designs was followed in CPAR-supported schools (CPAR apparently used wooden models of latrine designs to supplement the technology options catalogue), in the school visited by evaluation team all stakeholders insisted that no choice was given.

In Kasungu, communities were given the opportunity to choose different latrine options. In each school visited, stakeholders described a process where an extension worker and a NGO representative facilitated a session at the school in which the technology options catalogue was used to present a range of options to communities. The session included reading from the catalogue and replicating design sketches on blackboards. Community members and teachers were present at these sessions, and in at least some of the schools children were also involved in this process.

***Box 4: How communities chose technology options***

Extracts from interviews and focus groups with community members, children and extension staff when asked why they chose a particular design:

- "We chose the 4 x 4 because that was the one that was shown during the PHAST training"
- "Because it looked like the nicest/best one"
- "Because it looked like a house" (4 x 4)
- "Because it looks modern"
- "Because it saves space"
- "Because we've seen the 4 x 4 elsewhere (in other SSHP-supported schools) and we want a good one like that here"
- "Because it is easier to dig 2 big pits than 4 small pits."
- "We didn't choose – the district PMT/NGO only presented us with a single design"

However, interviews with stakeholders show that although communities chose the designs, it was not an informed choice. Of the reasons given for choosing a particular design (see Box 4.2) only two were based on any analysis of the real differences from one design to another: that some latrine designs are better where space is a problem and that it should be easier to dig one large pit (for the 4x4) than 4 small pits. Further discussion in focus groups during the evaluation showed that in the sessions for choosing designs most discussion was on the benefits of improved latrines *per se*, and not on the relative merits of each latrine.

It is clear that more work is required to promote informed choice by communities. An improved technology options catalogue will help, but additional support is needed. The most important step is ensuring that district and NGO officials and extension workers fully understand and support the idea of community choice. During focus group discussions on this and other issues, community representatives repeatedly said that they felt that their opinions were not respected during this process. However, in conclusion it is important to state that none of the communities are unhappy with the selection; their concern is more about the process and the implications of not being fully informed.

The planned sani-centres will also be an important step to show community members the options available.

**Recommendation:**

Ensure that district and NGO officials support the idea of community choice and that choice facilitators are equipped with the appropriate training and tools to assist communities in making informed choices about sanitation and hygiene technologies.

## 5 Developing health promoting schools with hygiene, sanitation and water facilities

This section is an analysis of the facilities actually constructed in schools, including the suitability and quality of the facilities, their maintenance and use, and the construction process. In several cases facilities not presented in the technology choice catalogue have been constructed in schools, in those cases the suitability and effectiveness of the design itself is also analyzed.

The analysis relies principally on the visits made by the evaluation team to ten schools, five in Nkhata Bay and five in Kasungu, twenty per cent of the 50 schools covered to date by the project. The schools were chosen by the district authorities, and included – as requested by the team – a mix of both 'good' and 'bad' schools. Although this does not represent a statistically valid representative sample of the schools, it does provide a some indication of overall patterns, and the observation results are used as such.

Summaries of the observations of the construction, use and maintenance of the facilities are found in Annexes 8.13 and 8.14.

## 5.1 Hand-washing tanks and stations, and the promotion of hand-washing in schools

The SSHP project has not yet been successful in the promotion of hand-washing in schools. The primary reasons for this are the use of undersized domestic hand-washing stations in schools, poor design and construction quality of the larger masonry hand-washing tanks adopted by some schools and, in some cases, lack of sustained hand-washing promotion in schools by teachers. Of the 10 schools visited only in 2 schools did both boys and girls have access to at least 1 hand washing outlet. Refer to the project progress table in Annexes 8.13 and 8.14.

### *5.1.1 Hand-washing tank design and size*

The SSHP project originally did not envisage the construction of large masonry hand-washing tanks in schools. Instead, smaller locally-made hand-washing stations were planned and three designs were included in the original catalogue: the leaky tin, a plastic bottle with two holes (a variation of the 'tippy-tap'), and a bowl with a hole and plug. These solutions were felt to be inappropriate for schools by some stakeholders, and in many schools larger masonry tanks were constructed instead (See more on small hand-washing stations vs. masonry tanks below).

*Hand-washing tank in Zyalambe, Kasungu: much too small*

A wide variety of tank designs were constructed in schools. Most were poorly conceived and badly constructed. As discussed in Section 4.3.3, this is largely due to the fact that there was no masonry hand-washing tank in the version of the sanitation options catalogue in use during Phase I of the project and that designs were left completely up to the individual contractors. The fact that there was no standard design also contributed to poor supervision. Details of design, construction and maintenance issues are presented in Annex 8.10.2

A very wide range of tank sizes was found in the schools visited, from the very small (less than 40 litres) to very large (over 400 litres). This was also due to the lack of a standard in the catalogue.

Determining the size of container necessary in schools to support and sustain habitual hand-washing after defecation is in fact difficult to determine. WHO has not issued a standard guideline value for water quantities necessary for hygiene in general or hand-washing in particular,[2] and no national standards exist. This is due to the fact that there are many factors that determine how much water is required, including especially the use of soap or other rubbing agents, and other factors such as hand-washing technique. Despite this difficulty some planning tools, such as the recent Sphere Project's Minimum Standards in Disaster Response,[3] have specified guidelines for hand-washing, which are usually in the range of 1 to 2 litres per person per day in institutional settings. Note also that hand-washing effectively without soap requires more water than with soap. (Although SSHP promotes hand washing with soap, no soap was seen or reported to be used in the schools visited.)

Since pupils only spend a portion of the waking day in school, most do not defecate at school and many do not eat at school, the minimum quantity required at schools can be set lower, perhaps in the range of half a litre per student per day. Using this estimate, the average quantity of water required in primary schools in Malawi (using the average number of pupils in the 10 schools visited – 853) is 425 litres per school or roughly 200 litres for girls and 200 litres for boys. This suggests a tank size of 200 litres if the tanks are filled only once a day, which would require 10 buckets of water to fill the tanks per day – not at all unreasonable if water sources are close. Of course it is possible to have smaller tanks and fill them more often, but observations in several schools shows that water tanks and stations are only filled once a day.

Evidence from the one school where virtually all children wash their hands – Chankhozi School in Kasungu with 1077 pupils – supports the volume requirement estimate of half a litre per day per pupil. The two Chankhozi tanks are roughly 250 litres, the tanks are filled once in the morning and were just about empty in the afternoon.

In most of the schools visited, pupils are not able to wash their hands because appropriate facilities have not been constructed. This does not mean that facilities are all that is required to promote hand-washing, but they certainly are a pre-requisite.

***Findings***

School children cannot wash their hands regularly at school unless well-designed, adequately-sized and properly-constructed hand-washing facilities are available.

***Recommendations:***

- Based on lessons learned to date in the SSHP project and building on the existing design in the latest version of the sanitation options catalogue, develop a standard design for a masonry hand-washing tank complete with a detailed set of drawings. The design should specify tank capacity. A capacity of approximately 200 l per tank is recommended.
- Ensure that all schools that have been supported by the SSHP project have functional hand-washing facilities. In the remaining schools, give priority to the construction of hand-washing tanks (construct hand-washing tanks before constructing latrines).

[2] *Domestic water quantity, service level and health*, Guy Howard and Jamie Bartram, 2003: WHO and WEDC.
[3] *Humanitarian Charter and Minimum Standards in Disaster Response*, The Sphere Project, 2004.

### *5.1.2 Small hand-washing stations vs. larger tanks*

These estimates and observations also show that the small hand-washing stations promoted originally by the project are not appropriate in schools. Most of these stations consisted of one or two 2-litre bottles and there were rarely more than two such stations each in the boys and the girls latrine areas. Using the estimate of half a litre per pupil per day, these stations would have to filled 50 times each during the course of the day, a scenario that is not viable (and not observed at any school using these stations).

Small hand-washing stations are also easily stolen or vandalised. Vandalism is a serious problem in many schools and communities, and affects other facilities as well. Another problem is that it is often difficult to find an appropriate platform for the hand-washing station in the school environment. This is especially true for the two-hole bottle design (promoted in the catalogue), which requires a solid shelf (only one two-hole bottle was found during the evaluation, and it didn't work properly because there was no shelf).

In most of the schools visited, the hand-washing stations were only installed a day or two prior to the visit of the evaluation team, and most were only sporadically used by pupils. In some schools, the hand-washing stations are used purely for demonstrating the technique to pupils and parents to promote their use in households.

***Lesson learned:***

Small domestic hand-washing stations such as the tippy-tap or leaky tin are not adequate for serving the hand-washing requirements of children at school.

***Recommendation:***

Continue to promote small domestic hand-washing stations in schools, but only to demonstrate the technology to pupils and parents, not as primary hand-washing facilities in schools.

### *5.1.3 Other alternatives to masonry hand-washing tanks*

Masonry tanks are expensive and relatively difficult to construct properly, however alternatives are also problematic.

In some countries 20 or 30 litre jerry cans with plastic taps are used for hand-washing in schools. The jerry cans are placed on specially-constructed pillars next to latrines, and usually one is used for every two latrine compartments (which would provide a total of 80 to 120 litres each for boys and girls in the Malawi context). They are locked away overnight in the school store room or in the latrines themselves. A key feature of this system is that the jerry cans themselves are used to collect water from the water point, no buckets are needed (in Suza school, Kasungu, the lack of buckets was the primary reason given for the fact that the hand-washing tanks were not fully used). The disadvantages are that unless they are locked away every day they will likely be stolen, and that in any case the jerry cans and the plastic taps will have to be replaced on a regular basis.

Another alternative is the use of a standard 210 litre plastic barrel – with taps – permanently installed in schools. It is possible that the manufacture and installation of these barrels could be less expensive and just as durable as masonry tanks. However, this is a longer term alternative that will require research, development and testing.

***Recommendation***

Develop and test lower cost alternatives to masonry hand-washing tanks using locally available plastic containers.

### *5.1.4 Soap and soap substitutes*

The project originally envisaged soap and soap substitute production trials, and some experimentation was carried out (including putting soap directly into hand-washing tanks in one school[4]). However, all work related to soap and substitutes has been discontinued in part due to problems related to the availability of local materials. Since there is general agreement among researchers that washing hands with soap or an alternative rubbing agent is far more effective than washing hands with water alone,[5] Phase II of the project (or a separate initiative by UNICEF and/or its partners) should continue to explore ways to get soap into schools. Discussion with children during this evaluation and other evidence suggests that soap use is actually quite prevalent in rural Malawi, with many indicating that it was used regularly in homes. One option could include partnerships with soap manufacturers or re-sellers.

***Recommendation***

Through the SSHP project or through other initiatives, explore ways to promote the use of soap in schools to increase the effectiveness of hand-washing.

### *5.1.5 Hand-washing promotion in schools: a priority for schools and communities?*

In one school there was a functional and sufficiently-large hand-washing tank for both boys and girls, but it was only being used by a minority of pupils. In this case, the reasons seemed to be related to prioritisation of hand-washing by teachers and the school committee. When asked, teachers and community members raised several problems including the lack of buckets and stolen/broken taps (three of the total of six taps on the two tanks were missing). But each of these problems are easily and inexpensively solved, especially in this school which is quite close to the town of Kasungu (taps and buckets each cost about $3 to $4. Similar problems were noted in other schools

Such problems are related to capacity building and mobilisation at the district, school and community level – and likely to the degree to which the community has been meaningfully involved in the planning and implementation of the entire intervention.

*Hand-washing in Chankhozi*

[4] By InterAide, Zomba
[5] See, for example, *Domestic water quantity, service level and health*, referred to above.

### *5.1.6 Hope for the future: Chankhozi School*

Schools in rural and peri-urban areas in Africa (and elsewhere) without piped water supply where regular hand-washing under running water is actually taking place are still rare. Although only one school in ten, Chankhozi school – where almost all children habitually wash their hands after using latrines and urinals – illustrates that SSHP and initiatives like have the potential to successfully promote hand-washing in schools.

It is not clear exactly what separates Chankhozi from the other schools. It does have the important prerequisite of functioning hand-washing tanks (and functioning private basins for senior girls). In addition, some life skills education is provided, including hygiene and sanitation messages every morning at assembly (according to teachers both the life skills supplementary syllabus and the Sara hygiene promotion booklet are used, however few pupils recall actually having seen this material). It also has an active school committee, including a very active village headman. But there are some other schools with similar characteristics. As the project continues to complete hand-washing facilities in schools, and additional 'Chankhozis' emerge, it will become clearer what the essential ingredients for success are.

## 5.2 Urinals

The SSHP urinal construction and promotion programme is highly successful. In all schools where urinals were constructed they are heavily used and popular among pupils, both boys and girls. Most notable is the success of girls' urinals in particular; Malawi is now only one of very few countries worldwide where girls' urinals have been successfully introduced. In Kasungu, all schools visited have girls urinals, while only 2 had them in Nkhata Bay.

Urinals have not yet been constructed in many of the supported schools. This is because latrine construction was always carried out first, and in schools with construction delays the urinal construction has not yet started.

In schools where urinals have been completed, teachers and pupils often say that more are required (typically, there are 4 to 8 concurrent spaces in each girls' urinal and about the same or more in boys' urinals – in all schools, both boys and girls used urinals concurrently).

As is the case for hand-washing tanks, there are a variety of different types of urinals constructed. The design included in the sanitation options catalogue (modelled on traditional urinals, with bricks on a gravel infiltration bed within the urinal itself) was not popular with stakeholders and thus different designs were developed by PMTs, NGOs and contractors. In all cases they include a channel and a system to drain the urine away from the urinal, usually into a separate soak-away pit.

Some girls' latrines have the identical design as boys' latrines, and some are equipped with latrine-style footrests and urine pans leading to a common urine channel and drainage pipe. This latter style is much more popular with girls, who in addition to wanting more urinals; identify splashing and pooling as the only other serious urinal problem (not surprising especially given that many pupils do not have shoes).

There are also some construction problems with urinals. The most serious being drainage – insufficient urine channel slope and smoothness is common, resulting in standing urine and smelly urinals. There is also no provision in some urinals for adequately draining rainwater and water used for cleaning. Other, less serious problems include poor quality plastering on splash walls and channels and incorrect use of ground slope when siting urinals.

*Hand-washing tank flushing a urinal (incomplete)]*

However, in the case of urinals the fact that there was no acceptable standard design in the technology options catalogue has resulted in a some useful innovations including the foot rest / urine pan design above and one design where the run-off from an external hand-washing tank is directed into the latrine to flush the urine channel (unfortunately the hand-washing tank was not well designed or constructed in this case). Another popular measure introduced (in some schools in Kasungu) was divided urinals, with a wall dividing younger girls from older girls (note that in one school girls and boys were sharing a single divided urinal, but this was considered a temporary measure until a second urinal could be constructed, and girls did not like the arrangement).

Latrine pits with lower urine content tend to have less of smell problem. Although it is too early to make a definitive statement (since most of the facilities are still quite new), most of the latrines visited were not smelly, a fact that may be at least partially attributable to the less heavy use of latrines.

***Findings***

Girls' urinals are viable and easily introduced in primary schools in Malawi.

***Recommendations:***

- If acceptable to communities, construct urinals before latrines in new schools to relieve pressure on existing latrines. Consider increasing the number of stand-alone urinals to four per school from two per school. This has already been recommended in a previous survey.
- Include a new urinal design in the sanitation options catalogue (complete with detailed drawings) that is similar to the latrines actually being constructed and includes the innovations from the field: footrests and urine pans for girls' latrines, dividing walls (or separate urinals) for older girls, and using run-off from stand-alone hand-washing tanks to flush urinals. Continue to specify the low-cost wall option with the new urinal design.
- Ensure that urinal designs include adequate drainage, both for urine and for rain and water used for cleaning.

***Box 3: Girl-friendly facilities and practices***

As described in Section 4.2.2, the designs and guidelines in the technology options catalogue are girl-friendly, featuring special washing and privacy features for older girls and separate areas for girls' and boys' facilities. Privacy options that girls demand, including lockable doors with no bottom and peek-proof ventilation, have been incorporated into all designs.

In practice, many – but not all – of these features have been put into place. In every school, there is some separation between facilities for girls and boys and adequate privacy features for girls in latrine compartments and urinals. However, in only 2 of the 10 schools visited (both in Kasungu district) have private inside washing facilities for older girls been constructed (and in one of the schools they aren't working due to poor tank design and construction). In some schools, however, older girls have separate sections in the stand-alone urinals, which are popular.

Perhaps the most important girl-friendly feature in the project is the use of urinals for girls. This has significantly reduced the pressure on latrines, allowing most or all girls adequate access to facilities even during relatively short break periods (girls, unlike boys, are usually not comfortable urinating in the open when there are no urinals and latrines are full).

A well-designed school sanitation and hygiene programme strives to avoid reinforcing traditional gender roles that are discriminatory towards girls. The SSHP project has addressed this issue in training programmes and in the Sara materials developed for use in schools. One indication of the success of this approach is determining who is cleaning latrines and fetching water. In all the schools visited (with one possible exception were responses were mixed) girls do not clean boys latrines as well as their own, a good indicator that progress has been made. In most cases, however, girls continue to be responsible for fetching water, but boys are usually assigned other duties, such as yard cleaning.

## 5.3 Latrines

As discussed in Section 4.4, mainly two standard latrine designs were constructed in schools: the twin pit latrine in Nkhata Bay and the four compartments, 4x4 latrine in Kasungu. In general the latrines constructed through the project are adequate to meet the needs of the schools and are robust. They are, however, relatively expensive. A comparative cost analysis with other projects such needs to be carried out.

### *5.3.1 Latrine capacity*

An informal standard in some African countries (including Malawi) is that schools should have at least one latrine compartment per class. Other standards range from 50 to 60 pupils per latrine compartment. The PIF target is 100 pupils per latrine by 2007. In most SSHP schools, these standards have been met or almost met. The average for boys is and girls is 69 pupils per drop hole. Only in those schools that have not yet completed construction work are there problems with latrine capacity. It is also clear from observation during the school visits that the in most cases, latrine capacity is sufficient due both to the number of latrines constructed and the existence of urinals.

In fact, as discussed in Section 5.2 latrine capacity may be excessive when urinals are available, and constructing fewer latrines is a good way to lower costs.

In most schools individual latrine compartments have been allocated to specific classes. Standard Ones use one compartment, Standard Twos another and so on. This is a (generally effective) strategy on the part of headmasters and sanitation teachers to help ensure latrines are kept clean. However, since junior classes are generally much larger than senior classes in Malawi (due largely to high drop-out rates, especially amongst girls), their latrines are more stressed (and generally less clean) than latrines used by older children.

***Recommendation***:

Promote the allocation of latrines based on class size, providing more latrine compartments for the larger junior classes and fewer for the smaller senior classes.

It appears that latrines for teachers have not been included in any of the Kasungu schools – this will be addressed in Phase II. In three of the schools visited teachers have no latrines. In the fourth school new latrines have been built for teachers and some of the existing latrines (a total of 4 compartments) are being used by younger children. In the fifth school teachers have taken over two of the eight compartments (only) that have been constructed for children. These last two cases illustrate perfectly why latrines for teachers should be included in an overall sanitation package – if they are not, teachers take over latrines meant for children.

### *5.3.2 Quality of construction, lifespan and cost*

Latrine construction standards are mixed, but the majority of the latrines visited are solidly constructed and should have a reasonably long life-span.

*Girls 4 x 4 latrine in Suza, Kasungu (with contractor)*

By far the most common problem with previously constructed latrines in schools is that they collapse after a year or two due to lack of pit lining and/or poor quality superstructure. This will not happen with the SSHP latrines. All latrines constructed feature lined pits, solid slabs, burnt brick walls and galvanised iron roofing sheets. Most of the latrines have also been termite-proofed, and in most cases wood work has been adequately weather proofed. The most common problem observed that threatens the lifespan of the latrines is poor drainage – in the majority of the latrines visited drainage was inadequate due to siting and ground slope issues or poor quality drains.

The prevalence of poor sanplat and drop-hole cover fabrication is of concern. Sanplats were often not smooth, and in several cases were pitted, due likely to overly-wet cement mix during fabrication – an indication that additional training and support is required. Sanplat quality is particularly important in the household context where they will be moved from one latrine to another several times.

Despite the problems, most latrines are robust. However, this robustness comes at a price. As discussed in Section 4.2.1 the entire hygiene and sanitation package, and especially the latrines, are costly. While in some cases this is due to the design itself, in other cases it is due to construction practices. An example of the former is pit lining – all detailed design drawings in the catalogue show

lined pits, and thus all pits have been lined adding significantly to the cost. In some cases where soils are stable this is not necessary, especially for smaller latrines. An example of the latter (construction practices that increase costs) is the large quantity of cement used in the latrines. See the detailed recommendations on cost reductions (annex 8.8) for more information.

Although difficult to verify in the field at this stage, pits are generally deep – although not quite as deep as specified in the designs (5.5 to 6m). Given the fact that relatively few children defecate at school, the pits will take a long time to fill. In principal, much of the latrine superstructure can be moved to a new pit when the pit is full. Older version of the technology options catalogue even included handles on concrete slabs to make it easier to move them as well (although these don't seem to have actually been constructed).

### *Box 4: VIP latrines – design and practice*

Most of the latrine designs in the earlier versions of the technology options catalogue – including all of the designs chosen by schools – were labelled as ventilated improved pit (VIP) latrines. Properly designed and constructed VIP latrines reduce smell and flies in latrines. To reduce smell, VIP latrines rely on a flow of air into the pit through the drop-hole and out the vent pipe (which should be dark in colour and exposed to the sun to heat the air column and promote air circulation out of the pit). To reduce flies, VIP design requires that light enter the pit via the vent pipe to draw flies out of the latrine and up the pipe where they are trapped by a fly screen (the vent pipe must thus be a large diameter and vertical positioned over the pit with no elbows or cowls). The VIP is not a static standard, research and experience has shown, for example, that the suction effect of wind blowing across the top of the vent pipe may be more important than the action of the sun heating the air column.

The SSHP latrine designs are fully VIP, with one important exception: sanplats with drop-hole covers are incorporated into the design. This will have the effect of stopping the flow of air into the pit through the drop-hole, and thus air circulation through the vent pipe. All other components of the VIP design are incorporated into the catalogue, either in the notes or the designs themselves.

In practice, not a single latrine in the visited schools was a VIP latrine. Some had drop-hole covers as per the design (although very few were actually being used by the pupils). Many of the vent pipes were not painted black, many had elbows, most had cowls (which both reduce light entry into the pipe and reduce the effect of wind blowing across the top of the vent pipe) and many were crooked. Only one school's latrines had fly screen on the vent pipes (but those same latrines had white pipes and elbows).

More detailed design drawings in the catalogue that clearly indicated VIP design features (as opposed to notes at the beginning of the catalogue) would likely have resulted in better implementation. If fly screens were clearly marked and labelled in the drawings, for example, more would have been installed. However, the root of the problem was a lack of understanding of the concept of a VIP design among all people interviewed at the district and community level. Even in schools where the vent pipes were painted black and fly screen used, not a single person interviewed (including contractors, headmasters, sanitation masters, and community members) knew why.

One of the reasons for developing and presenting multiple options in the technology options catalogue is to gauge relative performance of the various latrines in the context of rural schools. If some fully-VIP latrines had been constructed, comparisons could have been made with the various non-VIP or semi-VIP latrines that were constructed.

***Finding:***

The school latrines are not fully VIP

***Recommendation:***

Construct fully VIP latrines so as to make comparisons

#### *5.3.3 Latrine cleanliness and anal cleansing*

The latrines visited were generally clean. Most were relatively smell-free, there were few flies, and the walls and floors were mainly clean (although some latrines had smear marks – see below). This is partially due to the fact that the latrines are still new (some only a month old, others about a year old) and to the time of year (winter). But it is also clear that in most schools the clean latrines are the result of the successful mobilisation and organization of pupils by headmasters and sanitation teachers. In all cases pupils cleaned their own latrines and the teachers' latrines. Sometimes this was carried out on the basis of a roster. In other cases each class was responsible for cleaning their own latrines (in most schools latrine compartments were allocated to classes, usually one latrine compartment per class, one each for boys and girls). The junior classes were exempt from cleaning latrines – this duty was taken over by the older pupils. In general, latrine design and construction facilitates cleaning, except in the case of raised sanplats (discussed in Section 4.2.3). Pupils use brooms and mops purchased by the school to clean the latrines.

In most or all cases, girls are not required to clean boys' latrines (see Box 3). However, in some schools, latrine cleaning – especially of teachers' latrines – is used as a punishment, a practice that can be counter productive in the long term.

The lack of anal cleansing material is a problem in the schools visited, as identified by pupils themselves during focus group discussions and as evident from the smear marks on the walls in some latrines. When pupils do use something to clean themselves, it tends to be either pages ripped out of notebooks, or leaves from nearby trees. Since most schools do not have an abundance of trees or notebooks, neither solution is sustainable. People use a variety of cleaning material at home, including maize cobs. Implementing a system whereby pupils gather and bring a stock of appropriate material to school periodically (with preference given to material that does not overly stress school latrine pits) would help keep both themselves and their latrines clean.

**Recommendation**:

Pilot a system in Phase II of the project to encourage the use of appropriate anal cleansing material by pupils in schools (see recommendations on Life Skills).

### 5.4 Water points

The SSHP project design included the construction or rehabilitation of water points in all selected schools where there was no water or existing water points were sub-standard or too far away. For all new or rehabilitated water points, the project also supported the formation of a water point committee (to ensure joint community/school management) and CBM/VLOM training.

Most schools visited had a functioning water point. In some cases the water points already existed or it was constructed or rehabilitated with SSHP project funds. In all cases the water point constructed through the project was a borehole with an Afridev hand pump.

In one of the three schools without a functioning water point in Nkhata Bay (none of those were constructed by the SSHP project), a new water point is planned. In the other two schools the Afridev hand pump is broken and the school and community have not managed to repair it.

The quality of the borehole construction and rehabilitation supported by the project was generally good (better than the existing water points, usually constructed through the MASAF programme), and all were functional. However in Kasungu, the design and construction of some of the aprons and drains did not meet Government of Malawi specifications and standards and in some cases drainage was poor. In one case the hand pump was difficult to operate due to poor apron design.

There were viable and capable water point committees in only half of the schools visited. Committee problems included failure to properly mobilise households to contribute funds for maintenance and repair, incomplete CBM training and no effective co-management arrangements between school and community members of the committee. Note that the Ministry of Water Development Implementation Guidelines recommend that communities make cash contributions of a certain (varying) percentage of the cost of a new construction or a rehabilitation. This cash contribution can also be recommended to be the equivalent of one year recurrent maintenance (perhaps $20 or $30).

In most cases, the committees with such problems were in schools with existing water points. In those schools the project had no direct input in the establishment or training of the committee and this suggests that such inputs should have been provided for all water points.

**Recommendation**:

- Government of Malawi standards should be followed in all water points constructed through the SSHP project. This was not always the case in Kasungu.
- Even in schools with existing water points, the SSHP project implementers should ensure that a viable water committee is established and support refresher CBM training as required.

# 6 Progress on Extending Sanitation and Hygiene Promotion to families

The indicators for this objective include the training of community members in latrine construction, the construction and use of latrines by 25% of households, and to add indicators for key behaviour change. One of the assumptions is that appropriate technical designs can be extended from school to community.

Initially, the process followed by the project was (a) construction of facilities in schools (b) hygiene education (c) extension of activities to the communities. In Phase II, the initial activity will be hygiene education, with school facilities and promotion of hygiene and sanitation in communities done concurrently.

## 6.1 Access to water and sanitation

An examination of the district data available (1998 National Census) shows that access to safe water in both districts is significantly lower than the national average. Nkhata Bay access is at 41%, and Kasungu is at 36% (national is average is 59%). These low figures are reflected on the ground, especially in Kasungu, where low access to water was a constant refrain of the communities.

Through SSHP, 36 water points have been constructed or rehabilitated in Nkhata Bay (with 5 pending), and 17 in Kasungu; communities have access to these facilities.

Access to sanitation (traditional pit latrines) is slightly higher than the national average; with the percentage of households have no access to sanitation in Nkhata Bay (19%) significantly less than the national average (24%) or the Kasungu average (25%). Access to VIP latrines is very low, at less than 2%, with Nkhata Bay, almost twice the national average, and Kasungu at half the average.

## 6.2 Achievements in promoting to safe sanitation

### *6.2.1 Schools as catalysts*

An evaluation of the community schools programme (PCoSP) in Chirdzulu district concluded that the school latrines may "meet needs of the schools, but have limited demonstration value to communities because of high cost and inappropriateness for community". The evaluation compared PCoSP to low cost sanitation efforts by UNICEF in Nsanje and Chikwawa. Some observations were that permanent latrines may be seen by the community as a prohibitive luxury, and recommended low cost ways of improving sanitation by the installation of sanplats in traditional latrines, and fitting the latrines with iron sheets to with stand rain.

Discussions with the communities indicated that while the relatively expensive latrines raised questions about improving other facilities in the schools, it also raised questions about hygiene and sanitation at home: "our children have good facilities at school, how about at home". The conclusion of the evaluation team is that while the communities are looking towards improving sanitation, they do not see the school structures as something they have to replicate at home. This was confirmed in discussions with the pupils. The main reason that communities want to improve sanitation is to lengthen the lifespan of a latrine. They see a dome slab or a SanPlat, as well as proper roofing as achieving this aim, because the main reasons for collapsing latrines are rains and unstable soils, and termites that eat through the wooden floor supports.

*A householder constructing a latrine*

### *6.2.2 SanPlat promotion*

It should be recognized that sanitation coverage – at around 75% - is a good starting point. Any future sanitation promotion should be geared primarily to improving existing sanitation, and this will promote an increase in latrine coverage. There are several options, mostly centred around the provision of sanplats or dome slabs.

The evaluation team is not convinced that community construction of sanplats should form the only strategy, as it has not been demonstrated that production and supply is sustained. Furthermore,

demand is not high, as evidenced by the low installation rates[6]. In addition, the quality of castings can be of concern.

During the evaluation process, the obstacles for improving latrines included access to either ready made sanplats or cement. A 50kg bag of cement is expensive ($10.00), but a bag can produce either 8 sanplats. Most informants said that they would be willing to pay either the full manufacture cost (about $4.00) or the full materials cost ($2.00 for cement and reinforcing steel, and provide sand, stone, and labour). Communities also reported that paying for a SanPlat would encourage people to install it in their latrine. If the community, such as the VHWC is involved in the monitoring and evaluation of the process, then they could ensure that one of the criteria of participating households is the existence of latrines in which to fit the sanplats, or pits to install the dome slabs.

SSHP can also facilitate by compiling a household sanitation catalogue.

***Findings***

- School latrines have created a demand in the form of "why have sanitation at school but not at home?"
- Communities understand that school latrines are not meant to be replicated at home
- One of the main reasons people want sanplats or dome slabs is to lengthen the life span of a latrine
- Community SanPlat construction programmes has not proved to be sustainable, and installation rates are disappointing
- The main obstacle to installing sanplats is availability. Many communities indicated that they would be willing to pay either the cost of materials or the full manufacture cost.

***Recommendations:***

SSHP can facilitate that the demand for safe sanitation by:

- Facilitating the availability for purchase of ready made, good quality sanplats, at full cost
- Facilitating groups to organize themselves to purchase materials (e.g. cement) and hire a local contractor with access to plastic all in one moulds.
- Compiling a household sanitation catalogue

Transfer of knowledge and practice between school and home:

Pupils say they discuss things with parents, and many claim that they have helped influence improve cleaning of latrines and hand washing at home. However, the request by some pupils for their parents to construct latrines and bath shelters has not resulted in much change.

### *6.2.3 Behaviour change*

As reported by the children, the main changes in behaviour at the household include better cleaning of the latrines, better care of the domestic surroundings, and more frequent hand washing by the parents after toilet.

[6] For example, one project in Mulanje supported the construction of 2000 sanplats; monitoring showed that only 50% were installed.

*Demonstration hand-washing station at Chikwina School, Nkhata Bay*

All schools visited opted for the more expensive concrete hand-washing tank over the leaky tin, which are neither replicable nor affordable for households. However, in some of the schools the Sanitation teacher and/or Sanitation Clubs made variations of the leaky tin and installed them as a way of promoting hand-washing stations in households. Several children indicated they had made their own versions and had installed them at home, however during the short visits to ten communities the evaluation team only saw two household hand-washing stations, only one of which was actually in use.

During discussions, the children said that most households used a bath or basin in the bath shelter to wash their hands after the toilet, while a smaller basin was used to wash hands before main meals.

***Findings***
Households still use basins located in the bath shelters to wash hands after toilet

***Recommendation:***

The report endorses the recommendation that phase II should focus more on sanitation and hygiene promotion in communities.

### 6.3 Indicators for behaviour change

Indicators for key behaviour change issues have not been documented. However the key issues should focus around access to water and sanitation, and hygiene behaviour, such as hand washing. Indicators need to be used in a participatory way, so that communities can use them to set targets and evaluate progress

Water quality can be monitored by using H2S bottles, these are inexpensive and UNICEF has a lot of experience in promoting their use as a lobbying tool. As hygiene behaviour is difficult to monitor, it is recommended that water consumption be used as a proxy indicator. Indicators of sanitation are the percentage of households with a latrine, with a platform, and the state of the latrines, these are indicators that can be monitored by the communities.

### 6.4 Monitoring and evaluation of the community structures and the facilities

There needs to be put in place a robust system to monitor and evaluate the sanitation and hygiene activities in the school and surrounding communities. This is especially important as the number of assisted schools increases, and relatively new interventions take place.

A monitoring form needs to be designed to take into account the activities of the management structures, such as the SMC and the sanitation club, as well as the operation and maintenance of all the hygiene and sanitation related facilities in the school. Such a form should be designed in such a way that the exercise can be done by the SMC together with the extension workers, as recommended elsewhere.

The data provides the basis for learning for the stakeholders during implementation, but also is a management tool for the school. For example, little is known about the maintenance requirements of the facilities. Experience in the water sector shows that while communities can ably manage well-constructed water points; they still require assistance from extension workers. This assistance could be of a technical nature, but often it is related to the management of users.

Monitoring should be done on a regular basis, twice yearly during implementation and then after on an annual basis. The data should be processed by the district. The Ministry of Education should also consider another evaluation of those schools that have had facilities in place for an extended time, such as the PCoSP schools in Chiradzulu.

***Recommendation***

A form should be designed to monitor school sanitation and hygiene related activities and facilities. Regular monitoring will assist in the learning process for the stakeholders, and serve as a management tool for the schools and extension workers.

## 7 Conclusion

### 7.1 Recommended activities for Phase II

In addition to the recommendations already reported on by SSHP, this report recommends or endorses the following activities for Phase II:

1. To conduct a participatory review by the stakeholders
2. To revitalise a national body that can form and develop policy and coordinate at a National level
3. To involve the District Assemblies more in the planning and supervision of activities.
4. To conduct a review of the way PHAST has been implemented
5. To review the CBM training to include a stronger co-management component.
6. To encourage extension workers to conduct joint supervision, monitoring, and report writing.
7. To facilitate the SMCs to set a forum where they request the support of the extension workers
8. To design a participatory monitoring form and encourage regular monitoring

9. To improve the catalogue to assist communities and contractors.
10. To include detailed drawings of hand washing tanks
11. To review the process by which communities are informed about the various latrine options and how the choices are made
12. To facilitate and support Afridev advanced repairs
13. To facilitate and support the availability of full cost or subsidised sanplats and dome slabs

### 7.2 The way forward and a scaling up process

The following table outlines the process of scaling up to the schools and communities.

The initial process of promotion and orienting in PHAST, and improving existing facilities could start in the first year and be completed in two years.

Communities around the schools could be targeted first, with other communities following. The construction of permanent latrines could take place in the second year.

| | **Activity** | **Time line** | **Notes on cost** |
|---|---|---|---|
| 1 | Hygiene and sanitation promotion in all schools and targeted communities | Year 1, but an ongoing activity | |
| 2 | Orienting the school communities in PHAST approach | Year 1-2 | |
| 3 | Improving existing latrine facilities in schools, construction of urinals, and hand washing facilities. | Year 1-2 | Urinals: $650 /school<br>Hand washing tanks: $500/school<br>Latrines: $4/latrine |
| 3 | Extension of sanitation hygiene promotion in the communities. | Year 1 | $4/household, less if some cost contribution |
| 4 | Review of the process and achievements | Year 1 | |
| 5 | Construction of permanent latrines in targeted schools. | Year 2 onwards | $9550 / school for 4 four by four latrines<br>Urinals: $650 /school (to double the number of urinals) |
| 5 | Continuation of sanitation hygiene promotion in the communities. | Year 2 onwards | $4/household, less if some cost contribution |
| 6 | Review of the process and achievements | Year 2 onwards | |

# 8 Annexes

## *8.1 Instruments*

### *8.1.1 Guiding Questions*

**General questions**

1. teachers trained in PHAST
2. see materials used
3. how are they used?
4. how is school committee functioning?

**Questions for children**

5. When do you wash your hands at home?
6. When do you wash your hands at school? If not why not
7. Can you show me how you wash your hands
8. Do you use the school latrines, urinals, hand washing facilities?, If not, why not?
9. Is the latrine always open during school hours ?
10. How long do you have to queue during the break to be able to use latrine( in minutes)
11. For girls only : Do you feel safe/comfortable going and using the latrines ?
12. Older girls: are the separate toilets / washing facilities useful? If not, why not ?
13. Do the facilities help your school attendance?
14. Why do you miss attending school? why have some of your friends dropped out of school?
15. Do you drink water during school hours ? If yes, where do you take the water from ?
16. Were you involved in the latrine / urinals / hand washing selection or design. Are the facilities easy to use? What improvements can be made?
17. Were you involved in construction of the facilities?
18. Are you involved in managing facilities? Are you involved in sanitation clubs, etc
19. Who cleans the latrines, urinals and hand washing?
20. Who fills the hand washing tanks?
21. What have you learnt about hygiene during school
22. Are you applying this knowledge at school for your self?
23. Are you applying this knowledge at home?… Do you teach other children at home? And do you talk to your parents?
24. Have you constructed new facilities, adopted new practices at home because of what you have learnt at school?
25. Many children do not enjoy the facilities that you have, do you think children in other schools could accept facilities that ate cheaper to build, and facilities that can be built locally with the minimum of help?

**Teachers:**

1. involvement / role of teachers in project?
2. involvement in technology choices?
3. Mobilisation of communities and Organisation of construction
4. Organisation of management of facilities: cleaning, maintenance, Vandalism of facilities
5. Curriculum: including hygiene and sanitation
6. Life skills approach; PHAST: training, ToT?, training of pupils
7. what support have they received (e.g. from PEAs)?
8. Have the facilities improved their conditions?
9. what have they learnt from the project?
10. are they involved in co-management cost / task sharing with communities, in water point?

**Sanitation clubs**

1. who are the members?
2. what are their activities?
3. how are they organised?
4. what support do they get from teachers?

**School committee members**

1. what is their role in the SSHP; what activities are they involved in
2. What has been their involvement in SSHP re decision making, management, mobilisation, etc.
3. what training have they had
4. how have they involved the communities in the project – co-management arrangements?
5. what support have they received? From leaders, teachers, district, extension, etc. Can you show us some teaching materials.

**Extension staff**

1. what has been their role in SSHP?
2. How have they supported SSHP?
3. what have they learnt from the project?
4. what training have they received?
5. what support from district, PMT, line ministry?
6. how have they mobilised communities?
7. What problems have they faced?
8. How can the process be improved?
9. how can scaling up effectively take place?

**Ward counselors & Traditional leaders**

1. what has been their role
2. what have they learnt from the project?
3. how have they supported SSHP
4. how have they mobilised
5. have their been interest from schools / communities not participating?
6. how do they think they can lobby for more support for the other schools?
7. do they think that can convince communities to contribute cash?
8. how will they encourage sustainability – e.g. funds for maintenance, behaviour change

**Contractors**

1. what experience do they have prior to the project?
2. what resources did they have ?
3. what support did they get?
4. what new skills?
5. what difficulties did they experience?
6. have they had enquiries from households / institutions to construct facilities on a private basis?

**Community: what was your role in the school SSHP?**

1. What have you learnt?
2. Have you constructed any facilities / previous to / as a result of SSHP
3. how much would you be prepared to pay to construct a latrine and hand washing facilities?

### *8.1.2 Observation Checklist for the SSHP*

Name of the School…… District KA / NB

Village……..…… Date……. Initials…….

| No of enrolled children | 2004 | 2003 | 2002 | 2001 |
|---|---|---|---|---|
| Boys | | | | |
| Girls | | | | |
| Total | | | | |

| | |
|---|---|
| Special needs children | |
| teachers | |

**Section 1: Sanitation and Hygiene (Questions and Observation)**

| | |
|---|---|
| What facilities where there in the past?<br><br>(number, type, urinals, hand washing?) | Boys<br><br>girls<br><br>teachers |
| What **latrines** are there now<br>(number, type,) | Boys<br><br>Girls<br><br>Teachers |
| + Do the latrines for have provisions for special needs of disabled children? | |
| When were latrines completed?<br>Are they being used? | |

| | |
|---|---|
| Are there **urinals**? | Boys<br><br>Girls |
| Are there **hand washing facilities**?<br><br>Type<br><br>Distance to latrines boys/girls<br><br>Are the tanks full?<br><br>Are they used? Do pupils wash their hands immediately after using latrines?<br><br>Comments?<br>(drainage, platform, taps…) | |
| Is Soap/ash available in or at the latrines? (observation) | |
| Are the **latrines clean**?<br>+ Visible Faecal smears inside<br>+ smell<br>+ visible Faeces in surroundings<br>+ general tidiness | |
| Is there privacy for boys<br><br>Is there **privacy** for girls | |
| Is there a proper path from the school building to the latrines? | |

| | |
|---|---|
| Who **cleans** the latrines currently? What arrangements | Boys latrines…….....<br><br>Girl latrines …….<br><br>Teachers latrines……..... |
| Design and construction standards of latrines – see part 3 of this checklist below | |

**Section 2. Water supply (questions and observations)**

| | |
|---|---|
| Was a water point available in the past? | |
| Is water accessible nearby:<br>Community or school water point?<br>Does the community have access to the water point | |
| What type of water point is available ?<br>Construction date? | |
| Is there adequate drainage? | |
| Who has been trained in CBM / VLOM | Teachers<br>Pupils<br>Community<br>No one |
| Is the water point working properly ?<br>If not what is the problem ? | Yields test?<br><br>Leakage test?<br><br>Water quality |

| | |
|---|---|
| Has the pump broken down in the past?<br>Who repaired it?<br>Parts needed?<br>Where procured?<br>Down time? | |
| Is the water point tidy? | |
| Are there co management arrangements between school and community?<br>Funds<br>Maintenance | |
| Is there a maintenance fund:<br>What for<br>How much | |

**Section 3. Detailed Technical Checklist for Latrines**

**VIP Latrines**

| | |
|---|---|
| Most of the vent pipe is exposed to direct sunlight | |
| Vent pipe extends above roof | |
| Vent pipe is at least 4 inches in diameter | |
| Vent pipe has mosquito net | |
| Vent pipe is dark colored | |
| Vent pipe has elbows or is sloped (prevents light flow, and the attraction of flies) | |
| Vent pipe is cracked or loose | |
| At least one vent pipe per drop-hole | |
| Drop-hole is not covered | |
| Adequate ventilation to allow airflow into the latrine compartment | |
| No excessive light enters the latrine compartment (but compartments should also not be too dark - see below) | |

**All Latrines**

| | |
|---|---|
| Slab is level | |
| Slab is smooth | |
| Slab is solid, does not rock or move | |
| Floor is relatively smooth and crack free | |
| Interior walls are relatively smooth | |
| Brick work of superstructure is adequate | |
| Roof solid and adequately sloped | |
| Doors/locks function properly | |
| For latrines designed to be emptied - correctly designed access covers | |
| For latrines designed to moved when pit is full - is the superstructure and slab easily moved, has adequate space been left for new latrines | |
| Adequate drainage/slope around latrine | |
| Termite proofing measures incorporated | |

**Child- and girl-friendly criteria, all latrines**

For latrines used by smaller children:

| | |
|---|---|
| Enough space in latrine compartment for child plus a helper (adult or older child) | |
| Latrine can be used without closing door (as some small children prefer) | |
| Smaller drop-hole opening | |
| Foot rests, and distance from footsteps to drop-hole small enough | |
| Enough light enters latrine compartment so child can see (and be reassured there are no snakes or other actual/perceived danger) | |

For latrines used by girls:

| | |
|---|---|
| Adequate measures for ensuring privacy (lockable doors, girls' latrines set well apart from boys' latrines, girls' latrine not located next to paths to boys latrines, etc.) | |

| | |
|---|---|
| Needs of menstruating girls taken into account (e.g. water available in the compartment) | |
| Any other observations on technical design issues | |

## *8.2 Consultations*

### *8.2.1 Publications consulted*

**Annex **: List of documents consulted**

| Document | Author |
|---|---|
| **Progress and Monitoring Reports, Assessments and Evaluations** | |
| School Sanitation and Hygiene Promotion Project, UNICEF annual reports to DFID, 2001/2002, 2002/2003, 2003/2004 | UNICEF Lilongwe |
| School Sanitation and Hygiene Promotion Project, informal report to DFID, Oct. 2001 | UNICEF Lilongwe |
| Field Monitoring Report, Joint Field Visit with GoM, WFP and UNICEF Nkhata bay, 6-9 March 2002 | UNICEF Lilongwe |
| Nkhata Bay District Report on Strategic School Sanitation and Hygiene Promotion January 2001 – November 2001 | C.L. Matayataya, SSSHP – Coordinator |
| WES powerpoint presentation for MTR, June 3 2004 | UNICEF Lilongwe |
| Findings from a mini evaluation of the pilot implementation of school sanitation facilities, Sept. 2003 | Bjorn Brandberg |
| SSHP Progress Report, Nkhata Bay, June 2003 | PMT, C.L. Matayataya |
| SSHP Progress Report, Kasungu, undated (2004?) | Concern Universal |
| District Training reports | |

**Minutes and Meeting Notes**

| | |
|---|---|
| Project Briefing for DEC, Kasungu, July 2001 | UNICEF Lilongwe |
| Project Briefing for Primary Education Advisors, Kasungu, July 2001 | UNICEF Lilongwe |
| Project Briefing for DEC, Nkhata Bay, March 2001 | UNICEF Lilongwe |
| SSHP National Stakeholder Consultation-February, 2001 | UNICEF Lilongwe |
| Project Management Team (PMT) minutes, Nkhata Bay, Mar. 2001 | UNICEF Lilongwe |
| National Steering Committee Meeting Minutes, April 2002 | UNICEF Lilongwe |
| SSHP Kasungu district planning meeting proceedings, March 2002 | Concern Universal |
| Other district-level minutes and reports | |

**Policy and Planning Documents**

| | |
|---|---|
| Strategic Sanitation and Hygiene Promotion for Schools (project proposal) | UNICEF and GOM |
| Master Plan of Operations 2002-2006 | GOM/UNICEF |
| Programme Plan of Operations 2002-2006 WES | GOM/UNICEF |
| Programme Plan of Operations 2002-2006 Education | GOM/UNICEF |
| National Strategy for Community Participation in Primary School Management: The Move Beyond Bricks Towards Community Involvement in Whole School Development | Ministry of Education, Sports & Culture |
| Education Policy & Investment Framework (PIF) | Ministry of Education, Sports & Culture |
| Kasungu baseline survey, instruments | UNICEF Lilongwe |
| Kasungu District Plan of Action, July 2001 | UNICEF Lilongwe |
| Nkhata Bay District Plan of Action, July 2001 | UNICEF Lilongwe |
| Project budget calcs, Feb 2004 | UNICEF Lilongwe |
| Outcomes baseline notes on participant schools in Nkhata Bay | UNICEF Lilongwe |
| Geophysical siting report, Limphasa FP School, Nkhata Bay, Aug 2002 | Water-Source Ltd. |
| Joint review of Malawi water and sanitation sector, issues and priorities | Min. of Water Development |
| Design and technical specifications for the construction of groundwater supply facilities in rural areas, 2000 | Min. of Water Development |
| Education Basic Statistics, Malawi, 2000 | Ministry of Education, Sports & Culture |

**Project Output Documents "Products"**

| | |
|---|---|
| A report on findings of the study on the state, knowledge, attitude and practices on school sanitation and hygiene in primary schools | UNICEF/Min. Health |
| Sanitation technology options catalogue in three parts: catalogue, construction drawings, support information (third draft) | Bjorn Brandberg |
| Sanitation technology options catalogue (second draft) | Bjorn Brandberg |
| "Latrines are for Everyone", Part 1 | UNICEF |

**Background and technical documents**

| | |
|---|---|
| Source Water and Sanitation Weekly: SSHE school sanitation Special Feature IRC May 2004, including lessons learned from the 6-country UNICEF/IRC pilot SSHE project. | IRC |
| Domestic water quantity, service level and health, 2003 | Guy Howard (WEDC) and Jamie Bartram (WHO) |
| Humanitarian Charter and Minimum Standards in Disaster Response, 2004 | The Sphere Project |

| | |
|---|---|
| School Sanitation and Hygiene in Malawi, Task No. 218, 1999 | WELL (Hubley, Bradberg and Doyle) |
| Latrine Construction Manual Version 1, Aug. 2003 | COMWASH/CIDA |
| Sustainability, Planning and Monitoring in community water supply and sanitation | Water and Sanitation Programme |
| Designing water supply and sanitation projects to meet demand in rural and peri-urban communities, 2002 | WEDC |
| School Sanitation and Hygiene Education, thematic overview paper, 2003 | IRC |
| Effectiveness of promotional techniques in environmental health, task no. 165 | WELL (Cave and Curtis) |
| . "Primary Justice Pilot Project" Malawi Access to Safety Security and Access to Justice. December 2003. | MaSSAJ (DeGabriele and Handmaker) |
| Manual on School Sanitation and Hygiene | UNICEF |

**IEC / Life Skills Material**

| | |
|---|---|
| Health Promotion, Inset Package for Teachers | Min. of Education, Science and Technology |
| Trainer's guide for WPC/VHWC Training | Min. of Water Development |
| The PHAST initiative. Participatory Hygiene and Sanitation Transformation: A new approach to working with communities. 1996 | WHO |
| PHAST Step by Step Guide. 1996 | WHO |
| Report on Live Skills Education Project, 2004 | Mhlanga, coordinator - life skills education, Malawi Institute of Education |
| Malawi Primary Education Life skills for you and me . Supplementary Teachers Guide for standard 1. 2003 | MoEST |
| Malawi Primary Education Life skills for you and me . Supplementary Teachers Guide for standard 2. 2004 | MoEST |
| Malawi Primary Education Life skills for you and me . Supplementary Teachers Guide for standard 13 2005 | MoEST |
| Malawi Primary Education Life skills for you and me . Supplementary Teachers Guide for standard 4. 2006 | MoEST |
| Malawi Supplementary Primary School Teaching Syllabus, Life Skills Education, Standards 1 - 4 draft, 2003 | Ministry of Education |

### *8.2.1 People and Groups Consulted*

| date | persons consulted / or school visited | district or place | team members involved |
|---|---|---|---|
| | | | |
| 26-May | D Khonje, MoEST Planning | Lilongwe | J.DG |
| 26-May | P Kutengule, MoGYCS | Lilongwe | J.DG |
| 27-May | J Kunkhanda, DFID Education | Lilongwe | J.DG |
| 27-May | K Longden, MSTEP | Lilongwe | J.DG |
| | | | |
| | | | |
| 01-Jun | G Mtaja, A Nyasulu, & PMT. Chankanga, Thapa Schools | Kasungu | J.DG |
| 2- 3 -Jun | Matayataya & PMT. Maria Gorretti, Chombe and Sanga Schools, | Nkhata Bay | J.DG |
| | | | |
| 21-Jun | **Chifira School:** +Pupils. +Teachers. +SCM members. +Contractors | Nkhata Bay | GK, CAPS, J.DG, Matayataya |
| 22-Jun | **Chisu School:** +pupils +SMC, GVH, VH, project committee, HSA, +contractors | Nkhata Bay | GK, CAPS, J.DG, Mzumara |
| 23-Jun | **Limphasa School:** +pupils +SMC, GVH, VH, project committee, +contractor | Nkhata Bay | GK, CAPS, J.DG, Mzumara |
| 24-Jun | **Chihame 2 School:** +pupils +SMC, GVH, VH, project committee, parents +contractors +sanitation master , Mr Manda | Nkhata Bay | GK, CAPS, J.DG, Mzumara |
| 25-Jun | **Chikwina School:** +pupils +SMC, GVH, VH, project committee, parents, CDA +contractors | Nkhata Bay | GK, CAPS, J.DG |
| 26-Jun | Matayataya, Nguluwe Assistant EHO and WES coordinator | | GK, CAPS, J.DG |

| date | persons consulted / or school visited | district or place | team members involved |
|---|---|---|---|
| 30-Jun | **Suza School:**<br>+teacher, head master, sanitation master, school committee members, GVH Suza, contractor.<br>+pupils<br>+sanitation master, M Mavuli | Kasungu | GK, CAPS, J.DG, T Chirwa |
| 01-Jul | **Chankozi school:**<br>+ (40) parents, chair of SMC, GVH, VH, | Kasungu | GK, CAPS, J.DG, T Chirwa |
| 01-Jul | G Mtaja | Kasungu | J.DG |
| 02-Jul | **Misozi School:**<br>+SMC, Ward Cousellor, VH, GVH, project committee, parents, contractors<br>+Pupils | Kasungu | GK, CAPS, J.DG, T Chirwa |
| 07-Jul | **Manyani School:**<br>+Pupils.<br>+GVH, VH, CDA, parents and SMC and project committee members. +CDA G. Phiri | Kasungu | GK, CAPS, J.DG, T Chirwa |
| 07-Jul | Morrocco, Building supervisor | Kasungu | GK |
| 08-Jul | **Zyalambe School:**<br>+ PEA, headmaster, PTA, SMC and project committee members, GVH, VH | Kasungu | GK, CAPS, J.DG, T Chirwa |
| 08-Jul | Moyo Education Desk Officer, A Nyasulu | MESA Crecom, Kasungu | J.DG |
| | | | |
| 13-Jul | Mssrs: Mawindo, Mabetsi, Kaunda, Samati | MESA (Crecom) Zomba | J.DG |

### *8.2.2 PHAST training timetable*

Timetable for PHAST / CBM training for extension workers (Kasungu)

| Day | Step | Activity | Tool |
|---|---|---|---|
| 1 | Course objectives | • Involvement of the community in problem solving and planning for the promotion of hygiene and sanitation in the schools | • lecture |
| | Problem identification | • community stories<br>• health problems in community | • lecture |
| | Problem analysis | • mapping of water and sanitation in community<br>• good and bad hygiene behaviour<br>• investigating community practice<br>• how diseases spread | • Posters<br>• Mapping<br>• 3 pile sorting<br>• pocket chart<br>• transmission route |
| 2 | Planning solutions | • blocking the spread of disease<br>• selecting barriers<br>• tasks of men and women | • barrier route<br>• barrier chart<br>• gender role |
| | Selecting options | • choosing sanitation options<br>• choosing improved sanitation behaviour | • Sanitation ladder<br>• Water ladder<br>• 3 pile sorting |
| | Planning for new facilities and behaviour change | • choosing sanitation improvements<br>• tasking<br>• identifying what may go wrong | • sanitation catalogue and existing facilities<br>• problem box |
| 3 | Monitoring for effectiveness | • checking progress<br>• SSHP monitoring issues and indicators | • Monitoring tool |
| | | • checking progress | |
| | SanPlat casting - theory | | • lecture |
| | CBM & VLOM | | • lecture |
| 4 | SanPlat casting - practical | | |
| | | • Critical look at available tools | • PHAST tools |
| 5 | Afridev O&M | | |
| | Critical look at sanitation options | • Sanitation catalogue | |
| | HESP (disease prevention) | | |
| 6 | Development area action plans | | |

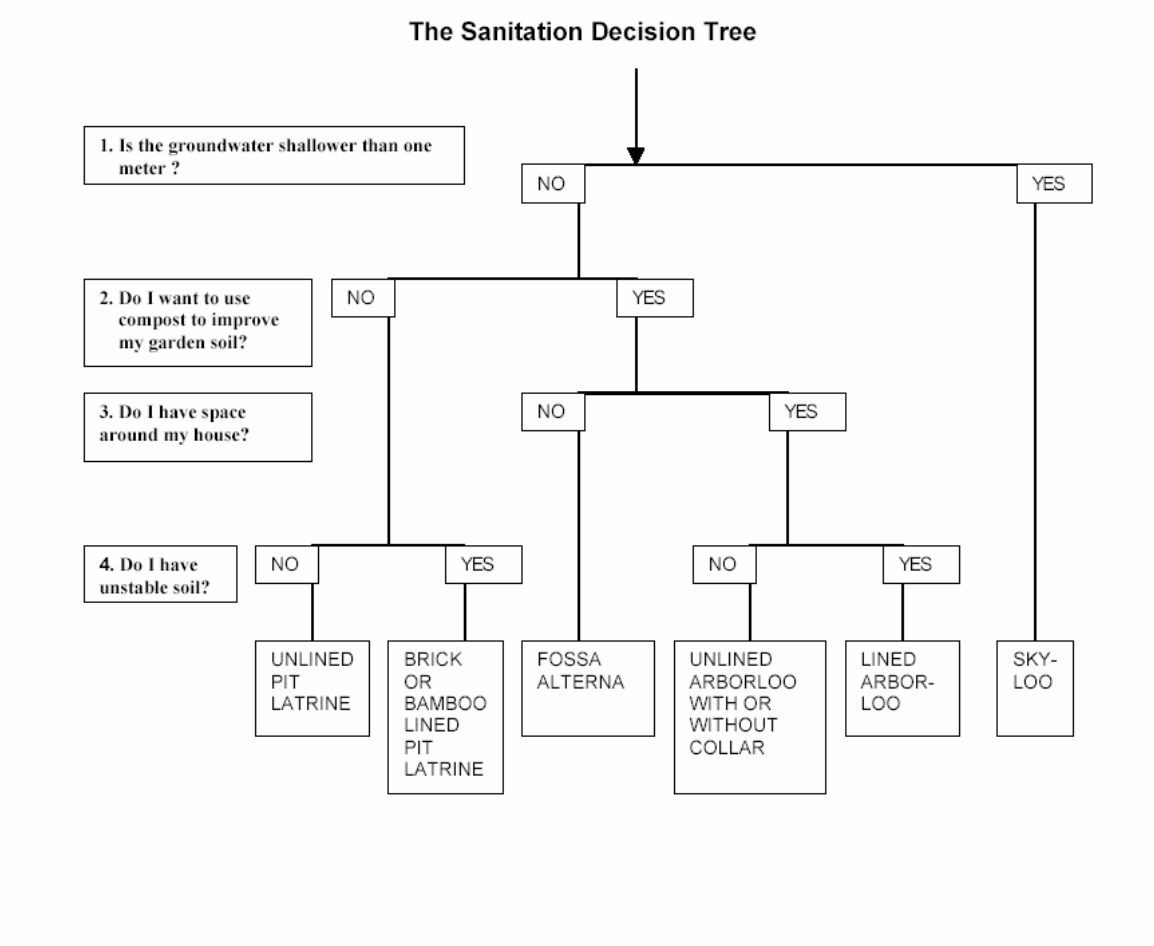
### *8.3 Terms of Reference for School Health and Sanitation Clubs.*

(A list of proposed activities developed by Nkhata Bay SSHP)

- Giving hygiene and sanitation talks during morning assemblies at the school once a week or when appropriate
- Conduct poster competition on hygiene at school level
- Performing drama with hygiene themes
- Composing hygiene and sanitation songs
- Conduct exchange visits with other schools to promote hygiene education
- Conduct general cleaning on the school premises occasionally to promote hygiene at school level
- Pay visits to surrounding communities to learn and promote awareness on hygiene and sanitation practices
- Carry out income generating activities to support the club
- Maintain and erect low cost / appropriate technology based hand washing facilities in schools, and school market places, and near rubbish pits
- HIV / AIDS talks
- Child rights talks

### *8.4 Sanitation Decision Trees*

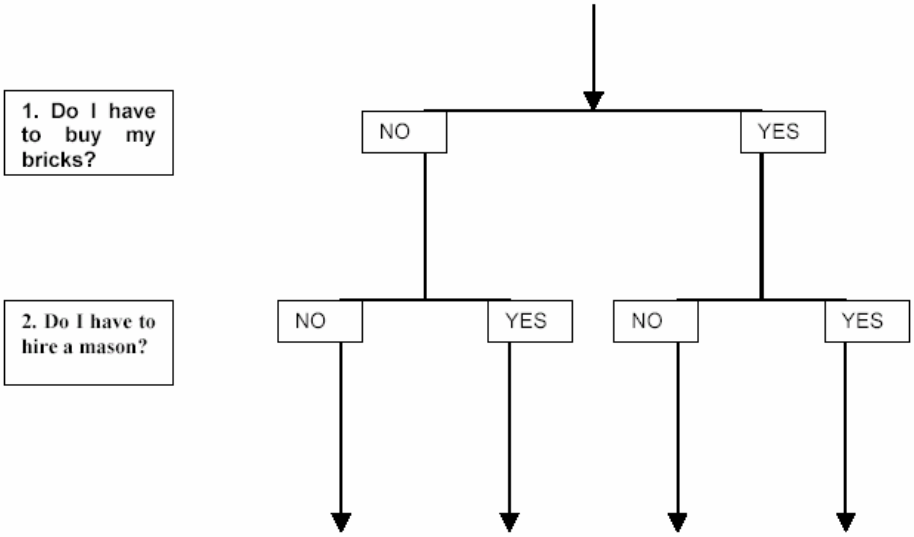
#### *8.4.1 The Sanitation Decision Tree*




Source: COMWASH project, Thyolo and Phalombe

### *8.4.2 The Sanitation Costing tree*

**The Sanitation Costing Tree**




| | | | | |
|---|---|---|---|---|
| Unlined Pit Latrine | 279 | 279 | 307 | 307 |
| Brick Lined Pit Latrine | 279 | 279 | 307 | 907 |
| Bamboo Lined Pit Latrine | 559 | 559 | 587 | 587 |
| Fossa Alterna | 558 | 658 | 758 | 858 |
| Collared Unlined Arborloo | 279 | 279 | 307 | 307 |
| Uncollared Unlined Arborloo | 279 | 279 | 279 | 279 |
| Bamboo Lined Arborloo | 419 | 419 | 419 | 419 |
| Skyloo | 1418 | 1818 | 1868 | 1868 |

Costs in Kwatcha per latrine

* Unit costs were determined in late 2003 for Southern Malawi (Thyolo and Phalombe Districts).

Source: COMWASH

### *8.5 Assessment of technical design options*

This section assesses the actual design options produced by the project in relation to the design criteria described above. Refer to the sections on the assessment of the catalogue itself, and of the actual facilities constructed in schools. The latest version of the sanitation technology options catalogue presents nine different latrine designs, three urinal designs and two hand-washing facility designs.

#### *8.5.1 Technology options*

| Type | Design | Variations and Notes |
|---|---|---|
| **Latrines** | The "Four by Four": four compartment latrine in a block configuration | Two layouts: one basic layout for boys and junior girls, and another layout for senior girls with integrated hand-washing facilities and individual compartment doors |
| | The "Four by Four": permanent version of the above (with empty-able pit) | As above |
| | The "Super Drop": four latrine compartments in a row with integrated urinal and hand-washing facilities | Hand-washing facility (tank with one tap) is on the outside. |
| | "Four in Line": four latrine compartments in a row | Latrine only: meant to be used with a separate hand-washing tank; with four separate doors |
| | "Four in Line for Ever": permanent (empty-able) version of the above. | As above. |
| | "Single for Ever" | Single compartment permanent latrine with hand-washing facilities. |
| | "Teacher's Paradise" | Single compartment with hand-washing facility |
| | The "Arbour Loo": easily moveable from one shallow pit to the next | The standard household ecosan design used in Zimbabwe and elsewhere (no specific modifications for school use) |
| | "Simplified *Fossa Alterna*": twin alternating pits | As above: not a new design, or specifically designed for schools |
| **Urinals** | "Wood producing urinal and shower unit for family use" | A design already in use by households in Malawi, here shown next to a tree for fertilisation |
| | "Fruit or wood producing urinal for schools" | As above, larger version. |
| | "Urinal with hand-washing tank" | Urinal with incorporated hand-washing tank, with run-off from tank used for flushing urinal |
| **Hand-washing facilities** | "Leaking Tin" | Standard leaky tin design, with drawing showing "soap on a rope" option |
| | Concrete tank: with tap, lid and steps to facilitate filling by children | Shown throughout the catalogue |

### *8.5.2 Environmentally friendly designs: design and practice*

The sanitation technology options catalogue stresses environmentally friendly solutions in the introductory text and in some of the design options. Of the nine latrine options, two are ecosan alternatives (the arbour loo and the fossa alterna) designed to produce compost (a third ecosan option – the skyloo – was available in earlier versions of the catalogue). Two of the three urinals are designed to make use of urine to fertilise trees. Most of the latrine designs incorporate a rain water harvesting system for filling hand-washing tanks. The catalogue also suggests placing the leaky tin hand-washing station next to trees, and planting trees on the site of old latrines. Also stressed is the need to use alternatives to burnt bricks because the considerable amount of firewood required for kilns is not sustainable, especially in Malawi where deforestation is a severe problem.

In practice, very few of these design options and recommendations have been used in the project. Ecosan latrines have only been used in two of the approximately 50 schools covered to date by the project. And in the one school visited by the evaluation team with an ecosan latrine (a type of twin pit fossa alterna, in Chifira School, Nkhata Bay) the latrine is being used incorrectly (see Section 3.4) and will not produce compost. With one exception (in Tchapa school, where it was poorly constructed and not operational), no school visited by the team has incorporated rainwater harvesting in the latrines, and no school was consciously using run-off from boreholes or hand-washing stations to irrigate trees or plants. Every school visited used burnt bricks exclusively; however UNICEF and its partners are now introducing the production and use of soil-stabilised block technology. No school visited has planted trees on the site of old latrines (although some schools had planted trees elsewhere on school property, no connection was made with the school sanitation project) and only one school visited actually used urinal run-off as fertiliser (in Chikwina School, Nkhata Bay, for banana plants).

It is clear that environmental aspects of the school sanitation and hygiene promotion project have either not been stressed during implementation and/or community or district stakeholders do not see it as a priority.

### *8.6 Cost estimate, per school, lowest cost option (basic minimum package)**

| Item | Costs (Kwacha or USD where noted) | Notes |
|---|---|---|
| **Four compartment (4x4) latrine costs with internal washing facilities and extra doors for four compartments (senior girls)** | | |
| External material costs, 2003 District Development Fund costs, with 25% inflation added | 173,500 | using 60 bags of cement (Building Supervisor has changed the bill of quantities figures from 40 bags to 80 bags, in the field, figures of 40 to 60 were given), including 4 internal doors |
| Costs of water tank and pipe/drainage works for internal washing facilities in 4 compartments | 27,000 | |
| Labour (contractor fee) | 28,000 | 25,000 to 28,000 figure given |
| Basic external costs, total | 228,500 | not including transport and supervision |
| Transport costs, external materials | 5,000 | assuming two loads total for school from district capital @20,000, split among 4 latrines, 2 urinals and 2 hand washing tanks |
| District supervision | 1,250 | 5 trips per school total = 10,000 split among all facilities |
| External costs, total | 234,750 | |
| Local material costs (15,000 bricks, sand, quarry stones) | 37,500 | estimate, based on district & local figures (using K.2/brick) |
| Transport costs, local materials | 2,000 | only in some cases, estimate based on figures provided by communities for tractor/truck hire |
| Labour (pit digging) | 1,600 | based on fees actually paid to some community members for pit digging (in NB) |
| Local costs, total | 41,100 | Not including supervision by PIC and School committee |
| Total, one 4 compartment latrine, Kwacha | 275,850 | |
| Total, one 4 compartment latrine, $ | 2,508 | |

| | | |
|---|---|---|
| **Four compartment (4x4) basic latrine costs (as above with no internal washing facilities)** | | |
| Total, one 4 compartment latrine, Kwacha | 259,250 | as above, less hand washing facilities and extra doors |
| Total, one 4 compartment latrine, $ | 2,357 | |

| Item | Costs (Kwacha or USD where noted) | Notes |
|---|---|---|

**External hand-washing tank**

| | | |
|---|---|---|
| External material costs | 15,375 | cement (10 bags) + pipe/drainage work (inflation included) |
| Labour (contractor fee) | 4,000 | |
| Basic external costs, total | 19,375 | |
| Transport costs, external materials | 5,000 | split between all, see note above |
| District supervision | 1,250 | |
| Local material costs | 2,000 | Including 750 bricks |
| Total costs, Kwacha | 26,375 | |
| Total costs, $ | 240 | |

**External urinal**

| | | |
|---|---|---|
| External material costs | 18,025 | |
| Labour (contractor fee) | 5,000 | |
| Basic external costs, total | 23,025 | |
| Transport costs, external materials | 5,000 | |
| District supervision | 1,250 | |
| Local material costs | 7,500 | Including 3000 bricks |
| Total costs, Kwacha | 35,525 | |
| Total costs, $ | 323 | |

**Total cost per school, basic minimum package**

| | | |
|---|---|---|
| 1 four-compartment latrine with extra privacy and internal hand-washing facilities for senior girls | 275,850 | |
| 3 basic 4-compartment latrines for other students | 777,750 | |
| 2 external hand-washing facilities | 52,750 | |
| 2 external urinals | 71,050 | |
| **Total per school, Kwacha** | **1,177,400** | does not include overhead or admin costs |
| **Total per school, $** | **10,704** | |

| | | |
|---|---|---|
| Total community costs | 183,400 | 16% |
| Total external costs | 994,000 | 84% |

| | |
|---|---|
| **Total for 100 schools, $** | **1,070,364** |

| | | |
|---|---|---|
| *Note: basic minimum package as described above at a standard of 2 latrine compartments per classroom (one for girls and one for boys), separate hand-washing facilities and urinals using lowest-cost latrine option (the four compartment latrine) and Kasungu district inflation-adjusted costs. Also does not include teachers' latrines. | | |

### *8.7 Detailed recommendations for reducing costs*

As discussed in sections ** and **, the actual costs of the facilities constructed through the SSHP project are very high. The total package of hand-washing tanks, latrines and urinals for both teachers and pupils costs in the order of $12,000 per school. This cost may have to be reduced significantly if the project is to be replicated on a wider scale.

There are six primary ways that costs can be reduced: adjust designs to minimize costs, rationalise cement use, improve supervision practices, re-define the composition of a standard school hygiene facility and sanitation package, encourage the rehabilitation of existing facilities and, most importantly, make cost a factor in the decision-making process at the community level.

#### *8.7.1 Lower-cost designs*

The technology options catalogue already stresses lower cost options through many of the designs presented. Alternative wall materials for urinals, for example, are encouraged and attempts have been made to reduce the number of doors in some latrine designs. There are, however, more cost reductions possible, some of which are listed below:

- put more focus on the lower cost designs in the catalogue: for example, instead of including a drawing of a brick-walled urinal and noting that bamboo walls are an option, instead use a drawing (or photograph) of a bamboo-walled urinal with a note that brick walls are an option
- consider the use of unburnt/sun-dried bricks in superstructures (which will also reduce environmental degradation)
- only line pits when required (currently the drawings in the catalogue show all pits lined – the catalogue should instead make it very clear that lined pits are not required in stable soils)
- reduce the height of some walls (such as in 4 x 4 latrines, where larger gaps between the top of the walls and the roof would not only reduce costs, but also increase ventilation and allow more light to enter latrine compartments)
- eliminate the use of drop-hole covers (in virtually all of the latrines visited they are not used by students in any case – also eliminating covers will improve air flow up the vent – see Box *.*)
- eliminate the use of standard (lever type) door handles and locks on all doors, and replace with lower-cost hasps and padlocks on the outside and privacy dead-bolts on the inside (even in these relatively new latrines, many standard door handles had already been stolen and many others were broken due to rough use and poor installation – padlocks and hasps are cheaper to buy and replace, simpler to install, more robust, and less attractive to thieves since a padlock without a key has no re-sale value)

#### *8.7.2 Rationalize cement use*

The single largest cost component in the facilities constructed is cement, and cement use in the facilities is a problematic issue. In Kasungu district, for example, the estimates for how much cement is required for a 4 x 4 latrine range from 40 bags of cement (from the Concern Universal bill of quantities) to 80 bags of cement (from the District Building Supervisor). Even 40 bags of cement is high for such a structure, and 80 bags is excessive. Until cement use is reduced, and cement quantities are clarified, the facilities will continue to be very costly. As discussed in Section 3.2.3 a detailed bill of quantities for each design will clarify this issue, and will serve as a tool for better supervision at all levels.

#### *8.7.3 Facilitate improved supervision practices*

Improved supervision of contractors by NGOs, PMTs and the community PICs will also reduce wastage, improper construction practices and thus costs. Community PICs and School

Committees stated on several occasions that they could not properly supervise contractors because they did not have access to the design drawings, and PMT members said lack of transport prevented them from supervising as often as they should have. According to PICs in some Kasungu schools, Concern Universal processed payment to contractors on some occasions without having verified all work on-site. Better supervision, using a clear and detailed bill of quantities will help to reduce cement wastage and other costs linked to poor construction practices.

#### *8.7.4 Re-define the standard school hand-washing and sanitation package*

The current standard applied in the SSHP project is as follows:

- two latrine compartments per class, for a total of 16 compartments (includes one basic latrine compartment per class for boys and for junior girls, and latrine compartments with private washing facilities for senior girls)
- latrines for teachers (two total: one for males, one for females)
- one urinal each for boys and girls (two urinals total)
- one hand-washing tank each for boys and girls (two total)

Observation and discussion during the evaluation indicate that the latrines may be under-utilised in schools with urinals for boys and girls. Focus group discussions with children showed that while most urinate at school, few (less than 20%) defecate at school. At the same time urinals are heavily used, and some children indicated that a second urinal for both boys and girls are necessary.

Reducing the number of latrines and increasing the number of (less costly) urinals is an appropriate way to save costs while continuing to adequately serve children.

#### *8.7.5 Encourage the rehabilitation of existing facilities*

Some existing latrines in schools can be rehabilitated at a cost much lower than building new latrines. In some cases solid VIP latrines have already been built at schools that require only minor repairs, while in other cases simple pit latrines exist that can be upgraded with the addition of sanplats, better roofing and other low-cost inputs.

The technology options catalogue discusses the rehabilitation of latrines in its introductory chapter and in some schools attempts were apparently made to do this.

A special section in the technology options catalogue that actually provides detailed information on *how* to rehabilitate or upgrade latrines together with more focused discussions with communities on the benefits of this option may result in less dependence on new latrines.

Phasing interventions in schools could also be used to promote latrine rehabilitation. In a first phase, the project would support the construction of urinals and hand-washing tanks and the rehabilitation of latrines. Once that phase is concluded, the second phase could be an option if additional new latrines are still required.

#### *8.7.6 Make cost a factor in the decision-making process*

As discussed in Section ***, communities tended to choose the most expensive latrine options available in the technology options catalogue. There were two reasons for this. One, the catalogue provided no information on the relative costs of each option and two, there was no motivation for communities to select lower cost options.

In the current SSHP model, concrete project inputs are limited to water, sanitation, and hygiene facilities in schools. In many of the schools visited by the evaluation team, communities

representatives, teachers and even pupils themselves indicated that there were in fact other priorities. These priorities mainly related to the school itself – some schools were extremely overcrowded and most were in need of repair. But in some schools in Kasungu, community members indicated that they would have liked the project to make sanplats available for households.

In a model where communities are approached with a sum of money to be used for water, hygiene and sanitation facilities in schools *and* in which any savings could be used for related priorities, it is more likely that school committees would choose lower cost latrine options in order to be able to address other priorities. Such a process would be facilitated by PMT members and extension workers using a decision tree approach as discussed in Section ***. A system of checks and balances would ensure that the funds are first spent on an acceptable minimum water, sanitation and hygiene package (that would need to be clearly defined) and that there is a defined range of acceptable uses for the balance of the funds. And, as stated earlier, the technology options catalogue would have to contain accurate costing information for each design.

### *8.7.7 Transportation and the use of donated project vehicles*

Transportation was a key factor in most of the other constraints identified by stakeholders as delaying project progress. Lack of transportation was partially responsible for the late arrival of external supplies (although UNICEF and NGO procurement procedures were also a factor), in the late delivery of local materials to the project site (in many cases these materials – sand, quarry stones and bricks – were not available near schools and some form of transport had to be arranged to deliver it) and in the sporadic monitoring and supervision of contractors.

The SSHP project supplied each district with a three-ton lorry, a light pickup truck and several motorcycles. In Nkhata Bay the lorry and truck were mainly under the control of the DEM, while the PMT had use of the motorcycles; 4 for the district (health, water. education, community services) and 1 for CPAR.

In Kasungu the lorry was under the control of Concern Universal, the pick up with the DEM and the motorcycles were mainly with the PMT.

In both districts it appears that the lorry and light trucks were used more for district business than for SSHP activities. This is reportedly a factor that negatively impacted on project supervision and monitoring, and steps should be taken to ensure that this practice does not continue.

In Kasungu the project lorry was used mainly for the delivery of project materials (both external and local) to schools, and in many cases the fact that only one truck was available in the district (which is large, and schools are scattered) significantly delayed progress. In Nkhata Bay UNICEF used a private transporter to deliver external materials to most schools directly from Lilongwe, so the lorry was not required for this service. And according to several of the schools visited, the lorry was also not made available for the delivery of local materials and the communities or the contractors were forced to hire tractors and lorries locally at their own expense. If the Nkhata Bay lorry was not used for the delivery of external material, and not readily available for supporting communities, it is difficult to see what it was being used for.

In any case, the experiences in both districts suggests that better use of resources may have been the establishment of a fund for the hire of transportation services at the district and community level instead of purchasing project lorries. Even using a high estimate of $200 for each return trip to a district school (from the district capital), the value of the two lorries procured (about $50,000) is the equivalent of more than 250 trips, and this does not include the considerable operating costs. Given that the costs of delivering local materials (from nearby communities) is much lower, the use of local transport instead of purchased lorries would likely have resulted in

significant savings and speeding up deliveries. The use of local transportation has the additional important advantage of servicing different schools at the same time, and of supporting local economies.

### *8.8 Construction process and the use of local contractors*

Progress has been slow in the SSHP project and many facilities have yet to be constructed. In fact, if a complete package includes teachers' latrines and *fully-functional* hand-washing tanks and water points, it is likely that not a single school yet has a complete package (a detailed inventory of all facilities constructed to date and their operational status is not available in either district).

| | Nkhata Bay (5 schools) | Kasungu (5 schools) | Both districts (10 schools) |
|---|---|---|---|
| No. of schools where the complete package of latrines, urinals and hand-washing facilities has been constructed | 2* | 2** | 4 |
| Average duration of latrine construction (according to contractors and communities)*** | 10 months | 12 months | 11 months |

Notes:

* construction completed, but hand-washing facilities inoperational due to poor design and construction

** construction of all facilities for pupils completed, but not for teachers

*** not including initial training and sensitisation activities, the contractor choice process or water point construction; may be underestimated

According to a variety of project stakeholders the key issue that has slowed progress are problems with local contractors and related community participation issues. Other issues mentioned include transportation and the late delivery of supplies by the NGOs or PMTs.

The use of local contractors – that is, contractors from within the school community – was stressed in the project design as a way of supporting local economies and better engaging host communities in the entire process (which was hoped would ultimately facilitate hygiene promotion in communities). Both UNICEF and the PMTs now feel that the use of local contractors was a major factor in the delays, and that local contractors should no longer be used in the project.

> "In Kasungu and Nkhata Bay, unfortunately, local contractors have seen to be unreliable and tended to have many distractions from getting the work done in a timely manner. Local contractors are subjected to regular interruptions to attend to funerals, festivals, etc.. Furthermore, in awarding contracts, a lot of jealousy among communities exists. Some communities were reported to have complained to the PMT that they cannot see why they should participate 'freely' when someone locally is being paid a significant amount to construct the facilities. In some cases, contractors have had to do the 'community's contribution' because of these attitudes. Contractors are often 'frustrated' by other community members, purposely delaying excavation of pits, so the contractor could not begin his/her work. It was noted that where a contractor came from outside the community, they tended to be more reliable, efficient and less local tensions develop."[7]

[7] School Sanitation and Hygiene Promotion Report for 2003-2004, UNICEF Malawi

In many of the schools visited, the evaluation team found evidence that confirms this view. In some cases local contractors clearly did not have the requisite skills, community participation was poor because of the conflict between paid and unpaid work within the community, some local contractors were chosen for political reasons, and facilities built by local contractors were sometimes – but not always – of poorer quality than those built by 'town' contractors. On the other hand, some local contractors were highly skilled and managed to finish the work in good time, and in some communities (notably in Kasungu) the use of local contractors did not seem to negatively affect community participation. There were also several cases where the work carried out by town contractors was sub-standard and not completed.

It should be noted that in most cases the community (as represented principally by the school committee and/or the project implementation committee) do not agree with the above assessment, and would use local contractors again if asked. One committee member said the problem wasn't the local contractors; it was the unreasonable time frame for completion imposed on the community. Other community members noted that it was impossible for the PIC to supervise town contractors (and on the other hand, as an example of the complexity of the situation, some local contractors could also not be supervised because they were related to powerful people within the community).

The problem is at least partially related to the process of identifying and choosing the local contractor. This process involved local advertisements and a visit by extension workers, NGO workers and sometimes PMT members to interview the candidate and choose a contractor(s). In many cases the process was carried out by non-technical people (CDAs and PEAs, for example) using a standard interview questionnaire with textbook-like questions such as what cement aggregate ratio should be used when making concrete structures. This resulted in the choice of inexperienced contractors in some cases.

Only in one of the schools visited was a more comprehensive approach taken. In Chifira school (Nkhata Bay) CPAR invited a group of 12 local builders to work together on a model latrine. Their work was assessed by a construction engineer, candidates were short listed and ultimately a contractor was chosen (the process also included an interview and reference checking). The quality of the latrines was generally good (although this is the same school with the ecosan latrines that were not properly finished – see Box *.* – but that problem was the result of supervision and design issues).

The problems experienced with local contractors are also clearly related to lack of supervision by NGOs and especially the PMTs. PMTs identify the lack of transport as a principal reason for this.

Transparency is the key; whether or not contractors are local or external, the community must be part of the process).

### *8.9 Construction Problems: latrines and hand washing tanks*

#### *8.9.1 Latrine construction problems*

(see also detailed observation notes in Annex **)

| **Problem** | **Frequency** |
|---|---|
| Ventilated Improved Pit (VIP) design features not applied or incorrectly applied | In all latrines |
| Poor drainage (poor quality concrete drains, short drains, insufficient slope, missing or inadequate soak-away pits) | In most latrines |
| Badly fitted doors and locks | In most latrines |
| Poorly finished sanplats and poorly moulded drop-hole covers | In most latrines (where sanplats used) |
| Sanplats not flush with floor, making cleaning more difficult (this is more of a design problem than a construction problem: see "Usability: designs that facilitate cleaning" in Section 3.3.2) | In most latrines (where sanplats used) |
| Low quality bricks or poor brick work | In some latrines |
| Loose or poorly fitted roofing sheets | In some latrines |
| Untreated woodwork (trusses and supports) | In some latrines |
| Inadequate termite proofing measures | In some latrines |
| Incorrect roof truss construction (trusses and supports left flat) | In some latrines |

#### *8.9.2 Masonry hand-washing tank problems*

**Design Issues**

- too small or too large
- impossible to fill by children (tanks too high or with no steps)
- no flushing system incorporated
- outlet design results in plugging (outlets at the bottom of the tank)
- inadequate lids (missing lid, too heavy, too fragile or permanently fixed making cleaning impossible)
- poorly designed latrine water tanks in one school (for latrines with washing facilities)

**Construction Issues**

- taps mounted too close to tank (hard to turn)
- taps mounted too far from tank (easily broken)
- tanks leak (through cracks, thin walls or around poorly fitted pipes)
- very poor quality brick and cement work in some cases

**Maintenance Issues**

- not properly/regularly cleaned
- broken or stolen taps not replaced
- broken lids not repaired

### *8.10 Summary of observations*

#### *8.10.1 Table: School hand washing facilities*

| | **Nkhata Bay (5 schools)** | **Kasungu (5 schools)** | **Both districts (10 schools)** |
|---|---|---|---|
| Schools visited with at least one functioning hand-washing tank or station | 2 | 4 | 6 |
| Schools visited where both boys and girls have access to at least one fully functional hand-washing outlet. | 0 | 2 | 2 |
| Schools visited where most pupils are habitually washing their hands after using latrines (and urinals) | 0 | 1 | 1 |
| Schools where hand-washing facilities were not constructed, incomplete, not functional, or only partially functional | 5 | 4 | 9 |

#### *8.10.2 Table: School urinals*

| | **Nkhata Bay (5 schools)** | **Kasungu (5 schools)** | **Both districts (10 schools)** |
|---|---|---|---|
| Schools visited with girls' urinals | 2 | 5 | 7 |
| Schools visited where girls' urinals are heavily used | 2 | 5 | 7 |
| Schools visited with boys' urinals | 2 | 4 | 6 |
| Schools visited where boys' urinals are heavily used | 2 | 4 | 6 |

#### *8.10.3 Table: School latrines*

| | **Nkhata Bay (5 schools)** | **Kasungu (5 schools)** | **Both districts (10 schools)** |
|---|---|---|---|
| Average no. of girls per latrine compartment | 62 | 77 | 69 |
| Average no. of boys per latrine compartment | 68 | 71 | 69 |
| Average no. of latrine compartments per class | 1.68 | 1.83 | 1.75 |
| No. of schools visited with latrines for teachers | 5 | 2 | 7 |
| No. of schools visited with ecosan latrines | 1* | 0 | 1 |
| * but not currently functional as an ecosan latrine | | | |

***8.10.4 Table: School water points***

| | **Nkhata Bay (5 schools)** | **Kasungu (5 schools)** | **Both districts (10 schools)** |
|---|---|---|---|
| No of schools with water point constructed or rehabilitated through the SSHP project | 1 | 3 | 4* |
| No. of schools with functional, perennial water point in or near the school grounds | 2 | 5 | 7 |
| No. of schools with a functional and trained water point committee (including membership from both school and community, with a maintenance fund) | 3 | 2 | 5 |
| * Note: According to Concern Universal a total of 17 water points were constructed or rehabilitated in Kasungu. According to PMT, 35 were constructed in Nkhata Bay (where boreholes were constructed for both Phase I and Phase II schools plus additional boreholes in other schools). | | | |

### *8.11 Chipiku Afridev Spares Availability and Turnover*

| | **Nkhata Bay Chipiku** | **Chinteche Chipiku** | **Kasungu Chipiku** | **Wimbe Chipiku (Kasungu)** |
|---|---|---|---|---|
| | turnover since Aug 03 | turnover since Feb 04 | turnover since Feb 04 | turnover since Feb 04 |
| Bobbins | 11 | 7 | 40 | 2 |
| U seals | 113 | 90 | 393 | 93 |
| Cup-seal | 11 | 1 | 10 | 1 |
| Bush bearings | 41 | 6 | 125 | 37 |
| Rod centraliser | 203 | 88 | 140 | 92 |
| stainless steel rods | 0 | 0 | 16 | 1 |
| fulcrum pins | 2 | 0 | 8 | 1 |
| hanger pin | 0 | 0 | 0 | 1 |
| O ring | 44 | 9 | 97 | 24 |
| double sockets | 0 | 0 | 7 | 5 |
| Foot valve assembly | 0 | 0 | 9 | 1 |
| Plastic plunger / foot valve body | 14 | 5 | 20 | 4 |
| Brass plunger | 0 | 0 | 0 | 0 |
| Pipe centralisers | 0 | 47* | 0 | 0 |
| cylinder assembly | 0 | 0 | 0 | 0 |
| Steel cone | 0 | 0 | 0 | 0 |
| Compression cone | 1 | 0 | 0 | 0 |
| Collar / top sleeve | 0 | 0 | 0 | 0 |
| pump head cover | 0 | 0 | 0 | 0 |
| pump head | 0 | 0 | 0 | 0 |
| spanner open ended | 0 | 0 | 0 | 0 |
| spanner - socket | 0 | 0 | 0 | 0 |
| fishing tool | 0 | 0 | 3 | 0 |
| plunger rod | 0 | 0 | 2 | 0 |
| hex nuts / bolts | 44 | 4 | 30 | 12 |
| ropes | 0 | 0 | 3 | 4 |
| solvent cement | n/a | n/a | n/a | n/a |

(* sold to a contractor)

### *8.12 Comparison of actual with reported progress in 10 schools*

This section outlines the progress achieved in the construction of facilities, comparing reports by the 2 district PMTs and the observations by the evaluation team in the 10 schools.

In Kasungu, the main implementing agency (Concern Universal) has submitted an end of contract report with a school-by-school report of works completed. The evaluation has assessed the report against the actual situation in the five schools visited, in Table *.* below. In general, the situation found on-site is worse than that reported.

#### *8.12.1 Table: Reported and actual progress in 5 schools in Kasungu*

| **School** | **Progress as reported by Concern Universal in (undated) End of Contract Report** | **Actual situation during the evaluation team visit (early July, 2004)** |
|---|---|---|
| Chankhozi | "Completed" | Partially completed:<br>• no teachers latrines have been constructed<br>• sub-standard lids provided for hand-washing tanks: all are broken or damaged<br>• SSHP-constructed soak-away pit was not completed |
| Suza | "Completed" | Partially completed:<br>• no teachers latrines have been constructed<br>• inside hand-washing facilities in latrine for senior girls inoperational due badly leaking tank (poor design and poor construction)<br>• concrete hand-washing tank lids are not useable (far too heavy for children) and most are already badly damaged |
| Zyalambe | "Completed" | Partially completed:<br>• hand-washing tanks have not been completed and are currently inoperational (hand-washing tanks are also very small and will be of limited use when completed |
| Manyani | "Completed (less polish-up 1 urinal and 2 hand-washing facilities)" | Partially completed:<br>• only 2 4x4 latrines and one urinal have been completed<br>• hand-washing facilities 'constructed' are sub-standard, insufficient and only partially used by students<br>• 3 existing single compartment latrines are also available but need repairs |
| Misozi | "Completed but not met latrine target" | Partially completed:<br>• only 2 4x4 latrines and one urinal constructed (latrines are of very poor quality)<br>• Concern report states that 2 urinals have been constructed, but only one has been constructed<br>• no hand-washing facilities<br>• no teachers latrines |

### *8.12.2 Reported and actual progress in 5 schools in Nkhata Bay*

| School | Progress as reported by PMT in latest available report (13 June 2003) | Actual situation during the evaluation team visit (late June, 2004) |
|---|---|---|
| Chisu | 18 latrines, 2 urinals, 2 hand-washing facilities completed, and all facilities in use | Partially completed:<br>• latrines and urinals constructed and in use<br>• due to poor design (too high to fill, no steps) and poor quality construction, hand-washing tanks are not being used |
| Limphasa | 7 latrines, 0 urinals and 0 hand-washing facilities completed | Partially completed<br>• same situation, 7 (double) latrines, no urinals<br>• 2 hand-washing tanks partially constructed but abandoned and not usable |
| Chihane II | 14 latrine (compartments), 0 urinals and 0 hand-washing facilities completed | Partially completed<br>• same situation, 14 latrine compartments (4 pending), no urinals and no hand-washing facilities<br>• water point (not SSHP) broken |
| Chikwina | 8 latrines, 0 urinals and 0 hand-washing facilities constructed | Partially completed<br>• same latrine situation<br>• 2 urinals have now been constructed (quality poor to fair)<br>• 2 hand-washing tanks also constructed, girls partially in use, boys not in use (missing tap) |
| Chifira | No report<br>(CPAR school) | Partially completed<br>• 9 ecosan latrines constructed, but not functioning as ecosan latrines due to poor completion and lack of understanding<br>• no urinals, no hand-washing facilities |

### *8.12.3 Observation Checklist Kasungu District: Detailed notes on sanitation, hygiene and water facilities*

| School | Suza PS | Chankhozi | Misozi | Manyani | Zyalambe | Averages / Summaries |
|---|---|---|---|---|---|---|
| Date visited | 30/06/2004 | 01/07/2004 | 02/07/2004 | 07/07/2004 | 08/07/2004 | |

**Pupils and Teachers**

| | | | | | | |
|---|---|---|---|---|---|---|
| No. of enrolled children, 2004, total | 1145 | 1077 | 934 | 611 | 1055 | 964 |
| boys | 532 | 520 | 478 | 295 | 523 | 470 |
| girls | 622 | 557 | 456 | 316 | 532 | 497 |
| %age girls | 54% | 52% | 49% | 52% | 50% | 51% |
| No. of enrolled children, 2003, total | 1080 | 1020 | 857 | 748 | 832 | 907 |
| boys | 563 | 500 | 509 | 380 | 408 | 472 |
| girls | 517 | 520 | 348 | 368 | 424 | 435 |
| No. of special needs children | 0 | 0 | 0 | 0 | 0 | 0 |
| No. of teachers | 16 | 11 | 6 | 17 | 8 | 12 |
| No. of classes | 8 | 8 | 8 | 8 | 8 | 8 |

**Section 1: Sanitation and Hygiene**

| | | | | | | |
|---|---|---|---|---|---|---|
| What facilities where there in the past? | | | | | | |
| latrines | 8 | about 6, many students using bush | 8, but in bad shape | about 7, 3 still in use (built in 2000) | more than 8, 4 double vault latrines built by World Vision still in use | less than currently |
| total no. of latrine compartments | at least 10 | 6 | 8 | 7 | more than 10 | |
| urinals | 1, local construction, for boys, considered too smelly | 1 for boys | 0 | 0 | 0 | for boys only |
| hand washing facilities | 0 | 0 | 0 | 0 | 0 | none |
| What latrines are there now | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| description | three 4x4 (4 compartment) latrines, serving all boys and junior girls plus one 4x4 latrine with urinals and handwashing facilities inside serving senior girls (5,6,7,8) | two standard 4x4s for boys and two 4x4s with handwashing basins for girls (all girls latrines have handwashing basins) | two standard 4x4s | two standard 4x4s have been constructed, out of which 4 compartments used for boys, 2 for girls and 2 for teachers: numbers below include these plus the 2000 latrines still in use | 10 new double vault latrines constructed, 4 for boys, 4 for girls, 2 for teachers; 4 existing double vault latrines still in use (included in numbers below) | 2 types |
| listed in catalogue | Yes | Yes | Yes | Yes | No, not this configuration with both doors and blind walls | 4 of 5 |
| girls, total latrines | 2 | 2 | 1 | 3 | 6 | |
| girls, total latrine compartments/stalls | 8 | 8 | 4 | 4 | 12 | |
| boys, latrines | 2 | 2 | 1 | 2 | 6 | |
| boys, total latrine compartments | 8 | 8 | 4 | 5 | 12 | |
| teachers, latrines | 0 | 0 | 0 | 1 | 2 | |
| teachers, total latrine compartments | 0 | 0 | 0 | 2 | 4 | |
| additional notes on latrines (see also detailed technical notes on latrines below) | teachers' latrines 'promised' by Concern Universal, pit partially dug, but not constructed / sanplats used provided by community, quality fair | | generally very poor quality construction; pits for 2nd two latrine blocks under construction; girls and boys use adjoining latrines and urinals currently | 2 compartments of the new latrines used by teachers | standard 1, 2, 3, 4 each have two latrine compartments per sex each, the other grades have one | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total no. of pupils per latrine compartment | 71.6 | 67.3 | 116.8 | 67.9 | 44.0 | 73 |
| girls per latrine compartment | 77.8 | 69.6 | 114.0 | 79.0 | 44.3 | 77 |
| boys per latrine compartment | 66.5 | 65.0 | 119.5 | 59.0 | 43.6 | 71 |
| No. of latrine compartments per class | 2 | 2 | 1 | 1 | 3 | 1.8 |
| Do the latrines for have provisions for special needs of disabled children? | No | No | No | No | No | None |
| When were latrines completed and handed over? | March, 2004 | Jan, 2004 | May, 2004 | Jan, 2004 | May, 2004 | |
| How long did construction take? | approx. 14 months | approx. 6 months | approx. 14 months | approx. 12 months | approx. 16 months | 12.4 |
| Are they being used? | Yes | Yes | Yes | Yes, but boys latrine block is only lightly used | Yes | |
| Are there urinals? | Yes | Yes | Yes | Yes | Yes | In all cases |
| girls, urinals | 1 | 1 | 1 | 1 | 1 | 5 of 5 |
| girls, concurrent urinal spaces | 6 | 6 | 3 | 11 | 7 | |
| are girls using urinals concurrently | Yes | Yes | ? (see below) | Yes | Yes | |
| boys, urinals | 1 | 1 | 1 | 0 | 1 | 4 of 5 |
| boys, concurrent urinal spaces | about 8 | about 8 | 3 | 0 | about 6 | |
| construction quality | Poor to fair | Fair to good | Fair | Fair | Fair to good | Fair |
| cleanliness | Fair | Poor to fair | Fair | Fair | Fair to good | Fair |

| | | | | | | |
|---|---|---|---|---|---|---|
| additional urinal notes | drainage around urinals generally poor (latrines have better drainage), urinals somewhat smelly, each drain to soakpits | some boys urinating outside urinals, urinals smelly | Only one urinal constructed to date with separating wall between girls and boys (second urinal will be constructed along with additional 2 latrine blocks). Urinal construction fair except for slope of drain. | Urinal has separting wall but both sides used by girls even though boys do not have a urinal | Urinals have separating wall, one side for younger children, other for older | no urinals being used to fertilize trees/plants |
| Are there hand washing facilities? | Yes | Yes | Not completed | Yes | Concrete tanks not completed. | 3 of 5 |
| Type | concrete tank with steps, easily fillable + inside-latrine facilities | concrete tank with steps, easily fillable + inside-latrine facilities | one concrete tank, but unsuccesful and not being used | version of leaky tin, with local containers, but no washing facilities near boys latrine | very small concrete tanks w/ steps, but not completed and not used + 2 demo plastic handwashing stations | 4 of 5 with concrete tanks, but only 2 are functional |
| Outlets (taps, hoses, basins) total | 6 | 21 | 3 | 3 | 4 | |
| Outlets functional | 3 | 19 | 0 | 3 | 2 | |
| for girls | 3 | 16 | 2 | 3 | 2 | |
| for boys | 3 | 5 | 1 | 0 | 2 | |
| Distance to latrines | Close (< 10 m) | Close (< 10 m) | Close (< 10 m) | Close (< 10 m) | Close (< 10 m) | Always close |
| Distance to water source | Reasonably close (<100 m) | Close (< 50 m) | Close (< 50 m) | Close (< 50 m) | Close (< 50 m) | Always close |
| Tanks full | two thirds full | all tanks at least partially full | Empty, not functional | In the morning only | Empty not functional, plastic containers full, but not usually used | |

| | | | | | | |
|---|---|---|---|---|---|---|
| construction quality | Fair | Fair to good | Poor | Fair | Poor | Poor to fair |
| Facilities used (best answer, based on pupils, teachers and observations) | Yes, observed 3 girls washing hands | Yes, almost all children habitually use (several dozen seen), very well used | No | Yes, some children washing hands in the morning, but not later | No | Yes in 3 schools, very widespread hand-washing in one school only |
| Do pupils wash their hands immediately after using latrines? | Yes, in above cases | Yes | No | Some (see above) | One or two | |
| Additional notes on hand washing facilities | 3 of the 6 faucets broken and removed (reason given for not replacing - lack of funds), design better than in NB, but still poor - no way to drain tanks and inlet pipes are 5 cm above bottom of tank / although borehole is close, school only has two 10 l buckets available for filling, water dirty, untidy surroundings | each girls latrine has two external tanks (each with taps) and 4 internal basins; girls also have an external tank with 4 taps; boys have one external tank with 5 taps; cement lids used on most tanks too heavy and breaking; GI lid on one tank better but not strong enough; girls haul all water | taps improperly fitted and removed; tank constructed with permanent cover making it impossible to clean; tank too small | limited volume of water in tanks (less than 8 l in each of the three) resulted in only partial handwashing | extremely small concrete unfinished tanks; community/school have no plans for completing them | a variety of construction and design problems - no single tank without problems |
| Is Soap/ash available in or at the latrines? (observation) | No | No | No | No | No | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Has the planned package of facilities been completed (one latrine compartment for each class of boys and girls, two urinals, handwashing stations for boys and girls) | Yes (but no latrines for teachers constructed) | Yes (but no latrines for teachers constructed) | No | No | No | Not a single school in the district has finished a complete package - PMT |
| Latrine cleanliness | Good | Good | Poor to fair | Good and poor (see note below) | Good | Fair to good |
| Visible Faecal smears inside | few | few | Some | Some | a few in old latrines | Some |
| smell | None | None | Some | Some | a little | Little |
| flies | None | None | None | None | None | None |
| visible Faeces in surroundings | None | None | Some | Some | None | only at one school |
| general tidiness | Good | Good | Poor | Poor to fair | Fair to good | Fair to good |
| Level of privacy for boys | Medium high (next to road, close to school) | Medum high | Low | Good | Good | generally good |
| separated from girls latrines, houses, school etc. | Yes, but only by about 50 m | Yes, but only by about 20 m | Currently no separation between girls and boys (because complete package not completed), close to road and maize mill | New latrine is, but boys are using some old latrines next to girls' facilities | Yes | Usually |
| doors | Yes (2 per 4x4) | Yes (2 per 4x4) | Yes (2 per 4x4) - one missing | Yes | Yes | Fewer doors used in Kasungu than in Nkhata Bay due to 4 x 4 design |
| blind walls | Yes | Yes | Yes | Yes | Yes | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Level of privacy for girls | Same as boys (road) | Medum high | Low - see above | Low | Good | generally good |
| separated from boys' latrines, houses, school etc. | Yes, but only by about 50 m | Yes, but only by about 20 m | No - see above | Not from old latrines still in use | Yes | |
| doors | Yes (2 per 4x4) | Yes, each compartment | Yes (2 per 4x4) | Yes | Yes | |
| blind walls | Yes | Yes | Yes | Yes | Yes | |
| Needs of menstruating girls taken into account (e.g. water available in the compartment) | Yes, one urinal and handwashing facility for each of standards 5,6,7 and 8 (not functional, see below) | Yes, interior handwashing basins, one for each class | No | No | No | |
| Path from the school building to the latrines? | Yes | Yes | Yes | Yes | Yes | |
| Latrines are signed by user (by gender/class) | Yes, in all cases | Some | No | No | Yes | 3 of 5 |
| Who cleans the latrines currently? (cross-checked responses from teachers, children and sanitation club members) | | | | | | |
| girls' latrines | girls | girls | all pupils | girls | girls | |
| boys' latrines | boys | boys | all pupils | girls (and boys sometimes) | boys | mainly boys |
| teachers' latrines | n/a | n/a | n/a | girls | pupils | sometimes as punishment |
| frequency | twice daily according to sanitation master | once a day | every couple of days' | once or twice a day | daily | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Notes on latrine cleaning | weekly roster, boys and girls clean all latrines on specified days of the week (except for standards 1 and 2) | each class cleans their own latrines | apparently no clear system | new latrines are cleaned regularly, but older latrines (which are still in use) are seldom cleaned | | girls clean boys latrines (on some occasions, in one school only) |

**Section 2: Water supply**

| | | | | | | |
|---|---|---|---|---|---|---|
| Was a water point available in the past? (before the SSHP project) | Yes, but reportedly low yield and about 750 m away | Yes | Yes | Yes | Yes | |
| Is water accessible nearby | Yes | Yes | Yes | Yes | Yes | |
| Community or school water point? | School | School | School | School | School | |
| Does the community have access to the water point | Yes | Yes | Yes | Yes | No (community is not allowed to access school well) | |
| What type of water point is available? | borehole w/ Afridev | borehole w/ Afridev | borehole w/ Afridev | borehole w/ Afridev | borehole w/ Afridev | |
| Construction or rehab funded by (SSHP project/other) | DFID (for TDC) | EU funded borehole, SSHP funded apron rehab. | old borehole rehabilitated by SSHP (new apron, below-ground handpump components replaced) | MASAF | SSHP | 3 constructed or rehabilated by SSHP |
| Construction date? | Sept, 2002 | borehole: 1998, apron: 2003 | rehab: 09/2002 | 08/1998 | 05/2003 | |
| Construction quality | Fair (very poor apron design and quality) | Fair (poor apron design) | Fair to good | Fair to good | Fair, platform too high in relation to pump handle | Fair |

| | | | | | | |
|---|---|---|---|---|---|---|
| Is there adequate drainage? | No, due to poor design of apron and drain | Fair (improvement over old apron, but continues to have problems) | Fair (soak away pit not completed) | Poor (short drain, soak pit not functioning) | Fair , problems with soak pit | Poor to fair |
| Who has been trained in CBM / VLOM | 10 members of water point cmte, in 2002 and a refresher course recently | 10 members of water point cmte, in 07/2003 by Concern (SSHP funded) including 2 teachers and 2 pupils | 10 members of water point cmte + 2 teachers by Concern (SSHP) | 10 members, including 1 teacher | 10 members, including 2 teachers | |
| Is the water point working properly ? | Yes | Yes | Yes | Yes | Yes, but starting to fail | 5 of 5 |
| If not what is the problem ? | n/a | worn bearing bushes | n/a | | low yield | |
| Is the problem being resolved? | n/a | No, may begin to collect funds | n/a | | No | |
| Yield test | Marginally failed | Passed | Passed | Marginally failed | Failed | |
| Leakage test | Passed | Passed | Passed | Passed | Passed | |
| Apparent water quality | good, some salt content | Good | Good | Good | Good | |
| Has the pump broken down in the past? | No | Yes | Not known | Yes | No | |
| Who repaired it? | | water point cmte | | Water department from district HQ | | |
| Parts needed? | | bearing bushes | | ? | | |
| Where procured? | | provided by EU | | gov't stock | | |
| Down time? | | | | less than one week | | |
| Is the water point tidy? | Fair | Good | Fair | Fair | Fair | Fair |
| Are there co management arrangements between school and community? | Yes | Yes | Not really (2 teachers aren't considered part of cmte) | Yes, but teachers not heavily involved | No | 3 of 5 |
| Is there a maintenance fund? | No | No | Yes | Yes | No | 2 of 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| What for | | | Future repairs | Future repairs (cmte has made its own repairs in the past) | | |
| How much | | | K. 300 total | K. 1500 total (K. 50/month) | | |
| Notes on water point | Heavily used, water is identified by community as a major problem | Heavily used, water is identified by community as a major problem | | | Problems with management, related to exclusive use by school | |

**Section 3: Detailed Technical Notes for Latrines**

| | | | | | | |
|---|---|---|---|---|---|---|
| *VIP Latrines* | | | | | | |
| Most of the vent pipe is exposed to direct sunlight | Yes | Yes | Yes | Yes | Yes | Not a single latrine is a "full" VIP latrine |
| Vent pipe extends above roof | Yes | Yes | Yes | Yes | Yes | |
| Vent pipe is at least 4 inches in diameter | Yes | Yes | Yes | Yes | No, some 3" | |
| Vent pipe has mosquito net | No | No | No | No | No | |
| Vent pipe is dark colored | Some | Yes | Yes | No | Some | |
| Vent pipe has elbows, is not vertical or has vent caps/cowls (prevents/minimizes light flow, and the attraction of flies) | Yes, cowls and 45 degree elbows below grade | cowls | cowls | cowls, some not vertical, but no elbows | elbows and cowls | |
| Vent pipe is cracked or loose | No | No | Some are loose | Some | No | |
| At least one vent pipe per drop-hole | Yes | Yes | Yes | Yes | Yes | |
| Drop-hole covers provided | Yes, but most broken | Yes | No | No | No | |
| Drop-hole covers used | No (only in 1 of 8) | Some | n/a | n/a | n/a | |
| Drop-hole cover fit | Poor | Good | n/a | n/a | n/a | |
| Adequate ventilation to allow airflow into the latrine compartment | Yes | Yes | In one 4x4 but not other | No - only small ventilation hole at eaves | Yes | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Excessive light enters the latrine compartment (but compartments should also not be too dark - see below) | No | No | No | No | No | |
| | | | | | | |
| *All Latrines* | | | | | | |
| Overall quality of construction | Good, except for tank for handwashing facilities in senior girls latrine: use has been discontinued due to leakage into walls (poor design and work) | Generally good | Very poor | Poor to fair | Fair to good | Fair |
| Slab is level | Yes | Yes | Yes | Yes | Yes | |
| Slab is smooth | Sanplat is a little above floor level | No, in some sanplat is above floor level, in others not | No, sanplat above floor level | Yes | No, sanplat above floor level in some latrines | raised sanplat in 3 of 5 |
| Slab is solid, does not rock or move | Yes | Yes | Yes | Yes | Yes | |
| Floor is relatively smooth and crack free | Yes | Yes | Yes | Yes | Yes | |
| Interior walls are relatively smooth | Yes | Yes | Yes | Yes | Yes | |
| Brick work of superstructure is adequate | Yes | Yes | Poor quality bricks | Yes | Some problems | |
| Roof solid and adequately sloped | Yes | Yes | Poorly fitted GI sheets | Some loose GI sheets | Some loose GI sheets | |
| Doors/locks function properly | 3 of the 4 latrines have door and/or lock problems | Yes | No, some doors very poorly fitted | Yes | Yes | better than in Nkhata Bay |

| | | | | | | |
|---|---|---|---|---|---|---|
| For latrines designed to be emptied - correctly designed access covers | n/a | n/a | n/a | n/a | n/a | |
| For latrines designed to moved when pit is full - is the superstructure and slab easily moved, has adequate space been left for new latrines | sanplats can be removed in some cases, space is limited | | | | No | |
| Drainage/slope around latrine | Good | Fair to good | Poor (poor quality concrete drains, pit material not removed) | Fair, but some broken concrete | Fair | |
| Termite proofing measures incorporated | Yes, 5 l of termite poison per latrine, more than in NB | Yes, same as Suza | No | ? | ? | |
| Evidence of termites / termite damage | No | No | Yes | No | No | |
| *Child- and girl-friendly criteria, all latrines* | | | | | | |
| For latrines used by smaller children: | | | | | | |
| Enough space in latrine compartment for child plus a helper (adult or older child) | A little tight | Yes | Yes | Yes | No | In some latrines, too narrow for both to enter |
| Latrine can be used without closing door (as some small children prefer) | Yes, no doors for individual compartments | Yes | Yes | Yes | Yes | |
| Smaller drop-hole opening for younger children | No | No | No | No | No | |
| Smaller foot hole configuration for younger children | No | No | No | No | No | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Enough light enters latrine compartment so child can see (and be reassured there are no snakes or other actual/perceived danger) | Yes | Yes | One latrine a little dark | A little dark | Yes | Some of the 4 x 4s are a little dark, depending on ventilation openings |
| Other technical comments | sanplats are too close to partition walls, contractors say that it was specified as such in designs, handwashing tank design for senior girls latrine awkward and ultimately unsuccesful | each girls latrine has two attached tanks to feed interior basins, would have been better to have a single tank per latrine | Very poor construction: in addition to above - poor quality bricks, poorly fitted doors, crooked roofing sheets, no wood sealant applied to trusses in one latrine, etc. | Boys new 4x4 appears to be very lightly used - possibly because it is farther away than the old latrines and boys are allowed to use these old latrines (even though it is in the girls' latrine area) | Some latrines built by local contractor somewhat poorer quality than others | |

### *8.12.4 Observation Checklist Nkhata Bay District: Detailed notes on sanitation, hygiene and water facilities*

| School | Chifira PS | Chisu PS | Chihane II PS | Limphasa PS | Chikwina PS | Averages/ Summaries |
|---|---|---|---|---|---|---|
| Date visited | 21/06/2004 | 22/06/2004 | 23/06/2004 | 24/06/2004 | 25/06/2004 | |

**Pupils and Teachers**

| | | | | | | |
|---|---|---|---|---|---|---|
| No. of enrolled children, 2004, total | 848 | 309 | 1012 | 797 | 1050 | 742 |
| boys | 422 | 157 | 519 | 344 | 566 | 361 |
| girls | 426 | 152 | 493 | 453 | 484 | 381 |
| %age girls | 50% | 49% | 49% | 57% | 46% | 51% |
| No. of enrolled children, 2003, total | 993 | 524 | 1070 | 677 | 994 | 816 |
| boys | 530 | 265 | 544 | ? | 493 | 446 |
| girls | 463 | 259 | 526 | ? | 501 | 416 |
| No. of special needs children | 0 | 0 | 1 | 1 | 5 | very few |
| No. of teachers | 10 | 6 | 11 | 4 | 7 | avg. 1 per class |
| No. of classes | 8 | 8 | 8 | 8 | 8 | 8 |

**Section 1: Sanitation and Hygiene**

| | | | | | | |
|---|---|---|---|---|---|---|
| What facilities where there in the past? | | | | | | |
| latrines | 4 | 5 | 8 | at least 4 | at least 8, some are still being used | less than currently |
| total no. of latrine compartments | 6 | 6 | 9 | 4 to 6 | at least 10 | less than currently |
| urinals | 0 | 0 | 0 | 2, local construction: 3-4 compartments, grass walls, stone soak-aways, one for girls, one for boys (demolished to | 0 | 1 of 5 schools |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | make way for new urinals) | | |
| hand washing facilities | 0 | 0 | 0 | 0 | 0 | none |
| What latrines are there now | | | | | | |
| description | twin pit, 2 drop hole in same compartment (no partition in comp.) empty able, VIP, type of Fossa Alterna (incorrectly used - see report) | two-compartment latrines double vault, VIP, not emptyable, with sanplats on concrete slab | two-compartment latrines double vault, VIP, not emptyable, with sanplats on concrete slab | two-compartment latrines double vault, VIP, not emptyable, with sanplats on concrete slab | two-compartment latrines double vault, VIP, not emptyable, most with simple slab, one with sanplat | 2 types only |
| listed in catalogue | Yes | Yes | Yes | Yes | Yes | Yes |
| girls, total latrines | 5 | 4 | 3 | 3 | 5 | |
| girls, total latrine compartments/stalls | 5 | 8 | 6 | 6 | 10 | |
| boys, latrines | 4 | 4 | 3 | 3 | 4 | |
| boys, total latrine compartments | 4 | 8 | 6 | 6 | 8 | |
| teachers, latrines | 1 | 1 | 2 | 2 | 1 | |
| teachers, total latrine compartments | 1 | 2 | 2 | 2 | 2 | |
| additional notes on latrines (see also detailed technical notes on latrines below) | there were in fact double the number of dropholes because of the incorrectly used Fossa Alterna design, but not used at | | two double compartment latrines started but not yet completed, one for boys and one for girls - see separate note | same as Chihame | a total of 7 new latrines (14 compartments) funded by SSHP, teachers' latrine and 2 of the girls' latrines in use | the only eco-san design was not correctly finished and will not work |

| | | | | | | |
|---|---|---|---|---|---|---|
| | the same time | | | | today constructed in 1985 | |
| Total no. of pupils per latrine compartment | 94 | 19 | 84 | 66 | 58 | 65 |
| girls per latrine compartment | 85 | 19 | 82 | 76 | 48 | 62 |
| boys per latrine compartment | 106 | 20 | 87 | 57 | 71 | 68 |
| No. of latrine compartments per class | 1.125 | 2 | 1.5 | 1.5 | 2.25 | 1.7 |
| Do the latrines for have provisions for special needs of disabled children? | No | No | No | No | No | None |
| When were latrines completed and handed over? | Jan, 2004 | April, 2003 | July, 2003 | Oct. 2003 | Sep. 2003 | |
| How long did construction take? | approx. 8 months | about 8 months | about 8 months | about 15 months | about 9 months | 9.6 |
| Are they being used? | Yes | Yes | Yes | Yes | Yes | Yes, all very well used |
| Are there urinals? | No | Yes | No | No | Yes | |
| girls, urinals | | 1 | | | 1 | In 2 of 5 only |
| girls, concurrent urinal spaces | | 3 | | | 4 | |
| are girls using urinals concurrently | | Yes | | | Yes | Yes, in all urinals |
| boys, urinals | | 1 | | | 1 | In 2 of 5 only |
| boys, concurrent urinal spaces | | 6 | | | 4 | |
| construction quality | | Fair to good | | | Fair | Fair to good |
| cleanliness | | Fair | | | Poor | Poor to fair |

| | | | | | | |
|---|---|---|---|---|---|---|
| additional urinal notes | Planned by PMT/CPAR | urine stains, and faeces stains in boys urinal, 1:1 mortar mix likely not used on splash wall (boys), soak away design somewhat ad hoc | | Not started - PMT withdrew support due to slow progress (see report) | boys' urinal drains directly to banana plants for fertilisation, girls' latrine to soak away made from old latrine pit, contractor used 1:2 mix for splash wall/drain, backwards in relation to slope | 1 of 5 urinals being used to fertilize plants/trees |
| Are there hand washing facilities? | No | Yes | No | Partially constructed | Yes | Only in 2 schools |
| Type | | concrete elevated tank with one brass faucet, no cover, no flush out system | Planned, but funds have not been made available (see notes) | concrete elevated tank with one brass faucet, no cover, no flush out system, with steps | concrete elevated tank with one brass faucet, wire mesh cover, no flush out system, with steps | |
| Outlets (taps, hoses) total | | 2 | | 1, other incomplete | 2 | |
| for girls | | 1, plugged | | 0 | 1 | |
| for boys | | 1 | | 1, plugged | 1 | |
| Distance to latrines | | Close (< 10 m) | | Close (< 10 m) | Close (< 10 m) | Always within about 10m |
| Distance to water source | | Far (> 150 m) | | Very far (~ 200m) | Very far (~ 200m) | Generally far (~200m) |
| Tanks full | | No | | No | girls' partially full | |

| | | | | | | |
|---|---|---|---|---|---|---|
| construction quality | | Poor | | Poor | Poor to fair | Poor |
| Facilities used (best answer, based on pupils, teachers and observations) | | Yes | | No | Girls' appears to be used, boys broken | Mainly not used |
| Do pupils wash their hands immediately after using latrines? | | ? | | No (by observation, 2 boys) | Not possible to verify | |
| Additional notes on hand washing facilities | Planned by PMT/CPAR | girls was plugged and full of dirty water, boys was empty, both were too high to easily fill - and had no steps | Planned, but funds have not been made available (see notes) | Support withdrawn by PMT - girls handwashing facility incomplete | Tap on boys' urinal broken and removed, 6 months ago. Several demo. plastic bottle facilities on school grounds, promoted by CDA and school San. Master. | Poorly designed (too high to easily fill), poorly constructed and poorly used. |
| Is Soap/ash available in or at the latrines? (observation) | No | No | No | No | No | None |
| Has the planned package of facilities been completed (one latrine compartment for each class of boys and girls, two urinals, handwashing stations for boys and girls) | No | Yes, but girls' handwashing tank inoperational | No | No | Yes, but boys' handwashing tank inoperational | Three no, two a partial yes. |
| Latrine cleanliness | Good | Fair/good | Fair/good (two-class latrine compartments, esp. 7/8 boys are very dirty) | Poor | Fair | Fair |
| Visible Faecal smears inside | in one latrine only | in a minority of latrines | few | in most latrines | in some latrines | Minority of compartments |

| | | | | | | |
|---|---|---|---|---|---|---|
| smell | None, except for urine smell in latrines for younger girls | Some (boys) | Some | in most latrines | in some latrines | Generally not smelly |
| flies | No | A few (boys) | No | Yes, and mosquitoes in some | No | Few flies |
| visible Faeces in surroundings | No | No | No | No | No | No |
| general tidiness | Good | Fair (remains of construction work not cleared away) | Fair to good | Poor to fair | Poor to fair | Fair |
| Level of privacy for boys | High | High | High | High | High | High |
| separated from girls latrines, houses, school etc. | Yes | Yes | Yes | Yes | Yes | |
| doors | Yes | Yes | Yes | Yes | Yes | |
| blind walls | Yes | Yes | Yes | Yes | Yes | |
| Level of privacy for girls | High | High | High | High | High | High, but no special facilities for senior girls |
| separated from boys' latrines, houses, school etc. | Yes | Yes | Yes | Yes | Yes | Always |
| doors | Yes | Yes | Yes | Yes | Yes | |
| blind walls | Yes | Yes | Yes | Yes | Yes | |
| Needs of menstruating girls taken into account (e.g. water available in the compartment) | No | No | No | No | No | Never |
| Path from the school building to the latrines? | Good | Fair | Good | Poor (steep and slippery when wet, steps required) | Poor to fair | |
| Latrines are signed by user (by gender/class) | Partially (ran out of paint) | Yes | Mainly | No | No, only roughly on a few | Sometimes |
| Who cleans the latrines currently? (cross-checked responses from | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| teachers, children and sanitation club members) | | | | | | |
| girls' latrines | girls | girls | girls | girls | girls | Always girls |
| boys' latrines | boys | boys | boys | boys | boys | Always boys |
| teachers' latrines | pupils | pupils, sometimes as punishment | pupils | pupils, sometimes as punishment | pupils | |
| frequency | daily (according to teachers) | daily or as needed, with major clean-up twice a week (according to teachers) | twice daily according to children | at least daily according to school master - likely less | same as Limphasa | |
| Notes on latrine cleaning | before pump broke, frequency was twice daily according to headmistress, pupils carry water from home | Some indications that girls may do some cleaning of boys latrines - but not clear | Considering the heavy use, the latrines are fairly clean | some latrines with visible piles of excreta on platforms | older pupil latrines located next to youngest pupils to help with cleaning, some latrines only recently cleaned by appearance | Girls never clean boys latrines |

**Section 2: Water supply**

| | | | | | | |
|---|---|---|---|---|---|---|
| Was a water point available in the past? (before SSHP project) | Yes | Yes | Yes | No, stream only | Clinic standpipe, 350m away, stream when standpipe dry (3 months/year) | |
| Is water accessible nearby | No | Yes | Yes | Yes | Yes | |
| Community or school water point? | School | School | School | School | Community | |
| Does the community have access to the water point | Yes | Yes | Yes | Yes | Yes | |
| What type of water point is available? | borehole w/ Afridev | borehole w/ Afridev | borehole w/ Afridev | | | |

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|---|---|---|---|---|---|---|
| Construction or rehab funded by (SSHP project/other) | MASAF | WB | MASAF | SSHP | RIEP | 1 by SSHP |
| Construction date? | Aug, 2001 | Nov, 1998 | Dec., 2000 | Oct. 2002 | Jun. 2004 | |
| Construction quality | Fair (poor quality concrete and finishing) | Fair | Fair | Good | Poor | Fair |
| Is there adequate drainage? | Fair (heavily eroded around apron, soak pit 8 m from pump) | Good | Fair | Fair to good, soak pit partially clogges, heavy rains | Good | |
| Who has been trained in CBM / VLOM | 1 teacher, no current water point members | 2 teachers, 6 community members | Nobody - MASAF-sponsored training started but not completed (trainer left) | 10 people trained, including 1 teacher and 2 pupils - currently only 2 are left: 1 community member and one standard 8 pupil left (water point comm. has requested addl. training from HAS) | Nobody, apparently planned - but a water point cmte has been formed | 3 of 5 have received training |
| Is the water point working properly ? | Inoperational | Yes | Inoperational | Yes | Will soon break | 2 of 5 fully operational |
| If not what is the problem ? | lighting strike of nearby tree, broken risers cylinder | n/a | rods have disconnected/fallen | n/a | Currently working, but pump mounted crooked and will likely soon break down; not a school water point and quit far from the school | |
| Is the problem being resolved? | No, cost of pump repair (at least Kw | n/a | No nobody has been trained - Water point cmte | n/a | | |

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| | 12,000) has not been raised by water cmte | | has not come up with a solution | | | |
| Yield test | n/a | failed | n/a | Marginally failed | not carried out | |
| Leakage test | n/a | passed | n/a | Passed | Passed | |
| Apparent water quality | n/a | good, some iron | n/a | Good | Good | |
| Has the pump broken down in the past? | not clear | Yes | Not clear | Yes | No | |
| Who repaired it? | | Water point cmte | | Water point committee | | |
| Parts needed? | | rod centralisers, o-rings | | not clear | | |
| Where procured? | | Chipiku | | Chipiku, Nkhata Bay | | |
| Down time? | | days | | 1 week | | |
| Is the water point tidy? | No | Good | No | Fair | Fair | Fair |
| Are there co management arrangements between school and community? | In principal | Yes | In principal | Yes, but community is clearly the lead partner | No. Schoolmaster stated school is not involved because it is a community point | Sometimes |
| Is there a maintenance fund? | Yes | Yes | No | Yes, bank account | No | 3 of 5 |
| What for | | repairs, maintenance | | Maintenance of borehole and saving to buy new borehole | | |
| How much | Kw 20/hh/month - but responses varied | Kw. 10/hh/month | | K. 15/HH/month, total saved = K. 3,700 | | |

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| Notes on water point | functioning Afridev available 200m away at a secondary school but access has not been given to the primary school | 2 teachers on water point cmte + 6 community members | A standpipe (w/ a waste-not tap) on tea estate scheme is operational (~10 months/year w/ interruptions) and heavily used by school and comm. There is also an incompleted borehole (casing only, unsealed) on school property, funded ~7 years ago by DDF. | Water point is about 200 m from school, down a steep hill. It is the alternative site (2nd of 2, 100m further and downhill from the school) recommended by a UNICEF/PMT contracted hydrogeologist (Water-Source Ltd., 8/2002). Two community members said that it is next to the ex-headmaster's house. | Water point is about 150m down a hill from school. PMT has promised an extension of the piped water system to the school under Phase II of the SSHP project. |

**Section 3: Detailed Technical Notes on Latrines**

| *VIP Latrines* | | | | | | |
|---|---|---|---|---|---|---|
| Most of the vent pipe is exposed to direct sunlight | Partially, heavy shading from trees | Partially, heavy shading from trees | Yes | Yes | Yes | Not a single latrine is a "full" VIP latrine |
| Vent pipe extends above roof | Yes | Yes | Yes | Yes | Yes | |
| Vent pipe is at least 4 inches in diameter | Yes | Yes | Yes | Yes | Yes | |
| Vent pipe has mosquito net | No | No | No | No | Yes | |
| Vent pipe is dark colored | Yes | No | No | No | No | |

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| Vent pipe has elbows, is not vertical or has vent caps/cowls (prevents/minimizes light flow, and the attraction of flies) | Partially, cowls | Partially, cowls | Not vertical | Some not vertical | 45 degree elbow below grade (this may be true in other schools as well) | |
| Vent pipe is cracked or loose | Some are loose | Some are loose | No | No | No | |
| At least one vent pipe per drop-hole | Yes | Yes | Yes | Yes | Yes, in a variety of configurations | |
| Drop-hole covers provided | Yes | Yes | Some | Yes | No | |
| Drop-hole covers used | No | Mainly | Some | No, not even by teachers | No | |
| Drop-hole cover fit | Poor | Fair | Good | Some good, others very poor | n/a | |
| Adequate ventilation to allow airflow into the latrine compartment | Yes | Yes | Yes | Yes | Yes | |
| Excessive light enters the latrine compartment (but compartments should also not be too dark - see below) | No | No | No | No | No | |
| *All Latrines* | | | | | | |
| Overall quality of construction | Good | Good | Good | Fair to good. | Poor to fair (new girls' latrines with ill-fitting doors and low quality bricks) | Fair to good |
| Slab is level | Yes | Yes | Mainly | Yes | Yes | |
| Slab is smooth | Yes | Sanplat is above floor level | Sanplat is above floor level | Yes | Sanplat is above floor level in one latrine | |
| Slab is solid, does not rock or move | Yes | Yes | Yes | Yes | Yes | |
| Floor is relatively smooth and crack free | Yes | Yes | Yes | Yes | Yes | |
| Interior walls are relatively smooth | Yes | Yes | Yes | Yes | Yes | |
| Brick work of superstructure is adequate | Yes | Yes | Yes | Yes | In boys' latrines only | |

| | | | | | | |
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| Roof solid and adequately sloped | Yes | Yes | Yes | Yes | Yes | |
| Doors/locks function properly | Yes | All but 2 | Several not, due to door-fitting problems | Several not, door fitting problems, one installed backwards | 2 broken, 2 missing, some doors jam | Door fitting and broken/missing locks a major problem |
| For latrines designed to be emptied - correctly designed access covers | Yes | n/a | n/a | n/a | n/a | |
| For latrines designed to moved when pit is full - is the superstructure and slab easily moved, has adequate space been left for new latrines | n/a | sanplats can be removed, no handles on slabs | sanplats can be removed, no handles on slabs | Space a problem | no handles | In most schools space is not a problem, but handles on slabs to promote slab transfer (shown in earlier catalogue) not evident. |
| Drainage/slope around latrine | Fair | Good | Fair/Good | Poor | Fair to good | Fair |
| Termite proofing measures incorporated | Partially, some termite poison | ? | Yes | ? | Yes, some. | |
| Evidence of termites / termite damage | Yes | No | Some | No | Yes, in girls' urinal | |
| *Child- and girl-friendly criteria, all latrines* | | | | | | |
| For latrines used by smaller children: | | | | | | |
| Enough space in latrine compartment for child plus a helper (adult or older child) | Yes | Yes | Yes | Yes | Yes | Always |
| Latrine can be used without closing door (as some small children | Yes | Yes | Yes | Yes | Yes | Always |

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| prefer) | | | | | | |
| Smaller drop-hole opening for younger children | No | No | No | No | No | Never |
| Smaller foot hole configuration for younger children | No | No | No | No | No | Never |
| Enough light enters latrine compartment so child can see (and be reassured there are no snakes or other actual/perceived danger) | Yes | Yes | Yes | Yes | Yes | Always |
| Other technical comments | | | 2 contractors used | 2 contractors used, one contractor's work much poorer than the other / poor quality door fittings and poor workmanship has caused 3 latrine compartments to be permanently locked | only 1 latrine has sanplat (2 compartments) because mould was delivered late, some old latrines constructed in 1985 still in use | |