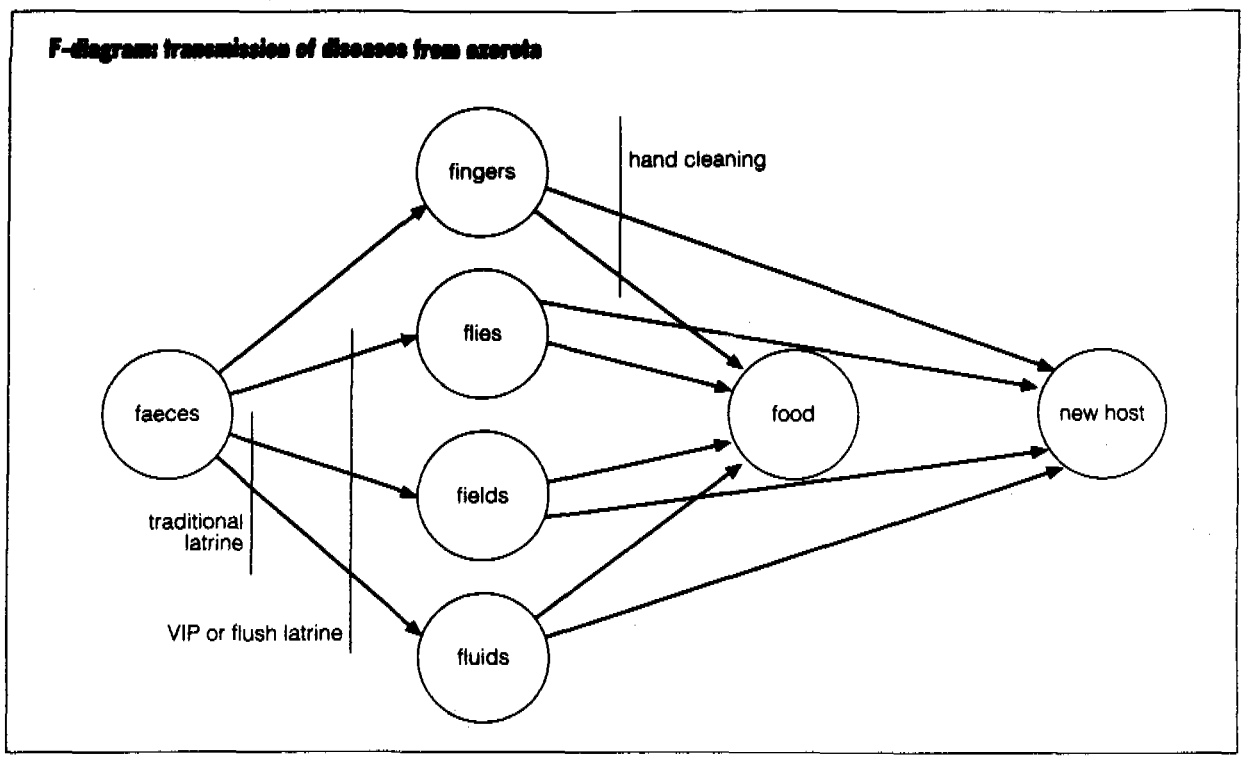
COMMUNITY WATER AND SANITATION DIVISION

VOLTA RURAL WATER SUPPLY & SANITATION PROJECT
(VRWSSP)

Hygiene education in the community and school: Assessment of the Volta programme



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Acknowledgements and methodology

This is the report of a mission (13 October through 26 October 1997) carried out together with senior staff of the Volta Rural Water Supply and Sanitation Project. Specifically, the leaders of Hygiene Education Unit and a school hygiene education consultant, collaborated and guided the mission throughout. Thus, this report is the result of a group effort. However, any oversights and errors are solely the responsibility of the author.

Sources of data used in this assessment were:

- semi-structured field visits to villages and schools, meetings at the district level, meetings with EHAs and EHOs
- field research undertaken by hygiene education unit and consultants from the Volta region
- workshops with programme field staff and staff from Education and Health Ministries.

This is a forward-looking assessment. It is meant to provide practical options and some useful tools to improve the effectiveness of hygiene education and behavioural components of the programme. There are, in addition, several pre-requisites to effective hygiene education, without which even the best designed programme is likely to fail. Where these pre-requisites do not seem to be in place, they are dealt with in this report.

This is not a descriptive report which flows elegantly from topic to topic with considerable background information. After trying out some draft material with colleagues, we decided to make this report as short and 'user-friendly' as possible to ensure that it is read within the Volta Programme.

It was very gratifying to be able to work as a team, each member of which brings a high level of professional expertise and personal dedication. Albertha Nyaku organized and guided the mission throughout. The mission depended on her high level of professional acumen, integrity, perceptiveness, and excellent organisational skills. E.T. Nyavor brought not only a high level of dedication but also indispensable knowledge of field programming and kept us on a realistic level without which the report could not respond to the realities of the situation. Joan Awunyo-Akaba, a health educator and consultant of very high calibre, has been responsible for the unusually good curriculum and the educational content of the schools programme. During the latter part of the mission, the group was joined by Irene KpiKpi, Regional School Health Coordinator of the Ministry of Education, an outstanding educator who helped the group develop its plans for the school hygiene education programme, also incorporating the point of view of the Ministry of Education. Many, many thanks are due, as well, to the good colleagues of the VRWSSP software unit and the programme staff in general.

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Abbreviations

CBO	Community-Based Organizations such as women's groups
DCD	District Community Development Officer
DED	District Education Director
DSHC	District School Health Coordinator
EHA	Environmental Health Assistant
EHO	Environmental Health Officer
FMP	Facilities Management Plan
GES	General Education Service
ITL	Improved Traditional Latrine
KVIP	Kenyan Ventilated Improved Ltarine
MIS	Management Information System
NGO, NGOs	Non-Governmental Organizations
O&M	Operation & Maintenance
RWSS	Rural Water Supply and Sanitation
SHC	School Health Coordinator
VIP	Ventilated Improved Latrine
WATSAN	Water and Sanitation Committee

Executive Summary

The Volta RWSSP has been active in the villages of the region for somewhat more than four years. During this period its accomplishments have been substantial in comparison with many other projects. Community groups, specifically the WATSANs, have been activated and water facilities have been built. There is a delivery system in place for construction, community mobilization, education in the communities and schools. In villages where the project has been active, there is evidence of (a) improved environmental cleanliness, specifically removing garbage and penning animals, (b) reduced incidence of guinea worm; (b) knowledge of the major hygiene messages which the project promotes among community members, schools staff and children; (c) facilities which seem to be used when the taste of water and location is acceptable; (d) the school facilities which are appreciated by children, staff and community members; (e) training carried out at all levels and some of which seems to have had considerable impact. Examples of the impact of training were: trained of school health coordinators were far more effective than those without training; trained WATSANs seemed to work together more effectively, with less chance of one or two people 'taking over'. From all of this, it is adjudged that the project not only functions but has high potential for the future. Furthermore, the project has undergone a change in management approach where Ghanaian personnel are very much in charge of their project. Senior staff are, as a group, open and critical of their own project... and very highly motivated to succeed. Because of this, it has been possible to examine critically many aspects of the programme.

At this time, the full potential of the project is not being realized. Several options are provided for consideration by the project and its staff. There are 9 suggestions posed for the community hygiene programme and 8 for the school hygiene programme. These are:

For the **Community Hygiene Programme...**

- Refine **priorities** in hygiene throughout the project cycle, **integrating hardware and software**
- Improve the **performance** of those who currently deliver hygiene education including EHAs and EHOs
- Implement some key activities in partnership with capable **Community-Based Organizations** in villages
- Re-organize and re-think the **latrine-with-education** programme including critical issues of costs, designs, overall management
- Re-organize work within the project's **software unit** with professionals having responsibility for 1 to 4 districts, in order to improve supervision, to limit top-down planning and to ensure good site selection, functionality and O&M;
- Refine the **activity plan** for the community RWSS programme to include hygiene outputs
- Introduce systematic **field experiments** to test out new approaches and technologies
- Incorporate **monitoring** into supervision at all levels, to ensure that the project follows its own rules and responds rapidly to monitoring information and complaints.
- Re-assess the approach to **materials production and internal reporting** in the community and extension work environment where there is relatively little reliance on documentation

For the **School Hygiene Programme,** it is recommended that no new construction be tendered until the following are undertaken...

- Clarify the **roles and links** among the groups involved in the programme (education authorities, governmental, project, contractors)
- Reduce the cost, ensure quality, improve design of **facilities** and deal with the difficult issue of schools having only rain-fed water supply, which seems to be inadequate
- Revise **training strategy** and ensure the quality of training and orientation
- Prepare an **activity plan** including both facilities and educational aspects
- Optimize use of the **curriculum**, through training and simplified materials for teachers and children
- Examine programme **coverage**
- Ensure **quality** through a monitoring system which involves senior education authorities
- Plan for **schools without facilities** as a separate group

Details about these issues are contained in the report. The report has been written in as short a form as possible, with ample appendices. It is hoped that this brief executive summary may prove so interesting that almost all readers will want to continue further through the report.

1. Introduction

1.1 The project and its accomplishments

The area covered by the Rural Water and Sanitation Programme consists of 12 districts, with roughly 250,000 households. By the end of Phase 1 and beginning of Phase 2, a large number of partners were involved in the programme including about 126 EHAs, 35 EHOs, personnel in 12 district offices, a Headquarters staff based in Ho, and many other collaborators affiliated with Ministries of Health, Education, Community Development.

The developmental objective of the programme during Phase 1 was: *Better living and health conditions for the target population in the project area.* The plan for Phase 1 has five immediate objectives, four of which relate explicitly to hygiene education. Specifically, these immediate objectives mention: use of facilities, management of institutional and household latrines, improved hygiene practices, community awareness and mobilization campaigns.

The goal of the Hygiene Education Component during Phase I was: *The hygiene education component aims at effective integration of hygiene education into the project cycle.* Eleven objectives were set for hygiene education over the 4 year period, focusing on community groups (WATSANs, women's groups, hygiene education facilitators, schools) and behaviours (disposal of faecal matter, use of latrines, handwashing, safe storage, transport of water). Altogether this was an ambitious package.

1.2 Why so few water and sanitation projects are successful in other nations.

It is important to learn from the experience of others. Too many projects-- around the world -- construct facilities which don't function-- that never gave the results expected despite considerable investment. One cause of this has been top-down, unresponsive planning with an over-emphasis on construction at the expense of the so-called 'software' activities. It is not merely important --- it is essential to be responsive, to listen to people at different levels... and act on the results of that listening. Communities--or the majority of the people in them--must be consulted, trained, empowered to plan, use and take care of their facilities. Without this, the health advantages, which are the real purpose, prove elusive.

2. Assessment: Community hygiene programme

2.1 Achievement related to hygiene

The mission began with a question: Are we asking too much of the communities? The answer is: No. There appears to be considerable power and motivation within communities to improve hygiene and health. Site visits during the mission and research done earlier by the project showed the following:

- Greater physical cleanliness in communities after intervention
- Trained people who are better able to work together productively
- Less guinea worm
- Handwashing using lots of rubbing and sufficient water is known and can be demonstrated
- There is a demand for household latrines which is not being met because of current costs, challenges of technology (collapsing pits), marketing and training
- There are community-based groups which are willing and able to participate but which have not yet been brought in as partners. These include women's groups and functional literacy groups.

- Field staff (EHAs) are actively engaging community members in hygiene-related activities during the mobilization period of the project cycle.

The specific objectives of the hygiene education component during Phase I, together with a short description of the probable level to which they were achieved, appears in Appendix 1.

The impression is that if organization and training are right, then the WATSANs and community members are willing and able to plan/undertake activities. They are willing to try new behaviours and develop activities provided these behaviours make sense to them and are feasible in their environment. *Feasibility* refers to enabling factors. This means that the facilities, the village and household organization and understanding must be in place to enable people to carry out new behaviours with a minimum of effort.

2.1.2 Needing improvement

Some features of the programme present challenges. Please note that the senior project personnel are an open group and are unusually willing to examine weaknesses in their project. Final assessments of Phase 1 are being completed now. The project launches into Phase 2 with much determination. Therefore project staff are invited to critically review the following statements, first, throwing out the ones with which they disagree, and then taking action on those which they feel have validity.

1. Sometimes the project does not follow its own rules.
   Examples seen were: WATSAN By-laws not approved or sent in; major repair not made in 5 months; MIS forms not filled in validly; school latrine placed in a town (against project rules); construction of a water point on-going without the school/community plan being completed; DSHC not invited to attend the school hygiene meetings; WATSAN manuals and school curricula not used by intended users; EHAs and EHOs not involving women's groups in project activities even though this is stated in the software strategy.

2. Software and hardware need better integration. Those concerned with hardware need to take a greater interest in software. Those concerned with software need a greater knowledge of hardware. EHOs and many EHAs seem to fall in the first group. Software and engineering units should meet to develop agreed objectives and guidelines for the household latrine-with-education programme.

3. Flexibility and responsiveness of Headquarters needs to be improved.
   Some important and legitimate complaints have not been properly answered (e.g., size of latrine holes, need for instalment payments, complaints about quality of construction). There is a need for headquarters staff to be able to get closer to the communities, to become more responsive developing bottom-up management and planning approaches. Field personnel such as EHAs have demands from many bosses but rather light supervision. This gives a top-down impression.

4. It is praise-worthy that at the beginning of Phase 2 some important issues are being addressed immediately. These include: functionality, revision of the latrine-with-education programme and linkages with education authorities in the schools programme. Also in need of rapid attention is: pricing of water and opening times of water sources and their impact on use and O&M.

5. Some costs are too high, specifically, for the school latrines, household latrines and the school water supplies. The present household latrines are too expensive for the average family. The augment that there is a high demand for VIP latrines is not valid in view of the small number of latrines constructed thus far under the project (only 777). Reducing the cost of school latrines has been suggested by education authorities and would enable the project to reach more schools. The current designs need to be revised. The expensive school water tanks ('poly tanks' which can not be filled unless it rains) should no longer be constructed.

6. Enabling factors: It is important, although sometimes overlooked, to remember that we should not suggest actions or behaviours for which the enabling factors are not present. Two examples from the field visits were: A school teacher should not suggest that children drink safe water when only unsafe water is available in the school. An EHA should not suggest that poor village families should get a VIP latrine which requires an investment beyond the means of most families. EHAs should not suggest that poor families use irrelevant things such as window screens. Care is needed to ensure that enabling factors are in place. For example:
    - It is not meaningful to stimulate use of more water in schools which run out of water
    - Boiling water for guinea worm is fairly easy. Boiling water for bacterial contamination is difficult (10 to 15 minutes)
    - For good handwashing enabling factors might be:
        - the household has containers of water and a cup at a place where handwashing occurs
        - an abrasive is also at the same place (although there is still a health advantage from scrubbing hands with plentiful water)
        - safe water source is near and cheap (or free)
        - education and explanation is given to families, WATSAN as well as children in the school about why, how and when to wash hands
        - (probably) household latrines are used making it easier to wash hands immediately after defecation.

Having said this, the consultant wishes to stress that, compared to 5 other projects in Africa and one in Asia visited over the past year, this project has more real outreach and potential.

3. Integration of software and hardware

Integration means not just that things happen at the same time. It means they reinforce and control each other.

Some *general measures* to ensure integration of software and hardware include:

- The project's activity plans should combine hardware and software. See an example, in rough form, in Appendix 2.
- Joint planning by the software and technical staff should relate to each other's activities. Examples of some issues are: the functionality study, pricing of water with respect to maximising use for household purposes and O&M; design of above-ground water point structures, design of latrines, education for O&M. Hygiene education should be paced carefully throughout the project cycle, not largely concentrated during the mobilization stage as currently seems to happen..
- Engineers and software unit should commit themselves to the same goals for household latrines: appropriate technology, low-cost, accessibility to poor families, good use by all family members throughout the year and good maintenance. Agreement on such criteria will help reduce the blockages currently stopping the programme.
- Software unit should increase attention to issues of O&M, site selection and functionality, continuous monitoring,

Some *specific measures* for combining software and hardware are:

- Teachers must be trained and FMP (facilities management plan) must be completed and approved before construction. This would be a milestone in the activity plan. It would be quite useful if the teacher training could be linked to construction, for example, taking place 2 to 5 months before construction.

- Environmental sanitation activities should be undertaken and by-laws prepared and approved before construction. This milestone should be adhered to, which may mean altering some terms of the contractor's agreements.
- At least 10 women from different households should approve (with a mark or signature) the above-ground design and the location of the water points.
- Software unit staff should learn more about construction, sanitation and water technology. This applies particularly to small repairs, curing of cement, latrine construction. District engineers should learn more about and verbally support software activities when in the field.

4. Community hygiene education

4.1 Performance of those who deliver hygiene education

4.1.1 Community groups

WATSANs:

- When planning, it is useful to be realistic about the potential of the WATSAN. Good committees will usually have maximum activity for about a year before and a year after construction. Therefore, perhaps a three-year activity sequence should be planned, decreasing afterwards to standard O&M.
- WATSANs (and CBOs) should use monetary fines as *last* resort. Fines, if really needed, come after education, discussions, meetings and getting suggestions, planning with community, explaining, review meetings, warning.
- The topics in the WATSAN training are too congested. Training takes place a long time before water comes in and thus many things seem to be forgotten.

Community-based Organizations (CBOs).

- The project needs to work more with CBOs. Collaboration with CBOs is, in many nations, one meaningful way of stimulating projects to work with women. CBOs should probably be trained by NGOs as the current field staff have not apparently involved or trained CBOs to a great extent. If this idea is developed, then special attention will be needed for two things. First, CBOs should not be used purely for free labour ('beasts of burden' as one staff member termed it). Secondly, simple plans should be developed and followed to ensure that the EHAs/EHOs and the NGOs co-ordinate at the community level.

4.1.2 District and implementation level

Environmental Health Assistants (EHAs)

- The formation of WATSANs is a key step in project implementation. EHA knowledge of how to form these voluntary community groups seemed rather good. The EHA, as they described it, meets with all groups and familiarises himself/herself with village. They remind people to select representatives from each group (representative of the chief, women's group, health clinic...).

- Hygiene and software issues are under-emphasised at the district level in the project. EHAs seem to work on group formation, training and community hygiene education issues rather intensively during the mobilization phase, at the beginning of the intervention. Then, as planning for construction begins, the hygiene education fades. Hygiene education should be phased in gradually, throughout the project cycle.

- Thus, over the project cycle as a whole, insufficient time appears to be given to planning and executing hygiene education Some district engineers, EHOs, EHAs do not seem to be sensitive or interested in these issues. At least some EHAs are not using the project hygiene materials with communities. The EHOs and EHAs stated that they were not very motivated; while project demands on them are substantial. A group of EHOs agreed: 'Just say yes and let the facilities come in'. Indeed, those seen in the field were not visiting communities and undertaking hygiene education activities as required.

- EHAs seem to have many supervisors, often with different interests: the EHO, district engineer, project hygiene team, project trainers, district health superintendent. Their messages and priorities can differ which does not improve performance.
- The job of the EHA is difficult and tiring Good EHAs deserve acknowledgement.

Environmental Health Officers (EHOs)
EHOs operate at the lowest management position. They are supervised by the district engineer, although their job description relates largely to software activities. Thus, the central interest of their direct supervisor does not seem to be relevant to the majority of the tasks which they are meant to perform. During the visits, it was not obvious how often the EHOs were, in fact, visiting the communities and emphasizing hygiene-related issues. This issue deserves further attention.

As with the EHAs, the morale of the EHOs does not seem to be very high at this time.

4.1.3 zonal level

The zonal extension supervisor works in two districts. Continuity in this position may be useful, that is, keeping these supervisors in place for two or three years. Ideally, although based in the field, they should work with Headquarters staff as part of the team, which would imply that regional staff incorporate these new officers into their on-going activities.

At the regional project office, the division of software staff by subject area is not conducive to group reflection or steady supervision. Staff are over-extended, making policy, doing most of the planning-- and most of the materials development. This is a limiting factor no matter how dedicated the professional is.

4.2 Possible options

4.2.1 Organizing priorities for hygiene through the project cycle

In areas which are subject to guinea worm or bilharzia, the eradication of these diseases should be given priority focus throughout the project cycle in the community. This may imply spending more on villages where guinea worm or bilharzia occur, for example, for special CBO training and monitoring by CBOs and/or community-based animators. Project staff themselves may need more training in relation to guinea worm and bilharzia.

In hygiene education, key issues and behaviours should be described simply. For example, the *"Four-fold Path"------ Af)dede eneawo*

use water correctly
keep water safe *(quality)*
use enough water *(quantity)*
keep dirty things away from human contact-- worms, faeces, garbage *(sanitation)*

Key issues and behaviours should be introduced in the programme in a time-bound way so that not too much is introduced at one time, also allowing room for communities to develop their own priorities. An example of this is shown in the table below:

Example of priority knowledge and behaviours for community hygiene programme	
Mobilization	1. environmental cleanliness (weeding, garbage...) 2. pen animals 3. know: causes of diseases, safe water, faecal matter poses dangers 4. prevention guinea worm & bilharzia 5. (optional) worms
before construction of water points	6. reinforce items 1 though 5 7. know: different kinds, costs, reasons for latrines 8. do: payments, instalments, collect materials, dig pits, attend compulsory education 9. group construction of latrines 10. know: how to use and maintain latrine 11. how to wash hands and when (also children washing faces)
during and after construction of water points	12. reinforce the earlier steps 13. use of water from improved sources (drinking, bathing baby...), quantity 14. safe storage and transport of water 15. maintaining source 16. O&M of water sources (and latrines)

Note in this table that the latrine-with-education programme has been placed in the period before construction. Often communities are restless with delays in construction of water facilities. This could be taken advantage of as 'opportunity time' for intensive education and latrine construction.

4.2.2 Refine activity plan

The activity plan should be more explicit in relation to hygiene. It could include hygiene education topics as they appear in the priorities noted above. This would assist EHAs in their planning and the project with its supervision. Thus, items 1 through 5 would be implemented during the mobilisation stage. The community may wish to add to this if they have other interests and needs. Items 6 to 10 would be the focus of activities before construction of the water points. Once again, the community may wish to add to this if they have other needs and interests. For example, in guinea worm and bilharzia areas, these diseases would be the focus of intense activity. During and after construction items 12 through 16 would be the focus of attention. The exact way of embedding these items into the activity plan should be determined in discussion with the extension supervisors. An example is shown in Appendix 2.

4.2.3 Re-organize the latrine-with-education at the household level

Basic questions to be answered in the latrine-with-education programme relate to: overall management, strategy, technology, education and mobilization. The immediate priority, which should be addressed as soon as possible, is to develop reliable latrine designs suitable for soil conditions and affordable by poorer families. There is an un-met demand for this in communities. The technologies currently offered by the project, and mobilization component do not currently support a larger-scale programme.

In short, the current programme is not successful and needs to be re-thought. Currently, a consultant is investigating this area in some detail. A few elements which may deserve consideration are noted below:

- The long-term aim is to ensure that 40% or more of the families have and use sanitary household facilities. This implies construction of about 80,000 to 90,000 latrines. Construction should

continue after the project ends as the real health advantage from use of sanitary facilities is considered to develop fully when 70% of the population has and uses sanitary facilities. Given this, it will not be possible to reach large number of households if latrines are constructed like water facilities, through all-in contracts or with all labour being paid. This is too slow and poor families can not afford the costs.

- It is suggested that the software unit manage this programme overall. This would enable clear links between mobilization, education, payments, collection of materials, local-level community monitoring and construction. The latrine is an instrument to achieve another goal which often requires considerable motivation.
- Technology and cost
    - The present cost is too high for poor families (30,000 cedis for the lowest-cost model which includes some unnecessary items such as a tin sheet for a roof).
    - Two difficult technical problems are: (a) designs for clay soils where the pit needs reinforcement and (b) designs where pits are very difficult to dig. For this, some short-term consultancies would be very useful. (Sandy Cairncross, Bjern Branberg). The present slab seems small, thick and gives a heavy weight over a small area.
    - It could also be very useful to see if some local technology has been developed in one part of the project area or another. This could be adapted. a check of this could be done by a local consultant (perhaps a technician) beginning with artisans in towns.
    - Please note that, at this stage, options should be kept open. For example, a shallow pit with a movable sanplat could be considered in some areas, as has been done in parts of Tanzania.

- To support educational aspects of the programme and reduce costs, the programme should be area-based. This means that the programme should concentrate on a small number of communities at a time for high coverage, group construction and organized education activities (for example, 50 or 100 at one time).
- Some of the education should be mandatory. For example, one adult from a family must attend 2 or 3 educational sessions (and have a card signed by the facilitator showing this) before materials will be provided.
- Begin with an experiment. Try various designs on a small-scale first to check their defects and compare. Try a comparative experiment to discover the best management approach. Thus, in one village the programme could be managed as it is currently. In another it could be managed by NGOs directly. In another it could be managed by NGOs with the WATSAN/chiefs.
- Control costs: Develop ways to control costs by, for example, reducing the amount of cement, paying artisans for piece work rather than hourly basis, homeowners doing much of construction, possible involvement of CBOs for pay (e.g., pit digging by youth groups).
- Some construction supervisors will be needed and these should perhaps be consultant artisans hired temporarily and area-basis.

4.2.4 Improve performance of EHAs and EHOs

There was evidence that EHAs and EHOs are not visiting communities as planned, are not using the hygiene education materials. They seem to be providing many 'messages', rather than education during the mobilisation stage with much less activity later on in the project cycle. Supervision of field staff needs to be strengthened and their complaints should be clearly addressed one way or another. Specifically, some management issues to be addressed include:

- Establish a minimum level of accomplishment, in the form of a checklist, for the EHAs in hygiene education. This should be not be a 'maximum' list. Copies of the same checklist could be held and used by several people such as: the EHA, EHO, extension supervisor, software staff. The checklist could change over time, and differ for different communities. An example is shown below. It is not completed, as the completion of this could be a useful activity for field staff.

date: Name of community:	last visit of EHA was how long ago?	Names EHA/EHO:	Status
hygiene behaviour/knowledge	**Indicator to be checked in field**		▪ started ▪▪ completed but has to be reinforced
Mobilization 1. environmental cleanliness (weeding, garbage...) 2. pen animals 3. know: causes of diseases, safe water, faecal matter poses dangers 4. prevention guinea worm & bilharzia 5. (optional) worms	**visual verification** **by-laws prepared, approved.** **visual verification. Are there animals running around?** **Field education materials used. WATSAN/chiefs can describe pictures and meanings of f-diagram materials.**		
before construction 1. reinforce items 1 though 5 2. know: different kinds, costs, reasons for latrines 3. do: payments, instalments, collect materials, dig pits, attend compulsory education 4. group construction of latrines 5. know: how to use and maintain latrine 6. how to wash hands and when (also children washing faces)			
during/after construction 1. reinforce the earlier steps 2. use of water from improved sources (drinking, bathing baby...), quantity 3. safe storage and transport of water 4. maintaining source 5. O&M of water sources (and latrines)	**children can demonstrate how to wash hands correctly.** **Household is organized for easy handwashing.**		
Action required, promises made for action (open question)			

- The wide-spread complaints among EHAs and EHOs about lack of a separate health insurance, old mopeds, low remuneration need to be clearly answered.
- The senior extension officers should remain in the same districts for two to three years to provide continuity in supervision. Frequent switches are counter-productive.
- The district engineers, zonal engineers and software unit, extension officers should try to establish an agreement about the tasks of the EHAs and EHOs at each stage of the project cycle. For this, consultation is needed among the parties concerned (including EHAs and EHOs) as each group must have a hand in forming and committing themselves to a joint plan.
- EHAs, EHOs and district engineers who are not performing their jobs at all should be returned to regular government service. Serious consideration should be given to performing a few surprise construction/financial audits with local accountants/construction supervisors. This could include quality analysis of construction, checking prices with local suppliers, checking stocks against take-down, ensuring the siting rules were followed. Action to follow up is also important. Such checks are done in some programmes, particularly latrine programmes, to good effect as they improve discipline and raise morale of staff who are already well-disciplined in their work.
- The style of supervision among some headquarters staff needs to be improved. The steps to supervision in the field are: (a) consult initially, understand the situation, ensure that the other party has sufficient training and support, (b) reach mutual agreement on the issues in question and finally

(c) remind about the agreement, revisit to make sure the agreed activity has been carried out, (d) take disciplinary action if there is no response to reminders and warnings. Follow-up visits are essential for good supervision. Beginning, rather than ending, supervision with items (c) and (d) seems to lead to top-down management which is inflexible and does not have much result. The project headquarters can not expect field workers to be participatory if they are not so themselves.

Specific suggestions for EHAs, who perform the most difficult work in the project, are:

- provide refresher training, including how to implement hygiene education using the revised activity plan. This training could also include a special segment, developed by a knowledgeable person, on guinea worm and bilharzia.
- Provide refresher training for EHOs as above. Redevelop an indicative schedule for field visits with the EHOs.
- Training should include the introduction of a hygiene education checklist which is used for monitoring by the EHAs, the EHOs, the field supervisors, the district engineer and headquarters. This should not be longer than 1 to 2 pages. An example is shown in the table above. This checklist should match the activity plan such as appears on page 5 and in appendix 2.
- ensure that 1 day or at least 1/2 day is really available each month for joint planning between the EHOs and EHAs

4.2.5 Strengthening community-based organizations (CBOs)

The interesting study on participation of women's groups (July 1997) undertaken by the project had similar observations to this assessment. Both have concluded the following:

- CBOs are under-utilized in project work. They have apparently not been involved or recognized as partners in water and sanitation activities. As many CBOs have large female membership, the involvement of CBOs is also a good way to involve women meaningfully.

- It is important to be selective, however. Identify and work with groups that are strongest locally: this will vary from community to community. The most active groups might be WATSANs, traditional leaders, school staff and/or the CBOs.

- Linkages among the groups in the community are a critical issue. The capable CBOs need to be recognized, with agreed responsibilities, by traditional leaders, WATSANs, EHAs. This has apparently not been provided to CBOs in many cases. Theoretically, if the WATSAN have been formed correctly, the CBOs should already be represented on the committees. This would make recognition and collaboration among the groups more effective.

- But beware: CBOs should not be used by WATSANs or project staff to supply free labour. Women's groups should not be used as 'beasts of burden' as one staff member put it. This is easy to monitor during field trips: ask members of a CBO what they do with respect to water or sanitation. If they mention only 'service tasks' such as being told to clean paths, then further programme development may be needed locally.

- Is the EHA capable of identifying, training and supporting the CBOs? Communities visited and the field research showed that EHAs have not been doing this. It is suggested that on an experiment or trial by undertaken with NGOs who would train and follow-up CBOs. Training and good follow-up visits would be needed for this experiment. If it is successful, then perhaps the roles of the EHAs and EHOs can be re-assessed in hygiene education.

- Topics on which they could concentrate could be set in relation to their own agendas: household latrines, monitoring use and maintenance,, bilharzia, guinea worm, selling cups or making soap.

after mobilisation hygiene. Consideration might be given to provision, on a trial basis of small items such as shovels which could be used for both maintaining the garbage dumps and digging latrines.

4.2.6 Management: Re-organize work within the project's software unit

Supervisory staff are exceptionally busy and probably over-extended. The software staff currently operate on subject divisions (training, hygiene education, monitoring...) which do not reflect the division of labour in the districts or communities. Thus each professional in the software unit must communicate with the entire field staff -- 26 EHOs and 120 EHAs on their subject area. This is difficult.

- Firstly, it means that field staff experience have different supervisors for each subject. The messages from these supervisors may not always be synchronised.
- Secondly, it means that if a topic has not been assigned to a specific staff member, it tends to 'fall between the cracks'. Examples of issues which have not received sufficient attention include: promotion of latrines, checking the quality of site selection, pricing of water and opening times to ensure that poorer families have access an use sufficient quantity of safe water. All of these issues represent enabling factors for hygiene education.
- Thirdly, the quality of supervision suffers. With each staff member responsible for his/her subject over the entire, very large, project area, it is not possible to return to one area for follow-up visits. Follow-up is, however, the essence of good supervision for hygiene education.
- Fourthly, because each staff member is spread thin over a large area, the software unit as a whole seems somewhat removed from the field. They do not have time to sit in communities with colleagues in order to develop practical policies and follow up consistently. They have not been able to observe some things such as the lack of use of long written materials such as the WATSAN manuals, the lack of comprehension of the pictures in the hygiene field kit. They have also tended to miss successes such as the way in which 'good handwashing' through rubbing seems to be gradually taken up through some children. All these observations require sufficient time which is lacking.

One possible approach to addressing these challenges would be to reorganise the software division on a geographic basis. Senior professionals would still be in charge over-all of their main area of expertise; however they would take 1 to 4 districts as multi-disciplinary supervisors of all software aspects of the programme. In their area they could form a team with 2 extension supervisors, 4 to 8 EHOs. The new gender development officer may wish to take responsibility for 1 or 2 districts, thus providing her with in-depth knowledge of how the programme works and how gender issues can be addressed organically, within the context of on-going activities.

In such a set up, the senior professional could meet with the EHO, extension supervisor team at least once in two months, if not once a month. Let us assume that the senior staff works 200 days, with, averaged over the whole year, 20% for meetings, 40% for their subject expertise and 40% for the supervision and monitoring of their geographic area. It would be feasible for the senior staff member to spend 4 to 5 days a month in the field visits during the dry periods and 2 to 3 days a month during the rains. This could mean, for example,

- that one community under each EHO could be visited by a senior staff at least once a month. One community from each EHA could be visited at least once in 6 months, allowing for rapid follow-up visits at short intervals as needed.
- alternatively, the extension officers could organize the senior staff visiting schedule. Extension officers should be visiting villages 10 days a month or more, that is visiting a village of each EHA at

least once in 2 months. They would thus have an excellent over-view of where further inputs are needed.

Example of activities for a two to three hour field visit in a village with the EHA and/or EHO

If 2 villages are visited on each field trip, implying about 2 to 3 hours per village then some or all of the following activities could be undertaken:

- ➔discussion with some WATSAN members about their plans, problems, checking account books;
- ➔discussion with EHA during community visit and EHA demonstration from education;
- ➔visit to water points & latrines;
- ➔ child demonstrating hand-washing, discussion with women,
- ➔checking special issues such as payment for water and amount taken for one or two poor families;
- ➔visit to school, discussion with headteacher/SHC, observe latrines and water for handwashing & drinking,
- ➔completion of monitoring checklist with EHA. Discuss results on checklist and agreement with EHA/EHO.

District engineers should be debriefed on the results of the field visits by senior staff (and extension officers) hopefully once a month or at least once in 2 months. If the field visits by the senior staff or the extension officers reveal that the milestones are not being followed in the activity plan, then a warning could be issued and eventually all activities should be stopped in that community, including construction. This will ensure that the construction begins to fit better within the programme. If such procedures, or something like them, are not followed, then the problems will continue resulting from not following the activity plan, much to the detriment of the project. Such supervisory procedures, and the structured field visits, would also help the district engineers focus more on the hygiene and overall soft-ware programme.

The number of consultants currently visiting the project, require considerable time for the senior staff. To make this less disruptive, the consultants go on field visits with the staff which are part of the current staff schedules, rather than requiring special programmes which may disrupt the project activities. In other words, the consultants should go with senior staff on field visits which are part of the work of the senior staff. Alternatively, the consultants could go on regularly-scheduled field visits with the senior extension officers.

The senior staff member, at the beginning of their work particularly, should set up with the District Engineer, agreed timing of the district EHA/EHO monthly planning meeting. The Senior staff should attend and positively facilitate with the extension officers, at least during the initial months. This would help ensure that these meetings take place on a serious basis.

4.2.7 Field Experiments in areas which require decisions: : gradual implementation

There is a tendency to design programme ideas in headquarters independent of field input. Thus, it is suggested that experiments be used as a vehicle to try out and compare approaches in the field. The idea is to set up experimental activities which are small scale and are allowed to fail. More important than success is learning and applying the lessons from the activity.

Subjects for this are, for example: alternative management delivery systems for sanitation, greater involvement of CBOs through NGOs, alternative sanitation technology.

Field review is also needed of one particular issue: payment for water. Questions in relation to this area: what is impact on use of payment for water? How can the money be used? How can it retain its value in view of the inflation in the cedi? How much have committees actually collected and do the committees have a good grasp about costs of O&M? Do the amounts saved by committees realistically cover O&M? Are there other ways to ensure O&M? It should be noted that a payment of 40 cedis a day for a family of 6 people means 14,000 cedis a year for water. This is quite an amount of money which requires careful monitoring.... as to who can and does pay and how the WATSAN uses funds.

4.2.8 Monitoring:

As project staff agree, monitoring information needs to be reliable, valid and should be used to improve activities over the short term. It should be done, to the extent possible, in the context of on-going activities. It should be approached from several points of view; for example, by spot checks, checklists which are held by several groups, occasional studies such as the functionality study which is now being designed. The primary consumers of monitoring information should extend beyond the Headquarters staff and the donor.

At the moment, the impact monitoring forms are not very useful. EHAs and EHOs have little vested interest in reporting on problems. Furthermore, many of the questions are difficult to answer validly without visiting each house in a village.

Some suggestions are:

1. *community profile data base*:

- elements of this should be analysed in the village and fed back immediately to village groups as a means of mobilisation
- to be used for longitudinal evaluation purposes (before-and-after)

2. *effect data*:

This could be based on an activity checklist which is also used for supervising work at different levels. Such a multi-purpose checklist could be keyed into the software and hardware activity plan. The checklist would reflect project indicators and would have several users (EHA, EHO, extension supervisors, HQ)

3. *functionality*:

- use is to improve O&M activities,
- although this will be initiated with a local external consultant, it should be internalised in the Volta programme. This will require further planning

4. *complaints*

Collect complaints from the field and ensure that these are responded to in one way or another. This would help ensure that important issues do not 'fall between the cracks' in the management system.

5. *supervision*

- spot financial and physical audits should be undertaken by local professionals
- senior and district-level staff should make better use of their field trips using very simple checklists of questions and observations... and acting on the information from these. An example of some questions and observations used in this mission appear in appendix 4.

- consumers, who have paid money should receive sufficient information about construction (and how to make complaints) that they can play a part in monitoring contractors.

6. *MIS system*
The questions on the MIS sheets should be cued into key indicators. The sheets should be tested. For example, the two professionals at Headquarters who are involved in monitoring should take the present effect forms to the community and complete the forms themselves, including timing themselves.

4.2.9 Training and materials: some guidelines

As in many projects, the present set of printed materials (WATSAN manual, Project Implementation Manuals and so on) are not user-friendly and appear not to be used very much. In principle, reliance on the written word should be limited to very short written and printed materials. Language should be clear and simple. There was evidence during this mission that WATSANs are not understanding pictures unless they are explained through a participatory style of questions-and-responses. This was observed in the case of the f-diagram materials, and is in keeping with international research. Thus, it is important to ensure that EHAs use materials correctly.

With respect to training, the WATSAN training syllabus is very full. Some hygiene topics are introduced very early in this training and perhaps forgotten subsequently by the trainees. It is suggested that a separate hygiene refresher be developed for the WATSAN. In general, the Project should take greater care to ensure that training takes place as close as possible to the time in which it will be used.

5. School hygiene education programme

There are more than 2600 schools within the programme region. About one-fourth of these schools are targeted to be provided with water and sanitation facilities over the next 8 years. Different hygiene education programmes are needed for schools with and without facilities. This section deals only with schools which have or will be targeted for facilities.

5.1 Assessment

In Phase II it is planned to construct at least 700 school facilities and to provide training and supervision for teachers.

School hygiene programmes can easily fail if training and follow-up are not made— and if education authorities at all levels are not involved. This refers to head teachers, district and regional authorities. When such programmes fail, the facilities fall into disuse, are not maintained and become health hazards, meaning that facilities become vectors for disease. Substantial investments must be merely 'written off'.

The fact that health and hygiene do not appear in the national examination syllabus makes it a challenge to integrate hygiene/health information within the daily school curriculum.

During the present mission, however, there was evidence that if the programme is carried out as intended, it can be quite successful. Specifically:

- During field visits several examples of commitment and innovation by teachers were seen.
- An unusually good curriculum has been prepared.
- training and materials were appreciated by the teachers.
- In schools where the strategy has been followed, knowledge seems very good among children, latrines were clean and used, behaviours such as how to wash hands have been developed, teachers have instituted a system for maintaining latrines, training each other and providing small , periodic educational sessions for children.

Despite these hopeful initiatives, there are some uncertain features of the programme at present which should be resolved before proceeding with the large-scale implementation which is planned. Therefore it is recommended that no new construction contracts be tendered for some months until some key issues are resolved. Specifically, this is because;

- The strategy is not yet described in the form of a clear activity plan indicating, for example, training must be completed before construction. Some issues have yet to be resolved. Should school children all be required to have individual cups? What does this mean for the family economically? For organization in the school? Should school latrines be constructed where there is only rain-fed water supply? What is the maximum discuss that should be allowed between the water supply and the school?
- Currently the project does not seem to be following its strategy at some project sites. For example, construction was found to be on-going in the absence of an approved Facilities Management Plan.
- Links with education authorities are not well-defined. For example, in one district, the DED/DSHC was not invited to monthly meetings with the DMC. There have been complaints about disruption of classes, complaints that education authorities are not informed where construction is going on.
- There have been complaints from schools about the cost of the latrines, their 'over-constructed' appearance compared to the often humble existing school structures, and their design (size of holes, small dark cabins). The project does not seem to have responded to these issues by either changing

some policy or design feature... or explaining carefully to the communities. Just saying 'this is the rule' or 'this is a standard design' is not appropriate.

- The latrines are very expensive. Costs must be reduced. The hand-washing facilities (polyurethane black tanks) need to be re-thought and re-designed immediately....as do the drinking water provisions.
- Head-teachers must be included in orientation or training.
- Regional officers can provide essential service in monitoring and, in the process, orienting and supervising district education colleagues.

While very important construction and design issues must be sorted out, the project will do itself a grave injustice if it becomes too preoccupied with construction at the expense of education and organization issues. Good organisation is a key.

5.2 *Performance of partners in hygiene education*

5.2.1 In the communities and schools...

- Communities, usually under the leadership of the WATSANs pay 10% of the construction costs which are a considerable amount (about 1.3 million cedis) for the larger latrine facilities. This implies that families pay about roughly 500 cedis each . Thus WATSANs undertake some major management and mobilization activities to obtain payment for these facilities. However, after construction, they do not seem to be involved in a structured way.
- The School Health Committees are somewhat vague groups within the project. Their role and capacities need to be followed-up.
- The capacities and output of the different partners can vary considerably in the communities. In some places the WATSAN may be very strong; in others, the school authorities. In others it might be the School Health Committee or even the PTA. Efforts should be made to ensure that those groups which are most interested and capable are able to take on meaningful roles through, for example, joint planning mechanisms.
- Links between the community hygiene programme and the school programme need to be systematically reinforced. It should be possible for the child to practice new behaviours at home. For this, the community hygiene education programme should have prepared the way through adult education.
- The performance of teachers after training varies considerably. The present curriculum, although of high technical quality, is not apparently being used by teachers. In size and format, it is not very 'user friendly'.

5.2.2 Among project staff and consultants...

- The roles of the EHA and EHOs need to be clarified. It appears that they complete the Facilities Management Plan, taking the lead with the school health committee. They are also have some role in following up on construction as the District Engineers can not be in all places at all times.
- EHAs are not school educators. They may be competent at demonstrating how to use latrines, how to use the facilities and maintain them. They also teach songs. The good school health co-ordinators are superior to any EHA in school education.
- District project staff do not seem to have been responsive to suggestions and complaints from education personnel about the design of the facilities. As a result complaints continue from Phase I. These include wrong-sized holes, inferior contractors work, construction of a latrine outside the project area.

5.2.3 Among district and regional education personnel...

- Programming for training and supervision within the Ghana Education Service is now unfortunately, largely donor-driven because of the present National Economic problems.
- Therefore it is necessary that the programme makes provision for payment of transport allowances to education personnel.
- Not all the District Education Directors are committed to the programme
- Training has been well received, and apparently fairly well used in the schools.

5.3 Possible options

5.3.1 Ownership

Who owns the programme? The facilities and the programme belong to the communities and the schools. The project must therefore follow the protocol of its partners in any intervention and consult closely with them

5.3.2 Water technology for schools

The technology issues must be addressed at once. Children must have sufficient water to drink and, perhaps in a separate area, to wash hands as needed throughout the school day. The present poly tanks do not allow for this. A low-cost, appropriate technology is needed. For example, for small schools, consideration might be given to using oil drums to store water for handwashing and cleaning latrines.

Assume, conservatively for planning purposes, one-half litre of drinking water and one litre of water for handwashing per child per day. Assume, as well, about five litres for cleaning the areas around each latrine hole and 20% loss of water. Then for a school of 200 children with 5 holes (two for girls, two for boys and one for teachers), each day 120 litres of drinking water and 265 litres of handwashing/cleaning water would be needed at minimum. Drinking and handwashing water need not be of the same quality (for drinking and handwashing) as long as children are taught not to drink the water of inferior quality. There is still a measurable health advantage from scrubbing hands with water which is not of drinking quality.

5.3.3 Latrine design and construction

The current latrines are expensive, amounting to something in the order of 40,000 to 60,000 cedis per student. In many cases the latrines are far better constructed than the schools. Dropping the cost might make them somewhat more replicable, and could extend the number which could be constructed given current resources.

In design, preference should be given to latrines that can be used continuously, year after year... latrine pits that are easy and safe to empty. Even given this pre-condition, costs can still be reduced. One option is to dramatically reduce the cost of the superstructure. The present latrines do not appear to be used as VIPs anyway as the doors are often open. They are also very dark inside for children. It is suggested that the operation of the ITL superstructures be reviewed in schools where they currently exist. Construction of multiple-pit latrines but with simple ITL superstructures has some advantages: the pits can be alternated and theoretically continue in use forever; the absence of separate cabins replicates the defecation of children in the community; children can easily see where the holes are to be found; ITL-type superstructures are easier to clean and cheaper. The ITL observed during the mission

was cleaner, with fewer flies and worms than most of the KVIPs. Another option is to continue with KVIPs but reduce the construction cost (thinner walls, less plaster and paint and so on).

The tendering and construction strategy may need to be revised. The speed of construction is a cause for concern given the targets set for the second phase. Supervision of construction will need to be well organized in Phase 2. Furthermore, to add transparency to the tendering and construction operation, it is suggested that periodic, unannounced financial and physical audits be carried out of latrines during construction or immediately after construction but before payment of the contractor.

Their have been complaints, at least some of which seem justified, about the quality of construction. It is suggested that the contractual arrangements be reviewed to enable non-payment or stopping of construction if the contractor is shown to be negligent. Contractors who are negligent should be listed and not used for at least a specified period of time such a one year.. Construction should not be allowed until the Facilities Management Plan has been approved.

5.3.4 Activity Plan

An activity plan should be completed. It should be held by and followed by the schools, WATSANs, district and project staff. Construction information should be available to all groups. The activity plan should be revised perhaps annually on the basis of actual field experience. The activity plan should try, in a very simple way, to indicate responsibilities and relations among the groups involved: school health committee; school management committee, PTA, WATSAN, DSHC: District committees, EHAs/EHOs.

5.3.5 Clarify roles of each group

The roles and responsibility of the various groups involved in the school hygiene programme need to be clarified. In view of the fact that the programme will be developed in more than 700 schools, it is very important that responsibilities and the flow of activities be transparent and efficient. An example is provided in the paragraphs below but should be improved upon by the project and its partners.

School teachers/ School health coordinators are...

in charge of the programme with the headteacher. Their responsibilities may roughly fall into three parts: (a) working with other community groups on design, monitoring the construction of facilities; (b) maintenance and use of facilities including training children; (c) school education which integrates hygiene/health within the on-going curriculum.

The school health coordinators need training, follow-up or refresher training during which workplans are prepared.. They need follow-up, on-site supervision at least 2 times a year.

The SHC should train others teachers in their schools. Some present SHCs have suggested that one SHC can not cover large schools alone. They suggest that there be approximately one SHC for each 15 teachers.

School health committees ...

The role and activities of the school health committee should be investigated through field trips.

Headteachers are...

In charge of the programme overall together with school health co-ordinators. It is essential that headteachers at least have orientation. A good idea was proposed to ask headteachers to attend the first 2 days of the training programme with the school health coordinators..

District School Health Coordinator is...

responsible for supervising the use, maintenance of the facilities and the integration of hygiene contents in the school curriculum. The exact role of the district school health coordinator in this programme should be realistic and should be clarified by the regional school health coordinator during monitoring activities.

District Committee...

The roles of the committee may need to be re-thought particularly in view of the current decentralization.

District Education Director...

The only District Education Director visited during this mission knew nothing at all about the programme. This level should not be by-passed in the programme.

Regional School Health Coordinator...

A major role is foreseen for the Regional School Health Coordinator in controlling and monitoring the use, maintenance, and educational content of this programme. In view of the costs of the programme, at least one regional educator should be brought in for detailed monitoring and school visits, beginning with 100% visits of schools and follow-ups. Transport is needed for this. A TOR should be prepared. Support from the project will be needed for this. It would be short-sighted to jeopardise a major project investment by over-looking this.

The monitoring should be linked to a minimum checklist which can be prepared during initial field trips. This is the only way to ensure that the results of monitoring will be used by education personnel. During field visits some issues can be addressed such as the roles of and communication with the district coordinators and DED's, the impact of the educational activities on child behaviour in the school and so on. Monitor should be undertaken within the district, using a checklist, together with district stakeholders.

One challenge to be addressed will be the follow-up of less successful and less committed SHCs. See the comment under the paragraphs for 'EHAs and EHOs" below.

EHAs/EHOs are responsible for...

- introducing programme in the community;
- technology selection together with Schools, WATSAN and officer of district Engineer;
- helping to organize the SHC;
- helping work on collection of funds, applications and payment;
- guiding preparation of FMC.
- Also responsible for use, cleanliness and maintenance of facilities working with school health coordinators, headteachers and children including how to wash hands and how to use and organize water supplies and cleaning of latrines.
- EHAs and project staff in general must follow the rules of the education authorities. They may, for example, visit schools, but they must not disrupt classes. Permission

must be asked (and approved by the SHC or headteacher) before the day in which the EHA would enter classes.

- Some SHCs will not be less competent and committed. Therefore an effective referral system is needed (with the agreement of the GES) to support EHAs and EHOs where school staff are not carrying out their part of the programme as agreed.

District engineer are...

responsible for construction.. Some monitoring seems to be needed to ensure transparency in tendering, contractor payment and site selection. The division of responsibility and communication among the District Engineer, the District committees and the Headquarters software unit was not obvious.

Project staff: Engineering unit, Software Unit in Ho and Education Consultant

Better collaboration is needed. Organized plans should be prepared-- and followed-- to enable good collaboration among the project staff, consultants and educational authorities. These should be drawn up jointly. It is further suggested that:

- engineers should to go to field with software staff and discuss with the community
- less expensive technology suggestions from education personnel or software staff should be solicited actively.
- suggestions about cost reductions, about designs, quality and timeliness of construction, contractors who do not follow rules should be actively solicited from all staff (including the soft-ware unit) by the engineering unit. The response to these complaints should be discussed in periodic meetings.
- The education consultant must to work closely and under advice of Regional School Health Coordinator
- There is presently no over-all authority for the schools programme within the project. It is suggested that the software unit have over-all charge, including final vetting of design and ensuring follow-up locally and supervision and monitoring, organizing training, cost control. A new staff member, or contractee might be required for this when the programme goes to scale.

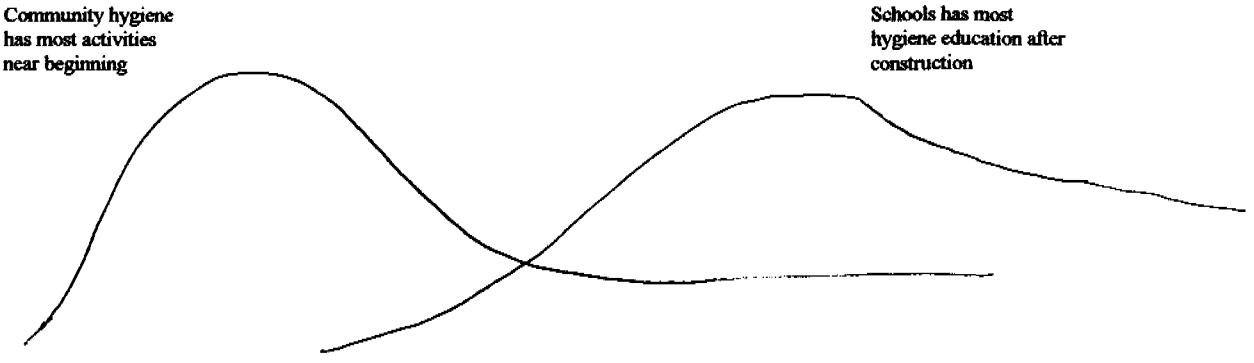
5.3.6 Training

Training required within the schools hygiene education programme includes:

1. annual refresher training of 2 to 3 days during which workplans would be prepared and shared among the school health coordinators.
2. 4 or 5 days initial training. This should include contents about how to organize facilities and maintenance as well as hygiene education and educational methodologies such as child-to-child strategies.
3. orientation of head teachers which is essential for the success of such a programme
4. use of the present hygiene curriculum for TOT and for SHC/headteacher training. However, short, very high quality 'Teacher Notes' of 5 to 10 pages should be provided to the teachers after training.
5. Orientation (formal or non-formal) by senior education personnel
6. Construction design options should be available in a pictorial format for planning sessions with the school and community members.
7. Training or refresher orientation should be provided to EHAs and EHOs just before they start working on this re-formulated school hygiene programme.

5.3.7 Synchronise community hygiene and school hygiene programme

There is a need to intensify community hygiene among parents so that it will reinforce what is being taught in the schools. Complaints, which seem justified, were made by teachers that schools train children about handwashing and other activities, while parents are not oriented to support such new behaviours. Part of the problem seems to be a lack of synchronisation of community hygiene and school hygiene. In general, hygiene behaviours are emphasised with the community before the construction of community facilities. In schools, new behaviours are emphasised after the construction of facilities. There could be more than 1 or 2 or more years between the hygiene education activities with parents and with children in schools.



If possible, the project should try to synchronise school and home education activities. This will provide greater impact for the school programme. It will enable children to practice at home what they learn in school.

5.3.8 Materials

Four types of materials are usually prepared for school hygiene education programmes: a) materials to be used in teacher training such as the curriculum, b) materials for teachers to use with children in the schools, c) materials for children, d) very brief information materials. A few comments on each of these are provided below. Educational materials should probably not be devised by the software unit alone. Materials should directly support the curriculum and programme in the schools and should be designed in consultation with senior education authorities and the education consultant.

a) *materials to be used in teacher training*: These should include the curriculum and any materials which the teacher is expected to use in the school. For school materials, the teacher should be trained (and should practice) how to use the visual materials and teacher notes creatively.
b) *materials for teachers to use in the school*: These should include teacher notes, perhaps one or more posters that relate directly to teaching the curriculum and to the use/maintenance of facilities.
c) *materials for children*. These are very popular but also very expensive. Disposable materials (such as time cards, badges for health club members, or paper rulers with hygiene messages) must be renewed each year. These should be developed with care if at all.
d) *information materials*. It is often useful to have a one-page sheet for teachers, WATSAN members and the general public which briefly describes the programme.

It should be noted that some programmes have also had success in holding workshops for teachers to produce their won materials. This is sometimes done in the context of refresher training.

5.3.9 plan for school without facilities

At a later stage, a plan will be needed for schools which do not have water and sanitation facilities--roughly one-half to two-thirds of the primary schools in the region. For these schools, the curriculum

must be realistic and will differ from the curriculum used in schools which have water and sanitation facilities. Some difficult issues will have to be faced. For example, it is not correct to tell children to drink only safe water form an improved source when the school does not have safe water. The important point is that these schools, which may serve less advantaged children and may be located in less accessible areas, not be left out of the programme. However, they require a sensitive and helpful curriculum and teacher training approach. Educational materials for teachers and children could be particularly useful and appreciated.

The following appendices have already been referred to in earlier sections of the text.
Good luck with your interesting programme!

APPENDIX 1

HYGIENE EDUCATION OBJECTIVES OF PHASE 1 AND PROBABLE ACHIEVEMENT:

The objectives of the Hygiene Education Component in Phase I were:

1. By the end of four years 80% of the population each Target community will be able to identify and describe water, sanitation and health hazards.

indicator: Percentage of population that can demonstrate new knowledge as regards hazards associated with water, sanitation and health in each target group.

Probable achievement: Good in the communities and schools visited. Less is known about communities which are less accessible and further from roads.

2. By the end of four years at least 50% of target communities will have functional women's groups that meet frequently for hygiene education activities.

Indicator: Existence of programme with an agenda itemising the following:

- **handwashing at critical periods**
- **Proper disposal of children's faeces, etc.**
- **Evidence of up to date recording of implemented activity sand outcomes**

Probable achievement: Not achieved. The Unit's research shows that women's groups have not been brought into the project by EHAs, EHOs and WATSANs. The objective should be changed to focus on *strongest local groups* as several existing women's groups are not strong, while other groups such as functional literacy groups could participate. The amount of work expected from the groups should be finite, not continuous.

3. By the end of four years, health education facilitators in at least 50% of the target communities will have planned hygiene education programmes which they are implementing throughout the year.

Indicator:

- **Existence of community-based action plans that reflect the hygiene education need of specific target groups.**
- **Evidence of implementation of plans, e.g., hygienic storage of drinking water and protection of water sources.**

Probable achievement: Not achieved. This objective was not pursued by the project.

4. By the end of 4 years target schools will have school health committees that are functional.

indicator:

- **Existence of a hygiene education programme in the schools**
- **evidence of the implementation, e.g., and washing, proper refuse disposal, proper human excreta disposal.**

Probable achievement: School health committees have been set up in the schools (about 10o in all) which have facilities or will soon be getting facilities. The role and potential of these committees is unclear, however. Many of their functions seem to be carried out by WATSANs, by school staff and/or School Management committees.

5. By the end of 4 years WATSAN Committees have a standard agenda on hygiene education.

Indicator: Existence of hygiene education programme involving the whole community itemising the following:

- **proper disposal of refuse**
- **proper disposal of waste water**
- **penning of animals**

- **clearing of weeds around water sources**
- **proper disposal of human excreta.**

Probable achievement: This objective seems to have been largely achieved, although monitoring is needed of villages which are off the roads and less accessible. The last item (proper disposal of human excreta) has not been achieved.

BEHAVIOURAL OBJECTIVES

1. knowledge of the relationship between water, sanitation and health is increased in target communities and schools.

Indicator: By the 4th year of the project, in each target community 80% of the population will be aware of water, sanitation and health hazards.

Probable achievement: Knowledge of safe behaviours seems good. Knowledge of causes behind these suggested behaviours needs to be strengthened. Less accessible villages should be monitored.

2. Community members in target communities are washing their hands properly at critical periods.

Indicator: by the end of 4 years in the project communities, mothers and children who are aware of water, sanitation and health hazards are properly washing their hands at critical periods.

Probable achievement: not achieved. Knowledge among some children seems good about how to wash both hands using friction. Project field staff also need to improve their handwashing practice.

3. Community members in target areas are disposing of faeces properly.

Indicator: By the end of 4 years, in the project communities, mothers who are aware of water sanitation and health hazards are disposing of their children's faeces in latrines.

Probable achievement: Not apparently achieved.

4. Community members in the target areas are safely transporting water from source to the home including safe storage.

Indicator: By the end of 4 years, women and children who are aware of water, sanitation and health hazards are safely transporting water from source to the home.

Probable achievement: Not assessed fully. Many families are covering water storage jars and using separate jars for drinking in the home. Cleaning of storage jars not seen.

5. Community members in the target areas area safely handling water in the home.

Indicator: By the end of 4 years, women and children who are aware of water sanitation and health hazards are safely handling water in the home.

Probable achievement: A few cups but no long-handled ladles were seen. Cups seem to be dipped in water containers and used by all members of the family. This objective does not seem to have been achieved. Further project planning is needed to identify clearly the minimum behaviours of 'safe handling'. Cups are not readily available.

6. Community members in the target communities are keeping latrines clean.

Indicator: By the end of 4 years, caretakers of latrines are daily supervising their maintenance.

probable achievement: Not achieved. Existing communal latrines are not constructed so that they can be kept sufficiently clean. Only 777 household latrines have been constructed (out of about 250,000 households.)

Community Activity Sequence (draft)

APPENDIX 2

Action by District RWSS Organisation

Water supply **Hygiene and sanitation**

Action by Community:

Activity 1: Project information on water supply, sanitation and hygiene education

Milestone 1 Community Register plus application form

Activity 2 Meeting and working with community to collect baseline data, feed it back

Activity 3 Processing application water facility by DMC

Activity 4 Formation and confirmation of WATSAN committee. Start planning hygiene education, environmental cleanliness & causes of diseases (f-diagram)

Milestone 2 Establishment WATSAN committeee & payment of initial deposit into WATSAN account

Activity 5 Feasibility study for water facilities

Implement environmental cleanliness

Activity 6 Planning of design of water facilities with community

Identify with community kinds of latrines, their costs, education on reasons for and benefits of latrines

Milestone 3 Written agreement for water and participation and targets for latrine programme

Activity 7 Training of WATSAN committees Training of WATSAN committeew

Milestone 4 Collect final deposit of community contribution into account

Activity 8 Detailed design of water supply

Construct demonstration latrines and train for construction

Activity 9 Meet with community for approval of design of water facilities

Motivation for latrines, education sessions begin, train WATSAN...

Milestone 5 Collection of funds for water facility completed

Activity 10 Tendering for construction of water facilities

Construction of latrines with CBOs & householders & local purchase of materials

Activity 11 Meeting with community presentation of tender result preparation of workplan

Latrine construction continues Education sessions continue

Milestone 6 Agreement between contractor & community for water

Activity 12 Construction of water facilities

Education on use and maintenance of water facility, handwashing, water storage, use of water for health

Milestone 7 Final payment of community contribution to contractor

Activity 13 Training of caretakers and WATSAN during construction

same as above in activity 12

Milestone 8 Community accepts ownership/management water facility

Activity 15 Monitoring of functionality, maintenance and repair of facilities

Monitoring of functioning of committees, functioning of facilities, latrines, handwashing and so on

Milestone 9 End of contractor guarantee period

APPENDIX 3

EXAMPLES OF QUESTIONS ASKED AND OBSERVATIONS DURING FIELD TRIP

The following questions and observatoins appear in the second column followed by the purpose/indicator which the question (or observation or demonatration) is meant to answer. This table might be useful for adapting and improving for project staff in their own field supervision.

phase	questions/observations during spot visit	PURPOSE OF QUESTIONS/OBSERVATIONS: indicators
mobilisation	EHAs How do you help organise the WATSAN? Motivation of WATSANs? What are you priorities for hygiene in the 6 villages where you work?	**formation of WATSAN: representative of manjor groups and institutiona in community** **participatory versus directive approaches** **EHA priority according to construction versus hygiene**
before construction	WATSANS: did you receive training? refresher? good things in training? needs for improvement? What is project about here? relation to leaders? who helps the WATSAN in general? who does the WATSAN help and how? How many people on the committee? May we ask each of them what they have done? Too much work? note who we talk to on the committee and who of them talks to us. Did you do hygiene? hygiene education? Why are you involved in hygiene? When (before construction)? What hygiene things? who helped you do this? For each thing they mention, ask to see if they practice or do it themselves. MAPPING EXERCISE F-diagramme or 3-PILE SORTING: demonstration by EHA Have a workplan? May we see? follow it up? Do you know about the by-laws? follow them? participation of women: ask women WATSAN members what they have done	**Capacity of WATSANS, quality of training** **community mobilization. participation versus provision of free labour as demanded by WATSANS. Perceived role of WATSAN as regulator or facilitator.** **functioning of WATSAN** **committment** **participation of women** **Understanding of hygiene issues by WATSAN, quality of their training, timing of their training** **committment** **try out new participatory technique (capacity building for staf of Unit)** **Monitor to see if EHA has carried out this required educational exercise witht he WATSAN. Check the understanding of the WATSANs.** **functioning of WATSAN**
during construction		
after construction	CARETAKERS what do you do? If something breaks down, what happens?	**understanding of caretaker about own responsibilities check on O&M.**

phase		
mobilisation	TEACHERS HEADTEACHER School with water and sanitation facilities? School without sanitation and/or water facilities? How committed are the teacher? *what is the programme?* What is school hygiene about? plans what has been done? problems When trained? What did you like best about the training? How could the training be improved? Have you had retraining? When did EHA and DSHC last visit? Do water sources work? where do people go to the toilet?	**open-ended question to ascertain understanding, committment and activity-level of programm in school** **Recall from training also shows what impact training had on teacher.** **check to see if teachers have had recent refresher training.** **Compare with statements of EHA and EHO about when they visited. Part of monitoring staff activities.** **functionality**
before construction	children School hygiene. what is it about? Which of these things (about school hygiene) do children do? which is difficult? Who picks up garbage? cleans the school? What do children use water for? Demonstrate handwashing Where do you get drinking water from in school? How (ladle)? Where do you get drinking water from at home? what place in the village needs to be improved? or cleaned up? Do older children help younger children? How? Do girls (boys) use the toilet? in groups? do any children go to toilet outside the latrine? Who cleans the toilets?	**Check of activities of teachers and EHAs in school.** **Observe. Is hygiene education haveing any observable result?** **inclator of handwashing** **indiactor of use of safe water for drinking.** **knowledge of use of ladle (if any exists)** **Can get good information about awareness of children. Also check to see if WATSAN is aware of same problems.** **Check of knowelge of child-to-child programming.** **general check of use of latrines, if they are closed.** **Check of organization of sanitation within school.**
during construction		
after construction		

Some notes on programme monitoring in general
These examples should be added to by project staff.

1. spot-checks based on reports from districts.
- see what is happening, ask questions in villages (without always 'correcting' the answers)
- take an EHO/EHA to the community and let them demonstrate hygiene education activities
- repeat visit to the same place if needed

2. Undertake case studies (diagnostic studies)

- what happened? why? what to do?
- success cases, in-between cases and cases of failure

3. Meeting of stakeholders

bringing together actors from the community up to RPO level, once a year

4. functioning of facilities

- see: is water running through taps or pump?
- taste the water
- ask how many containers families re using per container per day
- ask the cost
- report on complaints
- ask 1 or 2 small boys where they get the container from

5. Latrine programme

- Ask community members about their understanding of the latrine programme: costs and types
- spot-checks of latrines under construction
- use of latrines

APPENDIX 4

SCHEDULE OF MISSION AND PEOPLE MET

People met:

Regional Level

Regional Coordiantor/Programme Manager- Mr. Edem Asima
Management Adviser- Mr. Claus Yespersen
Communication Adviser- Ms. Briggite Mancussen
Software Team
- Mr. Emmanual Fiagbey (Training)
- Mr. Festus Kwadzokpo (Training & Management)
- Mr. John Baidoo (Training & Management)
- Ms. Albertha Nyaku (Hygiene & Sanitation)
- Mr. Emmanual Hyavor (Schools & Hygiene)
- Ms. Patience Samankyia (Gender & WATSAN)

Engineering Team
- Water supply engineers - 2
- Hydrogeologist - 1
- Sanitatoin engineer - 1

District Level

District engineers - 2
Environmental Health Officers - 6 from 6 districts
Environmental Health Assistants - 10 from 5 districts

Ministry of Health

Senior Medical Officer (Public Health) - 1
School Health officer
School of Hygiene (management)

Ministry of Education

Regional School Health Co-ordinator
District Education Director
Head-teachers - 4
Teachers - 5

Communities

Chiefs and traditional community leaders
Members of WATSANS
Members of School Health Committees
Members of women's groups
Home visits with householders and their children

APPENDIX 5

EVALUATION OF LHYGIENE EDUCATION COMPONENT

DAY	DATE	ACTIVITY
Sunday	12th Oct.	Arrival of Consusltant
1 Monday	13th Oct.	Briefing and Preparation -Going over plans already made -Plan for workshop -Determine modalities
2 Tuesday	14th Oct.	Visit Schools and meet GES Director Logba Adzokoe, Hohoe district
3 Wednesday	15th Oct.	Visit schools – Akatsi district
4 Thursday	16th Oct.	Meet with WATSAN committees -Kodzobi, Hodzo
5 Friday	17th Oct.	Planning & Assessing field report Brief SWG
6 Saturday	18th Oct.	Planning & Assessing Field Report
7 Sunday	19th Oct.	-
8 Monday	20th Oct.	Workshop (Field Staff)
9 Tuesday	21st Oct.	Worshop (GES/MOH inclusive)
10 Wednesday	22rd Oct.	Report Writing
11 Thursday	24th Oct.	Report Writing
12 Friday	25th Oct.	0800 – 1400 Finalising draft report 1430 – 1700 Briefing
13 Saturday	26th Oct.	Incorporation of comments
14 Sunday		Departure of Consultant