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Rural development in Africa
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DISCUSSION GROUP REPORT

Health and pollution aspects of sanitation

Chairman: M.E. Nyirongo

Rapporteur: A. Geake

Discussion paper: P.A. Colbert

The group initially discussed the different scales of health and pollution risks in rural areas where the population is scattered, and peri-urban areas where there can be much greater problems because of much higher density of settlement. There can be very different approaches to solving these problems depending on the institutional networks (or lack of them) available for communication and organisation.

Health Education

Health Education was seen as being vitally important to the success of any water or sanitation project in improving community health, as habits have to be changed. There is a need to persuade people to use latrines (especially children), to dispose of household wastes and sullage water safely, and to take care to avoid contamination of drinking water at the collection and use points. Only in such ways can the faecal-oral route of disease transmission be broken; the mere provision of a safe-water supply and a sanitation scheme cannot do this.

It became clear that health education programmes need to be sensitive to local cultures, so that they would be acceptable. There is a need for the training of parents, teachers and children alike to maximise the impact on the community. Education can be carried out in a variety of ways, and those methods involving the community themselves such as drama, singing and discussion groups with pamphlets appeared to be more successful than formal lectures.

It was felt that health education should be encouraged in rural areas, even before sanitation and water supplies are improved, and that it could be seen as an on-going process with periodic updating once projects have been completed.

Integrated Approach

It was felt that the integration of sanitation, water and health education programmes was desirable to minimise the pollution risks and increase the health benefits to the community. (It helps if engineers are trained in health issues, and health workers in technical issues). However, numerous case-studies were discussed where logistical difficulties arose in carrying this out, especially where there were many Government Departments involved, each with different priorities. There can also be tensions between donor agencies and Executing Governments in agreeing the extent of integration.

The main conclusion was that, although integration was desirable, the extent to which this is possible will depend on the type of project and the operational details.

Groundwater Pollution

The importance of groundwater for potable supplies in rural areas where there is often no other alternative was stressed, and therefore the pollution hazard from sanitation needs to be considered. The risk will depend on the hydrogeological conditions and the loading on the aquifer (obviously greater in peri-urban areas with denser population). The need for careful siting of boreholes in relation to sanitation units was discussed. The soil and unsaturated zone act as an effective filter and groundwater pollution in wells is often due to poor sanitary completion with contamination direct from the surface rather than indirectly from on-site sanitation.

It was felt that a small amount of groundwater pollution, for example from nitrates, might be acceptable in-order to allow sanitation units to be located close to the houses, otherwise they may not be used. In high risk areas, it may be more appropriate to site boreholes out of the village, and in peri-urban areas it may even be necessary to treat the water or import an alternative piped supply.

The greatest hazard to health is from pathogens, but since these die off with time, a more persistent problem may be from high nitrate concentrations both derived from on-site sanitation

and the increasing use of fertiliser.

Whilst the issue of groundwater quality was considered important, it was also felt that there were often greater risks to health from gross contamination of water after it was collected.

Research Needs and Recommendations

1. Health impact assessment studies need to develop suitable indicators to measure improvements eg Ascaris worm eggs.
2. Establishment of post-graduate monitoring and evaluation of water quality, with feed back for future projects.
3. More widely available guidance on groundwater pollution risks for practical use by sanitation engineers.
4. Health education to encourage use of sanitation units, and care of water needs to be improved.
5. The expected life time of pit latrines needs to be investigated.
6. Economists should appraise the investments in projects (especially where foreign exchange is limited) as the benefits can broadly be assessed at the identification stage.
7. The optimal and acceptable levels of pollution need to be assessed.
8. A final recommendation is that the objective of helping improve the situation for rural people is not lost from sight, whilst the above investigations are carried out.